

COSENTINO®

Cosentino Facades

COSENTINO FACADE
FIXING SYSTEMS



DEKTON®

Cosentino Facades

Cosentino Facades

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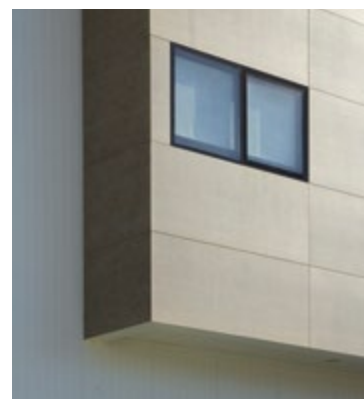
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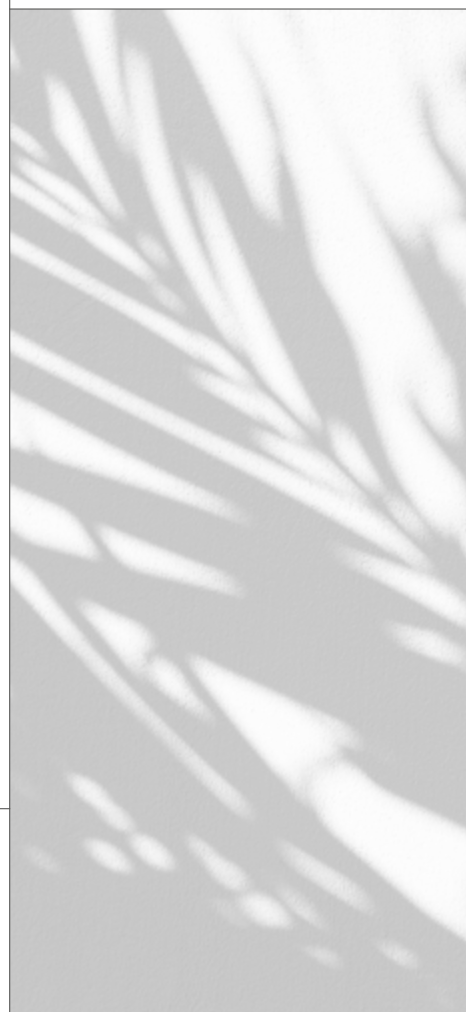


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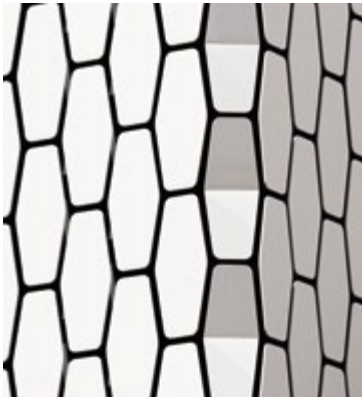
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To inspire people through innovative and sustainable spaces.

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Dekton[®] by Cosentino

01

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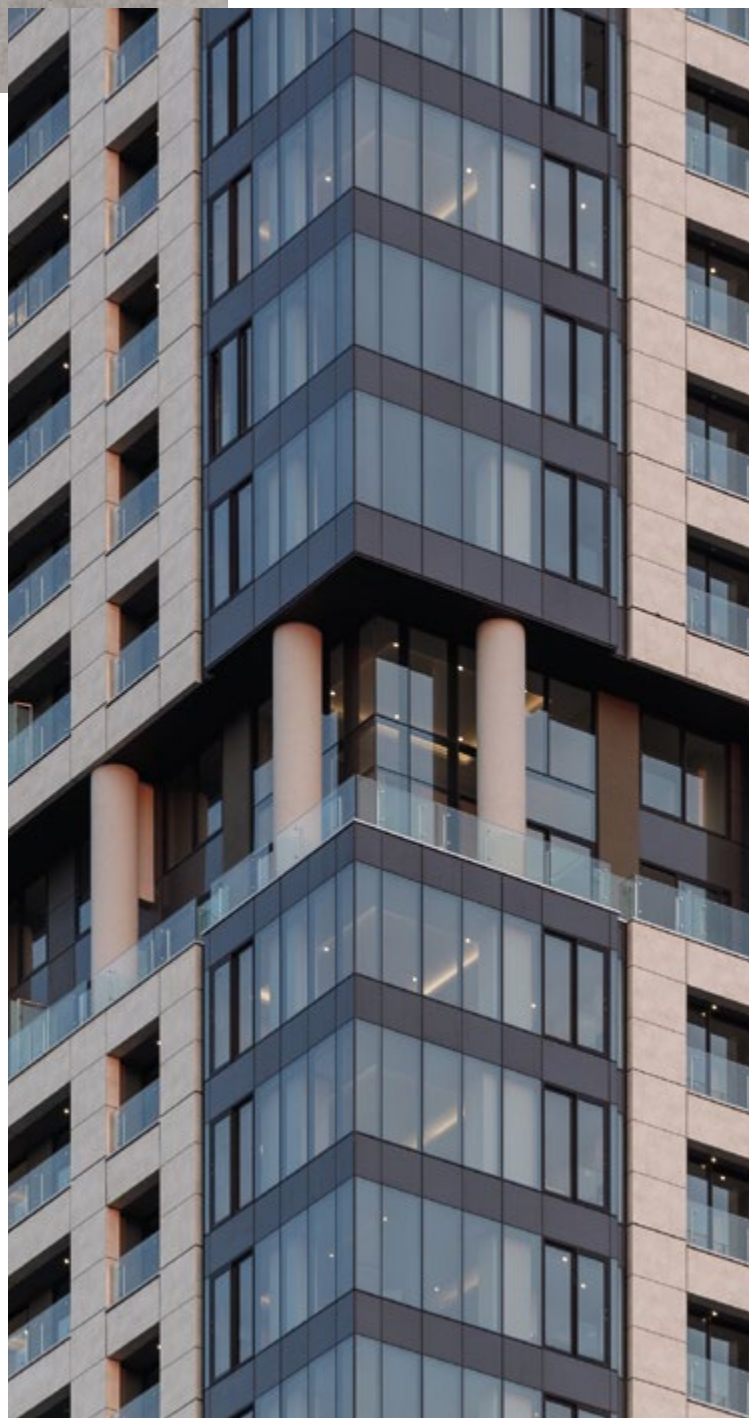




In the span of a few hours, Dekton emulates what nature took thousands of years to create, thanks to the exclusive TSP Technology.

Product Description & Characteristics

Dekton® is an ultra-compact material, manufactured using a 25,000 ton press ($>450 \text{ kg/cm}^2$) and a sintering process at around $1,200^\circ\text{C}$, with useful dimensions of $3,200 \times 1,440 \text{ mm}$, thicknesses of 20 / 12 / 8 and 4mm (it has a safety mesh glued on the reverse for 8, 12 and 20 mm thick ventilated facades and all 4mm thick applications) Fire reaction A2 s1 d0 (according to EN 13501), unaffected by UV radiation ($\Delta E < 1$ tested in Xenon chamber to 5,000 h), with thermal conductivity $< 0.5 \text{ W/m}^\circ\text{C}$ (according to EN 12664), Specific heat $< 700 \text{ J/kg}^\circ\text{C}$ (measured with DSC), Surface resistivity $< 65 \text{ T}\Omega/\text{m}$ (at 1000V) and must fulfil these functional mechanical properties according to EN 10545: Bending strength $> 45 \text{ N/mm}^2$, Density $> 2,400 \text{ KG/m}^3$. Porosity $< 0.05\%$. Linear expansion $< 10^{-6}^\circ\text{C}^{-1}$. Suitable for outdoor applications even in aggressive environments (petrol, diesel, various solvents) and can be cleaned with water or other products using pressurised water, with commercial cleaning products or, in the case of persistent stains, specific chemical products (e.g. sulphuric acid, bleach, hydrogen peroxide, acetone, caustic soda).



The production takes a number of hours, but a manufacturing plant can produce up to 2,000 slabs a day.

Composition

Dekton® is made from inorganic materials, which naturally exist in over 90% of the Earth's crust.

- Dekton® is a totally inorganic material.
- Dekton® uses inorganic materials not only for the bulk of the product but also for pigmentation and veining.
- More than 20 different inorganic materials are used to create a Dekton® slab.



Production

Dekton® uses exclusive TSP Technology (Sinterized Particle Technology), a high tech process which represents an accelerated version of the metamorphic change that natural stone undergoes when subjected to high temperatures and pressure over thousands of years. TSP technology synthesises truly innovative procedures from the most advanced technology industries. This evolution represents a technological and industrial leap capable of generating a new process, a revolutionary material and a leading product.

The production process takes approximately 4 hours and Cosentino's manufacturing plant can produce up to 4,000 slabs a day.

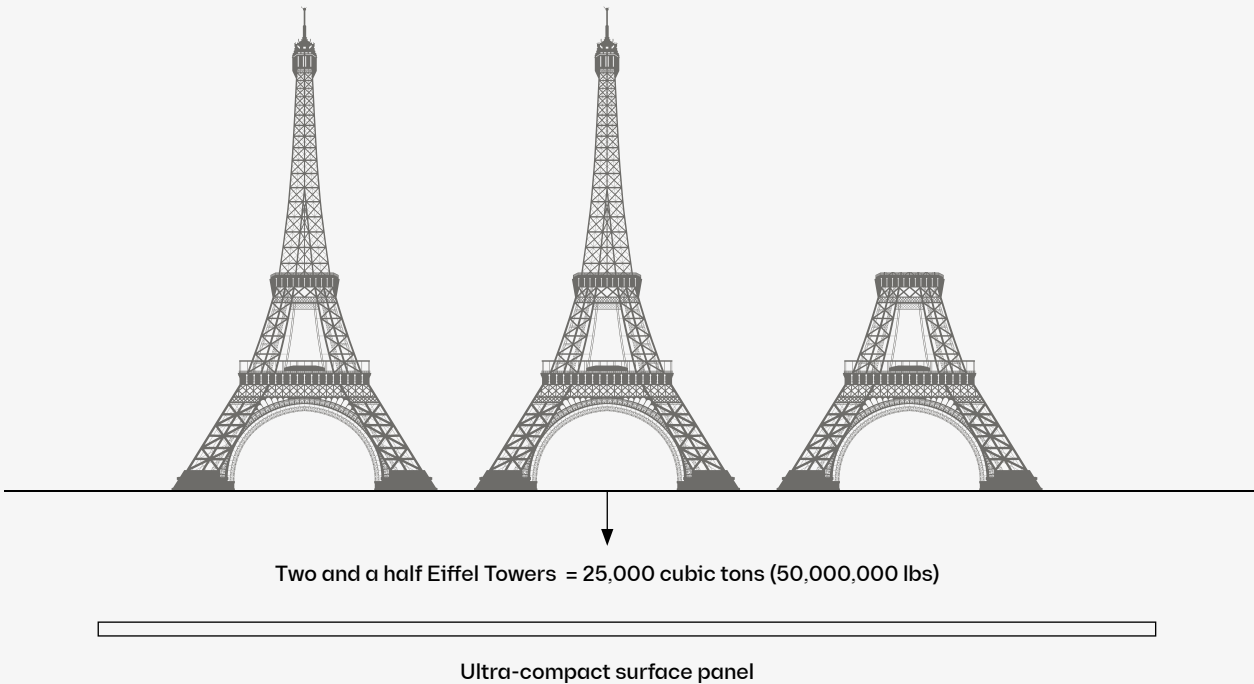
From start to finish the process includes the following steps:

1. Decontamintaion of the raw materials.
2. Mixing of materials.
3. Addition of pigments
4. Distribution of material on conveyor belts.
5. Volume decoration process.
6. Compaction.
7. Drying and secondary decoration.
8. Sintering.



Compaction

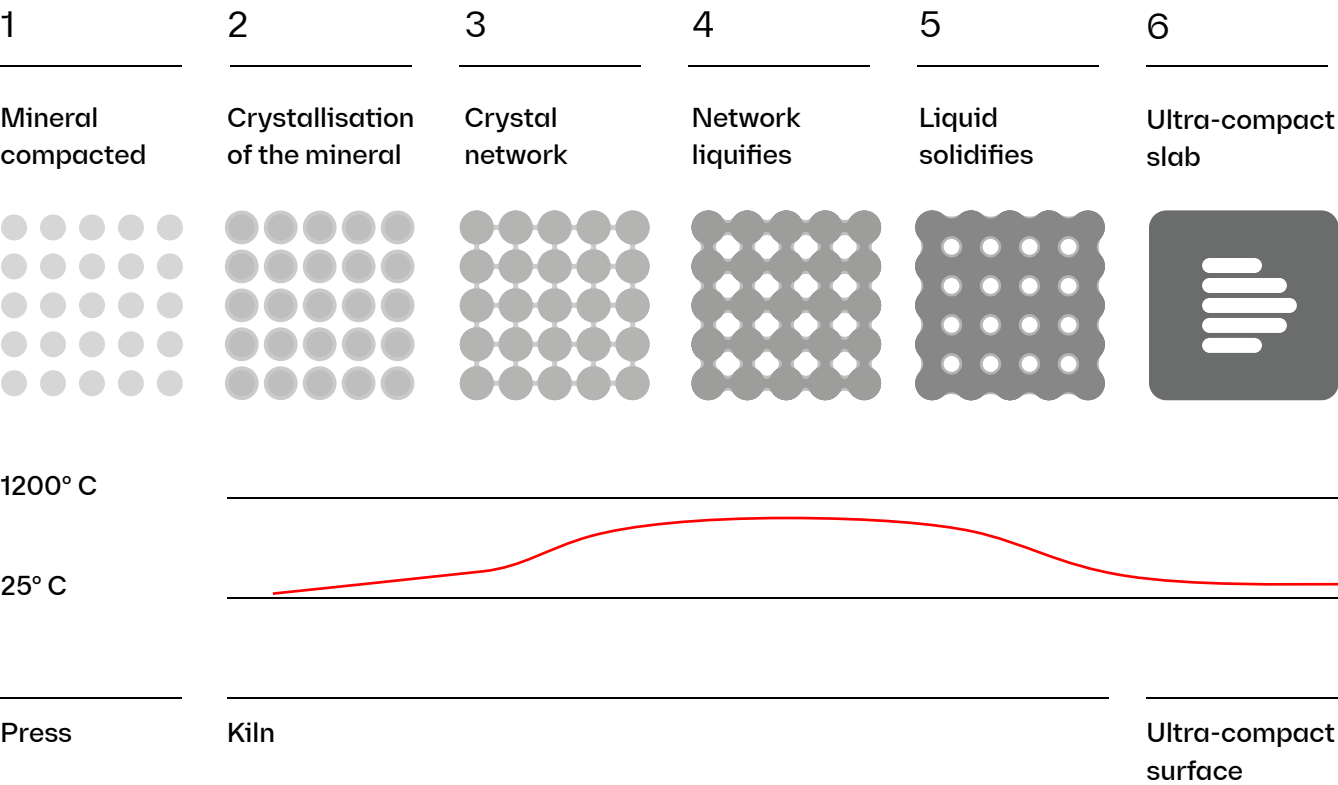
Compaction using a unique press made specifically to manufacture ultra-compact panels. Panels are pressed at 25,000 cubic tons (50,000,000 lb.). This compaction helps to align particles to achieve zero-porosity by forcing air and moisture out, hence the need for the homogeneous particle sizes. Superficial textures (slate, wood, leather, linen, etc...) can also be added during the compaction stage.



Sintering process

During this process, the transformation of the raw materials and pigments takes place. By using heat, reactions are controlled so that the correct synthesis path is followed.

- The kiln is 200 metres (218 yards) long.
- Temperatures reach approximately 1250°C (2300 °F).
- The total process time depends on the thickness of the slab (around 4 hours).



Dekton® Protek

For use in ventilated facades, Dekton® has a reinforcing mesh on the back to prevent pieces from falling off in the event of accidental breakage during installation or maintenance.

Standard applications

Dekton® is a material suitable for multiple applications, both interior and exterior, in different scales and with infinite design possibilities.



**Outdoor
worktops**



**Kitchen
worktops**



**Flooring for
bathrooms and pools**



**Exterior walls
& facades**



**Bathroom
surfaces**



**Outdoor
flooring**



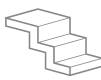
**Interior
walls**



**Bathroom
walls**



**Indoor
floors**



Stairs

Some facade applications

- Ventilated facades.
- Adhere facades.
- Cladding on EIFS systems.
- Facades of industrialized systems.
- Curtain wall.
- Facade gap filling.
- Facade panelling (e.g. insulation panels, honeycomb panels, etc.)
- Facade complements.

Product features

Dekton® has all the technical features required for any hard surface, even in a demanding application such as a facade.



Fireproof material

Dekton® can withstand high temperatures without burning, scorching or cracking. European Standard EN 13501 and ASTM E84 testing, classifies Dekton® as a noncombustible material.



Highly resistant to ultraviolet (UV) light

Dekton® is highly resistant to UV light and will not fade or degrade over time in any kind of outdoor application.



Superior mechanical resistance

Dekton's® variety of thicknesses allow it to be used in applications where resistance to wind or impact are a project requirement.



Low water absorption

Dekton's® water absorption is negligible so it does not undergo any expansion movement due to it.



Colour durability

Dekton's® control of pigmentation and decoration in the manufacturing process provides better colour consistency from one slab to another, resulting in a long lasting product that will not fade over time.



Scratch resistant

Dekton® is one of the most scratch-resistant surfaces on the market.



Dimensional stability

Dekton® expansion is minimal so it can be installed with thin joints between panels. These joints will keep their width in all conditions.



Resistance to freezing and thawing

Dekton® resistance to durability tests in freezing and thawing situations and its application in various weather conditions prove its high performance.



Abrasion resistant

Dekton® is even more resistant to abrasion than granite and porcelain, making it the ideal surface for facades or high-traffic flooring in commercial applications.



Maximum fire and heat resistance

Dekton® has been successfully installed on facades in areas exposed to high temperatures.



Easy cleaning and low maintenance

Most graffiti can be removed from Dekton® with standard cleaning products. Maintenance costs are reduced.



Stain resistant

Dekton® is resistant to stains from a variety of sources so they can easily be removed without altering their finish.

Advantages of Dekton® facade system

Dekton® offers clear advantages in its application on facades.

1

Large format

Thanks to Dekton®'s large format of up to 3200 x 1440 mm, it gives freedom to the design of the facade and the ability to use different formats in order to make the best use of the material.

2

Wide range of thicknesses

The variety of Dekton® thicknesses available, 4, 8, 12 and 20 mm, allows you to apply thicker or thinner pieces as required. This maintains the consistency of the whole and gives each section the required technical features.

3

Colour perfection

Thanks to a rigorous system of measurements and quality controls from its production onwards, Dekton® ensures the stability of its tone throughout the facade, making it possible to use the material in large panels while maintaining visual harmony.

4

Endless design and colour possibilities

The variety of Dekton® colours allows for a wide range to be used as another design tool, maintaining uniformity and character.

5

Adaptation to complex geometric shapes

The possibility to produce Dekton® in simple or complex pieces makes it a versatile material for covering complicated volumes.

6

Flat surfaces: visual continuity

The excellent flatness offered by Dekton® ensures that facade surfaces are virtually free of any gaps. This means that it is ideal for promoting design around it, where visual continuity and uniformity are key.

7

Solutions for joints

Dekton® allows for angled joints with straight or bevelled edges, and even with bespoke pieces to create a monolithic look, thanks to its resistance to expansion.

8

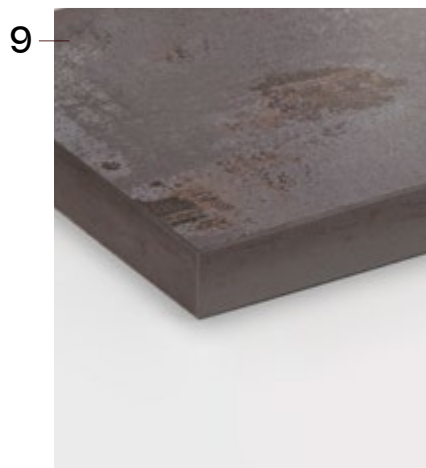
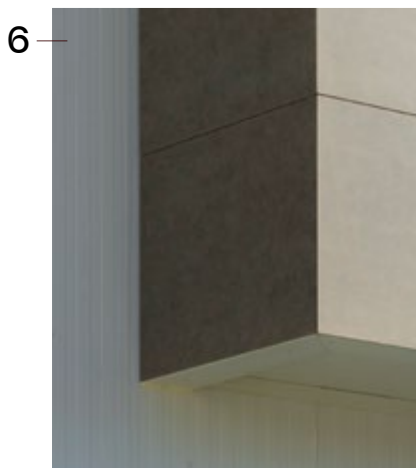
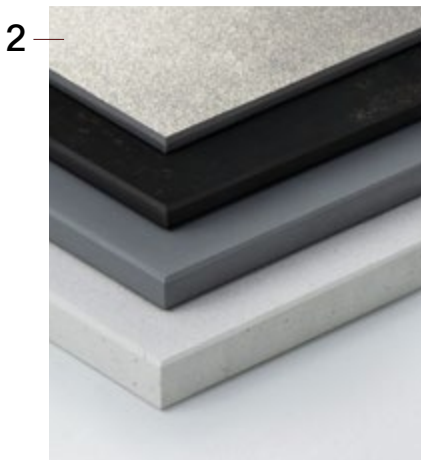
Unlimited shapes

Architectural plans with different gradients and complex geometrics can push materials to their limits. Few of them can work under traction and compression in the face of inclement weather and remain unchanged and requiring little maintenance over time.

9

Uniform colour

Dekton® is coloured throughout the whole mass of the product allowing better integration of the edges with the surface of the piece.



Technical specifications

Key technical data

- Density $2.52 \pm 4 \text{ \% g/cm}^3$
- Average bending strength $\geq 45 \text{ N/mm}^2$
- Modulus of elasticity: $84,000 \text{ N/mm}^2$
- Linear thermal expansion $5.9 \times 10^{-6} \text{ }^\circ\text{C}^{-1}$
- Water absorption 0.1%. (Bla Group)
- Porosity 0.2%.
- Maximum expansion 0.1 mm/m.
- Thermal conductivity $0.483 \text{ W/m }^\circ\text{K}$
- Reaction to fire. A1/A2 s1 d0 (with mesh)
EN 13501-1 2018 and NFPA/
IBC class A ASTM E 84.



Technical characteristics

According to standard EN-14411

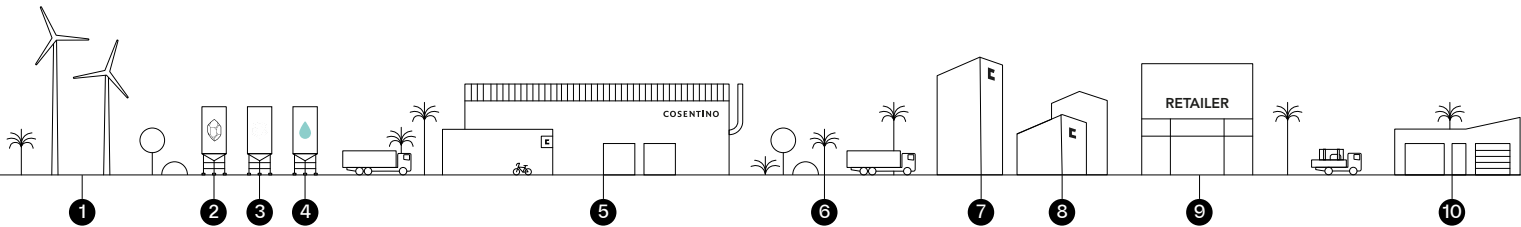
TEST STANDARD	DECISION	UNIT	FAMILY I	FAMILY II	FAMILY III	FAMILY IV
Bending strength and breaking load ISO 10545-4	Average bending strength	N/mm ²	46	45	55	46
	Average breaking load	N	2,548	2,313	2,356	2,568
	Average breakage force	N	14,966	13,559	13,818	15,620
Water absorption, open porosity and densities ISO 10545-3	Boiling water absorption	%	0	0.1	0.1	0.1
	Vacuum water absorption	%	0.1	0.1	0.1	0.1
	Open porosity	%	0.2	0.2	0.2	0.2
	Apparent relative density	g/cm ³	2.51	2.61	2.53	2.44
	Apparent density	g/cm ³	2.50	2.61	2.52	2.44
Deep abrasion resistance ISO 10545-6	Abraded volume	mm ³	125	106	115	119
Determination of dimensions and surface appearance ISO 10545-2	Length and width	%	0.11/-0.18	0.04/-0.08	0.04/-0.04	0.02/-0.02
	Thickness	%	0.50/-0.50	4.95/-2.20	0.53/-0.53	-1
	Straightness of sides	%	0.01/-0.01	0.03/-0.03	0.01/-0.03	0.02/-0.02
	Orthogonality	%	0.07/-0.16	0.04/-0.09	0.21/-0.21	0.08/-0.08
	Centre curvature	%	0.04/-0.08	-0.06	-0.06	-0.07
	Edge curvature	%	0.06/-0.06	0.02/-0.04	0.02/-0.04	0.02/-0.02
	Warping	%	-0.11	-0.07	-0.06	-0.04
	Surface appearance (Tiles default)	%	100	100	100	100
Determination of impact resistance ISO 10545-5	Average coefficient of restitution	-	0.85	0.85	0.85	0.92
Determination of linear thermal expansion ISO 10545-8	Expansion between 30–100°	°C ⁻¹	6.5·10 ⁻⁶	5.1·10 ⁻⁶	6.3·10 ⁻⁶	5.8·10 ⁻⁶
Determination of thermal shock resistance ISO 10545-9	Damage	-	Pass/no damage	Pass/no damage	Pass/no damage	Pass/no damage
Determination of moisture expansion ISO 10545-10	Maximum expansion	mm/m	0.1	0.1	0.1	0.1
	Medium expansion	mm/m	0.0	0.0	0.0	0.1
Determination of frost resistance ISO 10545-12	Damage	-	Pass/no damage	Pass/no damage	Pass/no damage	Pass/no damage
Determination of chemical resistance ISO 10545-13	CINH ₄ /Cleaning products	Class	A (no damage)	A (no damage)	A (no damage)	
	Bleach/Pool salts	Class	A (no damage)	A (no damage)	A (no damage)	
	HCl (3% v/v)	Class	LA (no damage)	LA (no damage)	LA (no damage)	
	Citric Acid (100g/l)	Class	LA (no damage)	LA (no damage)	LA (no damage)	
	KOH (30 g/l)	Class	HA (no damage)	HA (no damage)	HA (no damage)	
	HCl (18%)	Class	HA (no damage)	HA (no damage)	HA (no damage)	
	Lactic Acid (5%)	Class	HA (no damage)	HA (no damage)	HA (no damage)	
	KOH (100 g/l)	Class	HA (no damage)	HA (no damage)	HA (no damage)	
Determination of stain resistance ISO 10545-14	Green staining agent	Class	5	5	5	5
	Red staining agent	Class	-	-	-	-
	Iodine (solution)	Class	5	5	5	5
	Olive oil	Class	5	5	5	5

Sustainability in the factory

Cosentino S.A., in line with sustainable development and its policy of continuous improvement, has in recent years developed a series of investments for the environmental improvement of the production process. These actions are aimed at eliminating or reducing air emissions from industrial installations, implementing water treatment systems in order to optimise its use and minimise spillages, improving waste management and minimising its generation. Investments have also been made in sustainable mobility, energy efficiency and creating green spaces. To achieve the highest levels of sustainability in the production of Dekton®, the best available techniques (BATs) have been used, representing a total investment exceeding 14 million euros.

Within the Cosentino sustainability policy, sustainable mobility plays a prominent role. In view of this, and associated with the new industrial park where Dekton® is produced, over 2 kilometres of bike lanes have been designed and bicycles have been purchased to allow employees to travel around the site. This has meant an investment is over 50,000 euros. In addition, sustainable mobility is also promoted on the industrial park, with the use of electric vehicles, for both workers and suppliers.

Sustainability in the factory



- 1 100% certified renewable energy
- 2 Raw materials
- 3 Recycled raw materials
- 4 99% recycled water
- 5 Factory
- 6 +144,000 m² Green spaces
- 7 Cosentino City
- 8 Cosentino Center
- 9 Stonemason, kitchen and bathroom shops, architects and designers
- 10 Final customer



In 2021, we produced 400,000 tonnes of waste, of which 13% was recovered. We increased our use of recycled raw materials by 26%.



We recover over 80,000 m³ of water a day.



We promote sustainability
Products with up to 25 years warranty



E-Smart Mobility
We develop digitalisation, sensorisation and electrification tools that will have a significant impact on our emissions.



We reduce our carbon footprint emissions by 6.6% compared to 2018.



7 times less
We choose sea transport over land transport, which is seven times less polluting in terms of our carbon footprint.



We renewed the ISO 14001:2015.

The data provided refers to activities at the Cantoría Industrial Park in 2021 (Almería, Spain)

Atmosphere

Air protection is essential not only at an environmental level but also for the health of people. Among the measures adopted in the manufacturing of Dekton®, the following stand out:

- Airtight transport systems for micronised raw materials from the lorry to the mill. These prevent the emission of dust particles into the atmosphere, preventing their dispersion, cross-contamination and achieving a better use of them.
- Integrated transport systems to minimise the potential emissions from the point of generating the coloured raw material (atomisers) to the point of storage (24 airtight silos). These systems have dust extraction, they streamline the route, belts and particularly unloading and transfers among belts to reach the deposit silos. With all this, the natural resource consumption is optimised by increasing the efficiency of its use, minimising industrial waste generation by 95%.
- Centralised dust collection and purification systems, through 7 bag filters, are located in different sections of the factory. Bag filters are highly efficient devices that purify 99% of the emitted dust.
- Four electric vehicles that transport the product throughout the factory and from Silestone 3 to the automated distribution centre. These vehicles do not consume fuel (which means a significant reduction in emissions compared to diesel engines) and have an energy saving system.
- Installation for vacuum, treatment and recovery of the fumes from the kilns. This system can redirect the fumes from the kilns to the atomisers, using their heat and thus, reducing natural gas consumption and air emissions. Natural gas consumption is reduced by 10% compared to conventional installations and their corresponding CO₂ emissions.
- MRD and SPR heat recovery systems in the kilns. These systems recover some of the heat from the cooling zone of the furnace to preheat the combustion air. Natural gas consumption is reduced by 5%, with the consequent decrease in atmospheric emissions linked to its combustion.

ATMOSPHERIC
EMISSIONS

Carbon Footprint Calculation of the Organisation (2019)

Localised Projects for CO2 emissions reduction (2019 onwards)

Strategic Plan for reducing, compensating and neutralising emissions (2020)

Waste Recovery

The following systems have been installed for the recovery of waste generated in the production process:

- Several installations designed to reuse raw waste prior to the decoction process. It includes the raw waste recovery line, a transport and loading freight line to the turbo-crushers and dissolution installation. If these installations had not been implemented, industrial waste amounting to approximately 5% of daily production would be generated, but with this equipment, this industrial waste will be reprocessed, minimising this amount of waste by 90%. This equipment has cost more than 1.2 million euros.
- Dust recovery system from the different emission catchment areas. This dust is reused as a raw material in the process. More than 500,000 euros have been invested into these systems.
- Sweeper-scrubber cleaning machine with water recycling system. The main objectives of this machine are to minimise airborne dust caused by passing vehicles and maintain all facilities with optimum cleanliness levels. This type of machine can improve uncontrolled waste management and minimise 95% of consumption of flushing water for cleaning compared to a traditional system. 70,000 euros have been invested in the machine.

Evolution

2018-19	2025	2050
30%	50%	100%

WASTE VALORISATION

Since 2018, we have our own

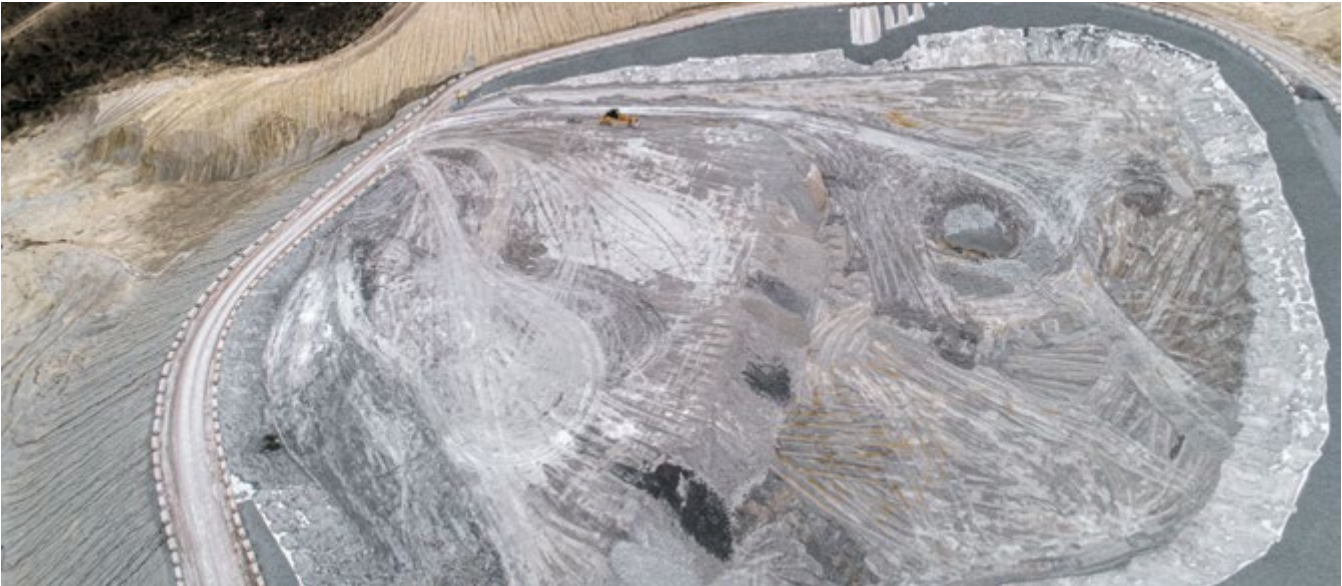
- Non-hazardous Waste Management Company



- Waste Management and Valorisation Plant

By using our own facilities we avoid the emission of more than 7,000 tonnes of CO₂e/year from the transport of waste.

33% Overall Waste Valorisation



Management and use of water

Water is a limited resource, especially in an arid region such as the South-east of Spain. This has been taken into account in the manufacturing of Dekton®, applying the following measures:

- Four tanks located at different points in the factory that allow the collection of clean water and its reuse in the process. This installation prevents the generation of 50% of clean water being handled as waste. 250,000 euros have been invested in these installations.
- Technological water system by reverse osmosis. Aimed at the production of 300 m³ /d of technological water from the water supply, with a rejection flow of technological water less than 5% of incoming water.
- A water decanting and clarification system that allows the treatment and recovery of process water (95% recovery). Along with the technological water system, it involves an expenditure of 1 million euros.
- Automatic cleaning systems for atomisers. These systems only apply the water strictly necessary for such cleaning, minimising the generation of waste flows in the process that requires further treatment (for reuse in the process) or external management of waste. In addition, there is no need to lower the temperature of these systems while cleaning, so there is higher temperature maintenance than the traditional method (i.e. manual cleaning by operators) and therefore lower energy consumption (minimizing atmospheric emissions from gas consumption) to return machinery to its operating temperature. Investment over 32,000 euros.

WATER RESOURCES CONSUMPTION 2019

262 thousand m³/year

- Industrial water (reservoir)
222 thousand m³/year*
*Subsequent replacement with tertiary treated water (WWTP)
- Sanitary water (tap)
40 thousand m³/year

60 thousand m³/year reused water for irrigation

82 million m³/year treated and reused in process

Evolution

2016	2019	2020	2025
WWTP (8)	99% of residual water recycled in the process	Tertiary WWTP	Feasibility study on a desalination plant



Green Spaces

More than 25,000 m² of green spaces have been installed in the new industrial park. Local species have been used and more than 200 trees, that are adapted to the arid conditions of the area. More than 250,000 euros have been invested in these new spaces.



Energy Efficiency

Apart from the already mentioned saving measures (such as reusing the heat from the kilns), other efficiency measures have been programmed. LED lighting has been used for exterior areas, with time adjustment linked to traffic. Maximum use of natural light with skylights has been used for lighting the interior of the factories.

ENERGY CONSUMPTION

100% electricity
from renewable sources

0% CO₂ eq./year
Indirect emissions

30% self sufficient
energy supply in 2020

Expected Evolution

2021	2022	2025	2030
Photovoltaic plant 20 MW ISO 50.001	WWTP (8) Feasibility Study for Wind turbine generation plant	Feasibility Study por alternative fuels	New photovoltaic plant

Cosentino CO₂ Neutral

We have identified those projects that meet the characteristics needed to make responsible compensation, and that have a strong social component that supports the achievement of the Sustainable Development objectives of UN Agenda 2030.

The project chosen in 2019 for offsetting emissions has a significant social impact on sustainable development by supporting the local economy through training and employment creation.

ZERO EMISSIONS STRATEGY

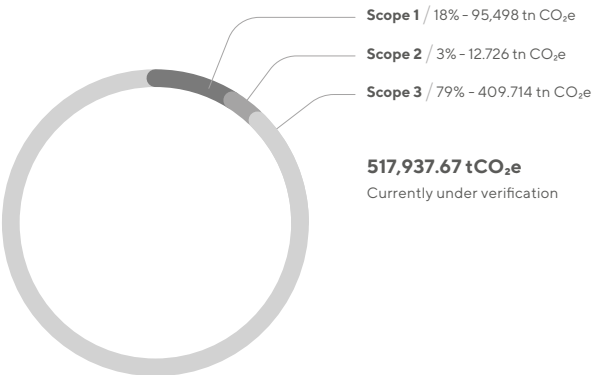
The ultra-compact Dekton® surface is classified as Carbon Neutral.

We offset our CO₂ emissions over the entire product life cycle.



Carbon Footprint

One of the main milestones in 2019 has been the initial calculation of our organisation’s carbon footprint. The carbon footprint has been calculated based on the company’s results from 2018, taking into account both direct emissions from sources monitored by the organisation in its activity (scope 1), and indirect emissions from purchasing electricity (scope 2), as well as other indirect emissions that mostly come from the extraction and provision of raw materials by our suppliers (scope 3). This means we have been able to identify the points in the process where the most emissions are created and their impact is greatest. As a next step, for 2020 we will have a tool that enables us to define goals for reducing, offsetting and neutralising GHG emissions and energy consumption, focusing on the short, medium and long term. These goals will be included in the Cosentino Group’s “Strategic Plan for reducing, offsetting and neutralising CO₂ emissions” (currently under development). This document will not only contain the company’s strategic direction, but also the carbon footprint calculations from 2019.



CARBON FOOTPRINT ACTIONS

With the projects and measures currently underway, it estimates an annual reduction in CO₂ emissions of 15,500 tons/year:

- Process improvement plan / Efic. Energy
- Emissions compensation projects.

It is necessary to involve the entire value chain:

- ISO 20400 sustainable purchases. Tool to audit and value our suppliers.
- Large-scale compensation project, involving suppliers.

Expected Evolution

Short Term 2020-21

Sustainable Mobility Plan.
Projects for reduction, compensation and neutralisation of emissions.

Mid-Long Term 2021 onwards

Feasibility study for progressive replacement of natural gas with biofuels.

Feasibility Study for CO₂ capture and storage.

Enviromental
Product Declaration

This document contains the Dekton® Construction Environmental Product Declaration (EPD) ® and the results of its Life Cycle Analysis (LCA), which was completed 28/06/2016. This EPD is intended both for industrial customers as well as end users. This study was conducted in order to understand the environmental impact of this worktop throughout its entire life-cycle (from cradle to grave). In other words, the results reflect the analysis of the production, transportation, and installation stages, use and end of life. Other aims of this study are the implementation of a systematic process of continuous improvement for all the phases of this cycle and to publish an Environmental Product Declaration (EPD) with the results obtained. This study was conducted according to the following standards:

- 1. General programme instructions for the International EPD® System (Rev. 2.5 2015/05/11).
- 2. Product Category Rules (PCR) for preparing an environmental product declaration (EPD®) for product group “Construction products and CPC 54 construction services” (Multiple UN CPC codes 2012:01 Construction Products and Construction Services (version 2.1).



EPD®-SYSTEM

- EPD® No. S-P-00916 / Environmental Product Declaration according to ISO 14025 and UNE EN 15804 2012 +A2 2019
- Completion date: 01/10/2016
Renewal date: 09/12/2021
Valid until: 08/12/2026.
- Date completed: 01/10/2016 / Validity: 5 years / Valid until: 01/10/2021
- Based on PCR 2012:01 Construction Products and Construction Services version 2.1
- Geographical scope of the EPD: International

Description of stages of the system

PRODUCT STAGE					CONSTRUCTION STAGE		USER STAGE					END OF LIFE STAGE				BENEFITS & BURDENS OUTSIDE THE LIMITS OF THE SYSTEM	
A1. Raw Materials	A2. Transportation	A3. Production	A4. Transportation	A5. Installation	B1. Use	B2. Maintenance	B3. Reparation	B4. Substitution	B5. Rehabilitation	B6. Energy Use	B7. Water Use	C1. Demolition	C2. Transportation	C3. Waste Treatment	C4. Waste Disposal	D. Reuse, Recycling & Recovery	
X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	

X: included; MND: Module not declared

All the values in these tables are related to the functional unit of the study (one ton of product). Tables 5, 6 and 7 describe the environmental performance, use of resources and waste management of Dekton, always expressed in values per functional unit. None of the materials used for Dekton are on the ‘Candidate List of Substances of Very High Concern’ (<http://echa.europa.eu/es/candidatelist-table>).

The units, indicators of environmental impact and the conversion factors used are those set out in ‘Appendix A of the MSR 1999:2’ (Rev.1.1 dated 2005/9/25) and those set out in the CML-IA 3.0 methodology (<http://cml.leiden.edu/software/data-cmlia.htm>) for calculating environmental impact. This methodology is fully developed and used at a European level thanks to the reliability of its data and its scientific bases which are supported in the methodology and procedures set out by Guinée et al. (2001). To calculate the primary renewable energy consumed, the Cumulative Energy Demand (CED) methodology developed by Frischknecht et al. has been used. (2007).

The impact categories calculated are in accordance with those set out in Multiple UN CPC codes 2012:01 Construction Products and Construction Services (version 2.1) and the results were divided depending on the stages and modules described in section 4. The latest available version of SimaPro software (SimaPro 8.0.3.) was used to calculate this data. The calculated impacts are potential and always consider standard operating conditions.

Enviromental performance per functional unit

PARAMETERS	PRODUCT STAGE	CONSTRUC TION STAGE	USER STAGE							END OF LIFE STAGE				D. REUSE, RECYCLING & RECOVERY	
	A1 - A2 - A3	A1. Transportation	A2. Installation	B1. Use	B2. Maintenance	B3. Reparation	B4. Substitution	B5. Rehabilitation	B6. Energy Use	B7. Water Use	C1. Demolition	C2. Transportation	C3. Waste Treatment	C4. Waste Disposal	
Abiotic resources depletion (elements) (kg Sb eq.)	1.7E-03	1.83E-07	0	0	1.13E-08	0	0	0	0	5.80E-10	0	1.2E-09	0	2.38E-08	-1.2E-04
Abiotic resources depletion (fossil fuels) (MJ.)	1.8E+04	1.93E-03	0	0	1.95E-01	0	0	0	0	2.87E-02	0	1.2E+01	0	5.45E+01	-1.8E+01
Global Warming (kg CO ₂ eq.)	1.2E+03	1.48E-02	0	0	1.33E-00	0	0	0	0	1.92E-03	0	9.4E-01	0	4.00E+00	-1.3E+00
Ozone depletion (kg CFC eq.)	1.4E-04	2.19E-05	0	0	1.28E-07	0	0	0	0	1.85E-10	0	1.4E-07	0	2.57E-07	-2.0E-07
Photochemical Oxidation (kg C2H4 eq.)	1.8E-01	2.71E-02	0	0	2.08E-04	0	0	0	0	3.89E-07	0	7.3E-05	0	5.14E-04	-4.8E-04
Acidification (kg SO ₂ eq.)	3.4E+00	8.07E-01	0	0	4.81E-03	0	0	0	0	9.22E-06	0	2.5E-03	0	2.00E-02	-8.2E-03
Eutrophication (kg P04 eq.)	3.4E+01	1.07E-01	-	-	3.84E-03	-	-	-	-	9.31E-07	-	4.8E-04	-	4.24E-03	-6.8E-04

Unit = 1000 kg of Dekton



Dekton® Trilium

Energy Efficiency: Leed and Breeam

The sustainability of architectural projects has gone from being an interesting and desirable addition, to representing a real need that must be considered from the very beginning of the design stage. A building or infrastructure will be sustainable as long as it complies with different criteria, from its impact on the environment where it is located, to the origin of the materials used in its construction.

A building is energy efficient when it is designed to minimise the amount of conventional energy used on a daily basis. It is not just about saving on the energy bill. There are many other benefits to this approach: easier fitting of materials, lower maintenance costs and reduced obsolescence and material degradation. In order to undertake the construction of a sustainable energy building, two types of strategy must be developed: passive design strategies, focused on taking advantage of the climate and the environment in which the building is located; and active design strategies, such as the use of different renewable energy sources to supply the building.

A building is energy efficient when it is designed to minimise the amount of conventional energy used on a daily basis.



Sustainability in the factory

LEED

LEED (Leadership in Energy and Environmental Design) is the most widely used sustainable building rating system in the world. LEED provides a framework for classifying eco-friendly and highly energy-efficient buildings, and is available for almost all types of architectural projects.

When constructing a building, taking into consideration LEED certification is key to reducing costs before, during and after the project.



Sustainable sites

To minimise effects on microclimates, humans and wildlife by reducing heat islands. Using material in non roof applications with a $RS \geq 0,33$ and in roof application with $RSI \geq 82$ or $RSI \geq 39$ (depending on slope). You can get 2 Leed Credits as Dekton solar reflectance (RS) and solar reflectance index are.

SR= 0,462 grey colours
SR= 0,674 cream colours
SR= 0,790 white colours

SRI= 52 grey colours
SRI= 81 cream colours
SRI= 98 white colours



Regional priority

Regional priority credits (RP) are those existing LEED credits that help project teams focus on their local priorities in terms of environment, social equity and public health. Requirements: One credit is awarded for each Regional Priority credit achieved, up to a maximum of four.

Cosentino is a company with a growing global presence. It currently distributes its products and brands in more than 80 countries, using its own distribution channel in 37 of them. This is key to understanding and meeting the regional priorities for each project.



Material and resources

To encourage the use of products and materials for which life-cycle information is available and that have preferable environmental, economical, and social life-cycle impacts. You can get 1 Leed credit as Dekton has its own environmental product declaration and the carbon footprint reduction plan is in development.

Requirements: To use products from at least five different manufacturers that meet at least one of the following responsible sourcing and extraction criteria. The total value of the construction products used in the project that meet these criteria must represent at least 40% of the total value of construction products permanently installed in the project. You can get 1 Leed credit because Dekton Trillium and Radium uses up to 80% of reused materials, Eter up to 30% and white range has various percentages of reused materials.



Innovation

To encourage building teams to achieve exceptional and innovative efficiency Requirements: To excel in innovation beyond the elements listed in the LEED guide.

You can get from 1 to 5 Leed credits as Innovation is part of Cosentino's DNA. As a leading company, Cosentino innovates and anticipates solutions, together with its clients and partners, that offer design, value, and inspiration to people's lives.



Indoor environmental quality

To provide a comfortable thermal environment that supports and promotes occupant productivity and well-being. Requirements: To meet all requirements for both design and technical comfort control. To design the building envelope in order to meet either ASHRAE Standard 55- 2017 or ISO 7730:2005 requirements.

You can get 1 Leed Credit because Dekton is certified for its use in ventilated facade.

To use materials inside the building (and within the waterproofing membrane) to meet the low emission criteria listed below. a. FLOORING: At least 90% of the total cost of the flooring installed meets the VOC content requirements. b. WALLS: At least 75% of the total costs of the walls installed meets the VOC content requirements.

Yo can get 1 Leed Credit as Dekton is Greenguard Gold certified.

BREEAM

BREEAM is one of the most important and recognised sustainability certifications in the world. It focuses on assessing the environmental impact of all types of architectural projects. BREEAM assesses impacts in ten different categories ranging from ecological land-use to the use of sustainable materials and infrastructures and buildings energy efficiency. BREEAM encourages the development of projects from a sustainable approach that generates economic, environmental and social benefits for all those involved in the construction and subsequent use of the building or infrastructure.



Cosentino designs its materials from an innovative and sustainable approach that helps architects and designers to meet the requirements of the BREEAM evaluation system. Both the design of the products and the materials used in their manufacture are focused on guaranteeing the lowest environmental impact on each architectural project. In this sense, the energy efficiency of buildings using Cosentino materials in their construction is particularly relevant.



Health and well-being

HEA 02 Indoor air quality.

To encourage a healthy internal environment through the specification and installation of appropriate ventilation, equipment and finishes. Requirements: Volatile Organic Compound (VOC) emission levels. The selected products must comply with the emission limits specified in the guide.

You can get 1 Breeam credit as Dekton® is Greenguard Gold certified.

HEA 04 Thermal Comfort.

To ensure, through design, both the achievement of comfortable temperature and the necessary control devices to maintain a thermally comfortable environment for the building's occupants.

You can get 1 Breeam credit as Dekton is certified for facade use.



Materials

MAT 01 Life cycle impact.

To encourage the use of construction materials with a low environmental impact over the full life cycle of the building. Requirements: At least five products specified at Design Stage (DS1) and installed by the Post-Construction Stage (PCS 2) are covered by verified Environmental Product Declaration.

You can get 1 Breeam credit as Dekton® is EPD certified.

MAT 06 Material efficiency.

To recognise and encourage measures to optimise efficiency of materials. Material efficiency: "...This includes using fewer materials, reusing existing demolition and dismantled materials and, where appropriate, procuring materials with higher levels of recycled content..."

You can get 1 Breeam credit as Dekton® uses different percentages of recovered materials in some of its colours: - Dekton Trilium and Radium, up to 80% - Dekton Eter, up to 30% - White range, various percentages.



Innovation

INN 01 Innovation.

To support innovation within the construction industry through the recognition of sustainability related benefits which are not rewarded by standard BREEAM issues. Requirements: Up to a maximum of 10 credits are available, with the total BREEAM score capped at 100%, in aggregate from a combination of the following: a) 1.c Indoor air quality: All product types comply with the emission limits, test requirements and additional requirements listed in the guide. (1 CREDIT) b) 1.g At least 10 products specified at Design Stage (DS) and installed by the Post-Construction Stage (PCS) are covered by the manufacturer's verified Environmental Product Declaration (1 CREDIT).

You can get these points as Dekton® is Greenguard gold and EPD certified.

Certifications

Dekton® is in the process of certification of the following worldwide certifications with environmental implications.

ISO 9001



Cosentino has been found to conform to the Quality Management System standard: ISO 9001:2015 This certificate is valid for design, manufacturing, production, distribution, sales and marketing of Dekton® ultra-compacted surfaces.

ISO 14001



This recognition certifies and consolidates the quality of the Cosentino Environmental Management System. This certificate covers the entire process in which the company is involved in from the design, manufacture and processing of Dekton®, to its distribution and marketing. It certifies, among other aspects, the efficient use of raw materials, control of emissions into the atmosphere, waste management programmes, treatment systems and re-use of industrial water, disposal of chemical substances, and control of environmental hazards.

NFPA 285



This standard provides a test method for determining the fire spread characteristics of exterior wall and panel assemblies used as components of curtain wall assemblies that are constructed of combustible materials or contain combustible components.

Wall assemblies are tested for the following capabilities: resistance to flame spread on the outside face, vertical flame spread from floor to floor, lateral flame spread from the wall compartment of fire origin to adjacent spaces.

ETA 14/0413



It is a European technical approval based on EAD 090062-00-0404 “Mechanically Fastened Exterior Facade Cladding Kits”. It is a reference document for application in Europe and other markets. It includes technical data for three different ventilated facade systems for 12 and 20 mm. DKT1 for undercut anchor system and DKT2 and DKT3 for edge grooving systems with continuous profile or clips.

NOA



NOA certificate has been approved and designed to comply with the Florida Building code including the High Velocity Hurricane Zone. It includes two types of systems, with Dekton® 12mm installed on aluminium profiles and hangers fixed to plywood attached to wooden battens, steel stud framing or masonry, and Dekton® 8 mm installed with an adhere system. It includes test reports about static air pressure, cyclic wind pressure loading, flame spread and smoke generation, freeze and thaw cycles and water absorption.

BS 8414

The test method BS 8414 Part 1:2020 assesses the performance of an external non-loadbearing cladding system, a ventilated facade and external wall insulation systems when applied to the face of a building and exposed to an external fire under controlled conditions.

The fire exposure is representative of an external fire source or a fully-developed (post-flashover) fire in a room, venting through an opening such as a window aperture that exposes the cladding to the effects of external flames. Internal and external fire spread, visible flames and mechanical stability are assessed.

BBA 16/5346



This Agreement certifies Dekton® relating to ventilated cladding for fixing to an aluminium support subframe, and for use ventilated facade on external masonry, concrete or steel frame walls of new and existing buildings.

Greenguard



Greenguard Environmental Institute is a non-profit organisation whose mission is to protect public health and improve quality of life through programmes that improve air quality indoors. Some studies by the Environmental Protection Agency in the USA have proved that indoor air contamination can be 100 times higher to outdoor contamination levels.

In energy efficient constructions, pollutants tend to become trapped in living spaces instead of moving freely in the environment. Some of the most harmful contaminants indoors are Volatile Organic Compounds (VOCs), carbon monoxide, particles from cooking and nitrogen oxide. These contaminants can cause sick building syndrome, which causes dizziness, nausea and related illnesses.

Dekton® has been analysed by Greenguard, proving that it does not emit any type of VOC and thus has achieved Greenguard Certified (Certificate No. 41572-410) and Greenguard Gold (Certificate No. 41572-420) Certifications.

Other product certifications

EPD



DGNB LABEL



NSF



ICC



APPLUS



CoC (Civil Defence)



VOC Eurofins



DoP



DBCe



Carbon Neutral



KOMO



Incombustible



A1/A2 s1 d0 (with mesh)
EN 13501-1 2018 y NFPA/
IBC class A ASTM E 84

* To obtain more information about hues with NSF certificate please visit www.nsf.org

Product Range

02

34	Sizes, Formats and Thicknesses
36	Colours and Surfaces
46	Dekton iD
54	Colour Stability
55	Customising Cuts and Special Elements



Sizes, Formats and Thicknesses

Stándard size

Thanks to the size and lightness of Dekton®, 320 x 144 cm in Standard format and 330 x 163 cm in Jumbo format (with the possibility to cut to size), the design possibilities are growing exponentially.

Formats recommended to maximise use of Dekton®

Thickness (cm)	Standard Format (cm)	Jumbo Format (cm)
0,4	71 x 71	80 x 80
	71 x 142	80 x 109
	142 x 142	80 x 164
	79 x 143	80 x 330
0,8	106 x 71	162 x 81
1,2	106 x 143	162 x 109
2	159 x 71	162 x 164
	159 x 143	163 x 330
	144 x 320	
	71 x 320	



Standard Format (cm)

	142 x 142	144 x 320	143 x 159	143 x 106	143 x 79
71 x 71	71 x 142	71 x 320	71 x 159	71 x 106	

Jumbo Format (cm)

	163 x 330	162 x 164	162 x 109	162 x 81
80 x 80	80 x 330	80 x 164	80 x 109	

Standard thicknesses

Dekton® slabs come in different thicknesses so that you choose the most appropriate option depending on the application, design or desired effect, from 4 to 20 mm

Standard size

Thanks to the size and the lightness of Dekton® 320 x 144 cm (with the possibility to cut to size), the design possibilities are growing exponentially.

Surface Textures

- **Matt:** Smooth without shine
- **Velvet:** Textured
- **Polished:** Shiny

Measurements, weight and tolerances

Thickness (mm)	Weight (Kg/sqm)	Weight (Kg/ Standard Slab)	Weight (Kg/ Jumbo Slab)
4	10.1	46.44	53.79
8	20.2	92.89	108.65
12	30.2	139.34	162.44
20	50.4	232.24	271.10

Tolerances

- Thickness ± 0.5 mm.
- Length and width ± 2 mm.
- Perpendicularity ± 2 mm.
- Straightness of the sides ± 1.5 mm.
- Centerline curvature ± 2 mm..
- Lateral curvature ± 2 mm.
- Warping ± 2 mm.

Technical features

- Density: $2.52 \pm 4 \%$ g/cm³
- Bending strength: ≥ 45 N/mm²
- Modulus of elasticity: 84,000 N/mm²
- Linear thermal expansion: $5.9 \times 10^{-6} \text{ }^{\circ}\text{C}^{-1}$
- Water absorption: 0.1 %. (Grupo Bla)
- Porosity: 0.2 %.
- Maximum expansion: 0.1 mm/m.
- Thermal conductivity: 0.483 W/m²K
- Reaction to fire. A1/A2 s1 d0 (with mesh) EN 13501-1 2018 and NFPA/IBC class A ASTM E 84



Colours and Surfaces

Types of Patterns

We have classified our range of colours into three different clusters of patterns to facilitate the design process. All our portfolio is labeled as Infinite Pattern, Singular Pattern and Smooth Pattern, depending on the effect desired for large surfaces and the placement of slabs adjacent to one another, taking into account the directionality of the design, shades and variations.

However this classification is merely indicative and we recommend that you go to our Product to obtain an individual assessment that guarantees how you can materialize your project the way you imagined.



Infinite Pattern

Plain colours or designs with a uniform or quasi-uniform composition and structure that, when used for coverings such as floors, walls, or facades, allows for the random placement of boards and cut-outs achieving total visual homogeneity. Recommended for large surfaces.



ToHa by Ron Arad and Avner Yashar. Tel Aviv, Israel

Singular Pattern

Designs with chromatic ranges of greater complexity and very marked directionality, which result in patterns with a lot of character and variation in smaller pieces and adjacent placements. We recommend that you consult our advisors for use on large surface claddings.



Armonk Professional Center. New York City. USA



Dekton® Kovik 8mm. DKB Facade System

Smooth Pattern

Designs with a directionality in the graphic structure that has to be taken into account when cutting and placing adjacent boards, either if continuity in the holistic design is sought or otherwise. It is a very versatile type of pattern but it requires the placement and cutting of boards accordingly. Recommended for large surfaces.

Dekton® Bookmatch

From some of our designs, we have created unique, symmetrical and interchangeable references that allow compositions and designs to be made where the veins have continuity between different pieces.

There is a system of numbers and letters to select the patterns that best suit your needs according to available colour and thickness.

Material on request, check availability.

Dekton® Slim Aura 15

Available thickness:
4mm



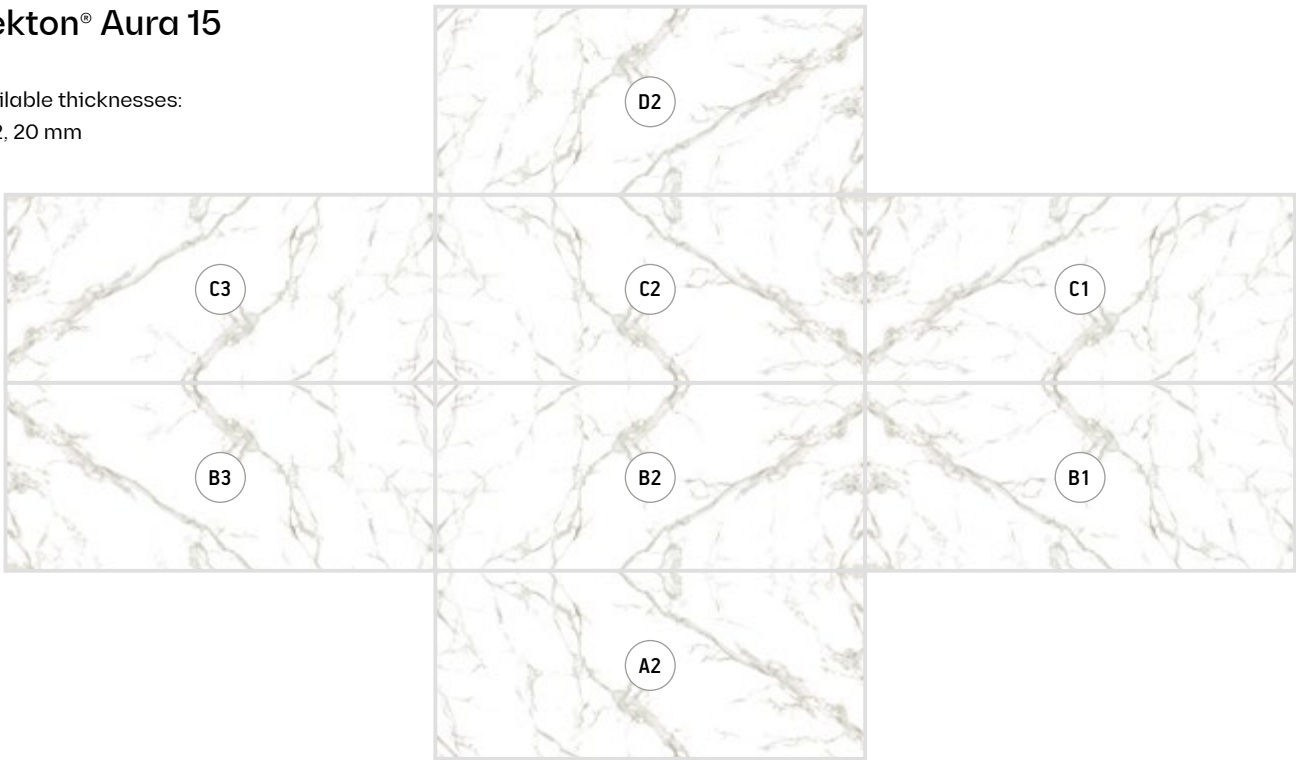
Dekton® Natura 18

Available thicknesses:
4, 8, 12, 20 mm



Dekton® Aura 15

Available thicknesses:
8, 12, 20 mm



CASE STUDY

444N Orleans Building

Chicago, USA

Material

Dekton® Aura Bookmatch

Thickness

12 mm



New Colours

Pietra Kode Collection





Colour Chart, Patterns and Finishes

Infinite Pattern

Colours and Surfaces

Uyuni  

Zenith   

Halo   

Mooné  

Albarium 22   

Nacre    

Aeris   

Sasea   

Dunna  

Arga  

Argentium   

Keon   

Umber  

Micron  

Bromo    

Eter  

Ultra Texture Ultra Matt Velvet Texture XGloss kC Quick Cut Technology Dekton Slim 4mm

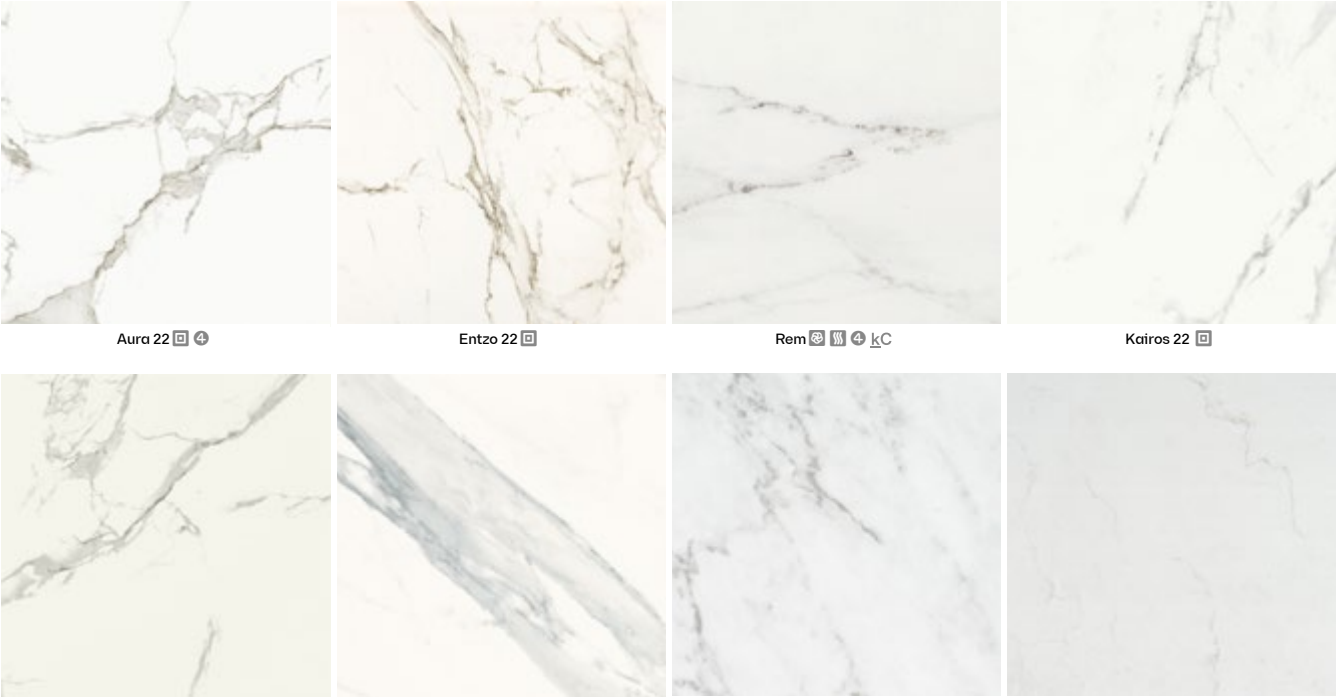
Infinite Pattern



Sirius Ultra Matt Dekton Slim 4mm

Domoos Ultra Matt

Singular Pattern



Aura 22 Ultra Matt Dekton Slim 4mm

Entzo 22 Ultra Matt

Rem Ultra Texture Ultra Matt Dekton Slim 4mm kC Quick Cut Technology

Kairos 22 Ultra Matt

Natura 22 XGloss Dekton Slim 4mm

Opera Ultra Texture Dekton Slim 4mm kC Quick Cut Technology

Salina XGloss Dekton Slim 4mm kC Quick Cut Technology
Marina Ultra Texture Dekton Slim 4mm kC Quick Cut Technology

Malibu XGloss Dekton Slim 4mm kC Quick Cut Technology
Laguna Ultra Texture Dekton Slim 4mm kC Quick Cut Technology

Colour Chart, Patterns and Finishes

Singular Pattern



Limbo   4 kC
Neural   4 kC



Vigil  4 kC
Daze  4 kC



Lucid  4 kC
Morpheus  4 kC



Awake  4 kC
Reverie  4 kC



Nilium 22 



Helena 22  4



Bergen  4 kC



Trance  4 kC



Liquid Shell 22  



Khalo 



Soke  



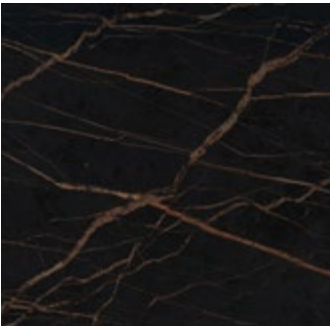
Tritium  4



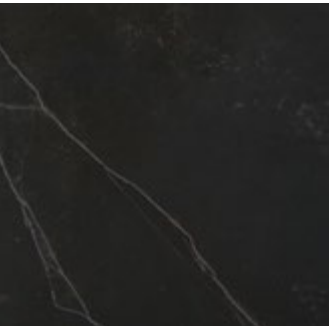
Laos  4



Somnia  4



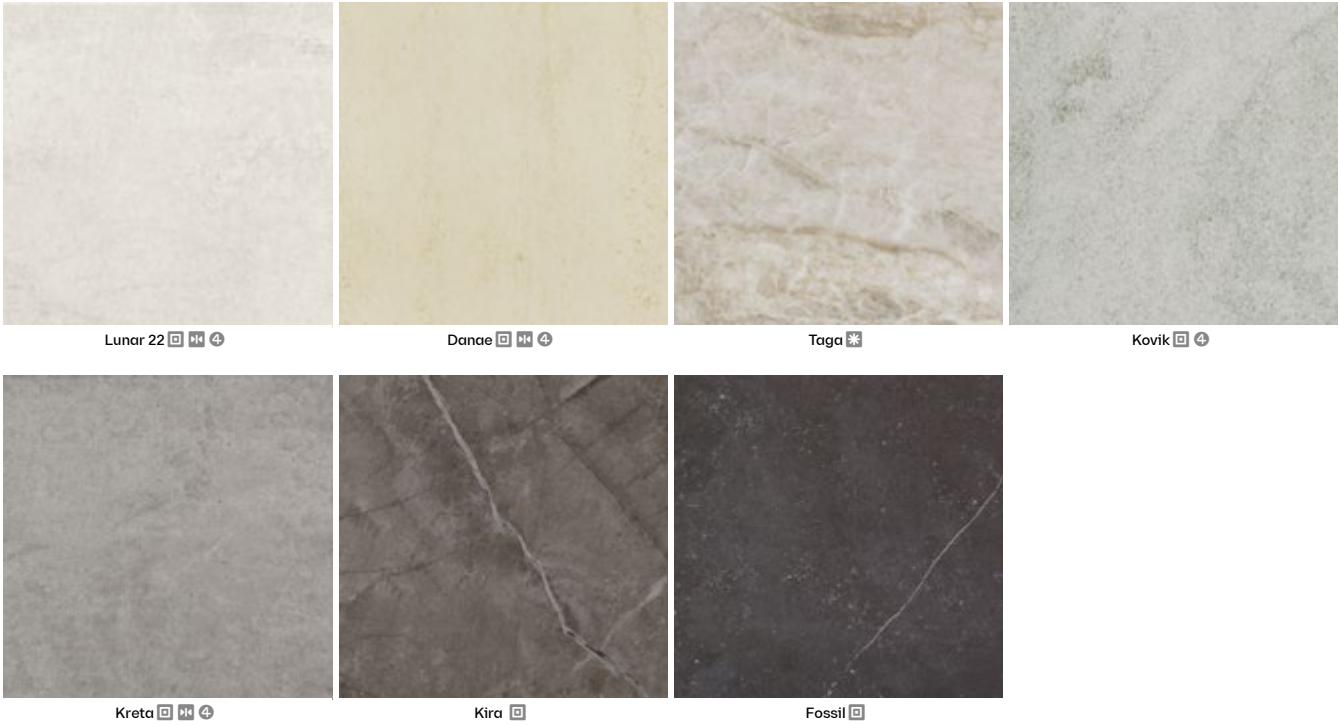
Laurent   4



Kelya  4

Ultra Texture Ultra Matt Velvet Texture XGloss **kC** Quick Cut Technology Dekton Slim 4mm

Smooth Pattern



In the following colours belonging to the category of SINGULAR and SMOOTH patterns, the directionality of the texture, as well as the movement of the background, must be taken into account at the time of cutting. Colours: Arga, Aura 22, Bergen, Bromo, Danae, Kelya, Keon, Khalo, Kira, Natura 22, Nillium 22, Laos, Laurent, Opera, Rem, Soke, Taga, Trilium

Dekton iD

From printing specific graphics in any colour to changing texture, to creating a completely original design that includes custom colours, textures and finishes, keeping the benefits of Dekton® unchanged.

Two different levels of customisation to suit each project

Dekton iD is a breakthrough service by Cosentino that enables the possibility to customise our Dekton® products.



DEKTON iD PRO

From 1000 sqm

Combine any of our colour bases.
Choose one of our textures.
Print a design like patterns,
graphics or even your brand.

1 Base colour selection

The first step is the selection of the base colour. You can choose any colour available from the wide range of Dekton®.

2 Design application onto Dekton® surfaces

You can apply countless customised designs to Dekton® surfaces, as well as colours and grades that will transform its appearance.

3 Texture selection

The different textures available, such as matt, ultra-gloss, wood and slate, to name a few, will provide the finish with attractive nuances and a unique feel to the touch.

4 Thickness selection

While Dekton® standard thicknesses are 4, 8, 12, 20 and 30 mm.

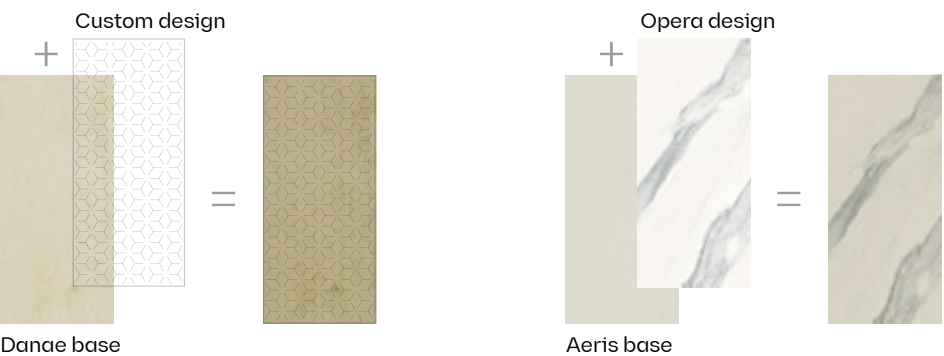
5 Cutting

Dekton® large format slabs can be cut to size, regardless of the shape.

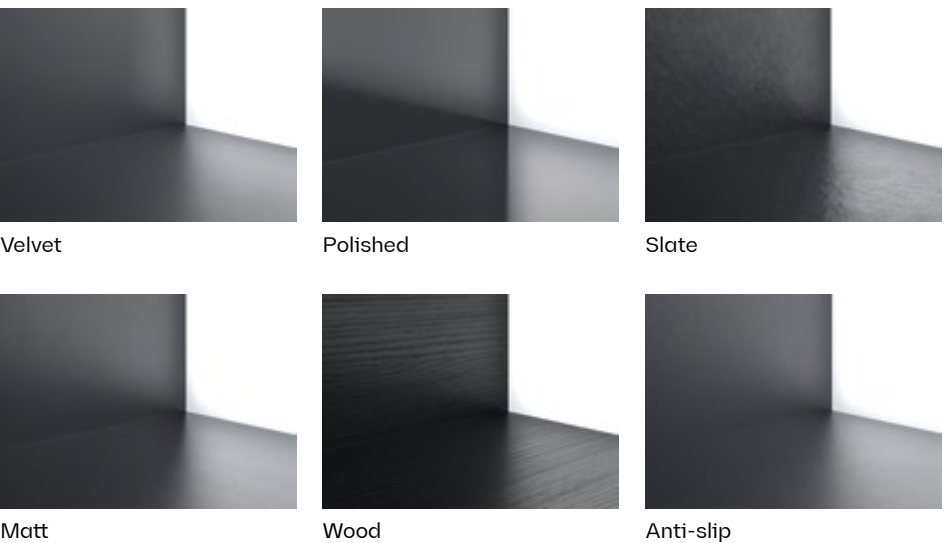
Base colour



Design



Textures



DEKTON iD UNLIMITED

From 2500 sqm

Create your fully personalised colour, texture and finish from scratch. Even the colour bases, texture, finishes, formats and much more.

1 Base Colour

The customer sends the Dekton iD team his/her initial idea: it can be a colour or the image or photo that sparked the customer's inspiration. From that moment, the Dekton iD team will perform a series of tests to achieve the desired colour. Meanwhile, the customer will be receiving samples and can adapt the product to his/her preferences.

2 Designs

You can apply countless customised designs to Dekton® surfaces, as well as colours and grades that will transform its appearance.

3 Textures

The different textures available, such as matt, ultra-gloss, wood and slate, to name a few, will provide the finish with attractive nuances and a unique feel to the touch.

4 Effects

Additional finishes that provide, selective gloss, pearlescent effects and unique inks, creating light base-relief, among others.

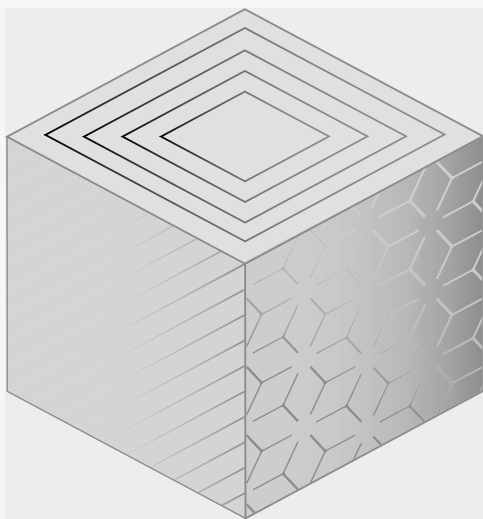
Thanks to the effects, it is possible to create all kinds of visual sensations to enhance a texture or colour, providing a very original final design.

5 Thickness

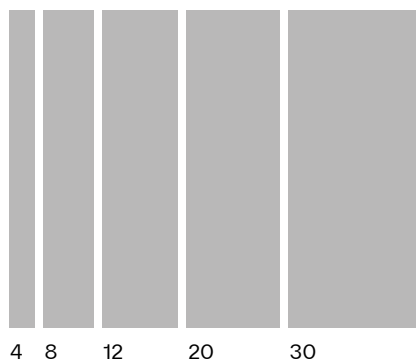
While Dekton® standard thicknesses are 4, 8, 12, 20 and 30 mm, Dekton iD Pro allows you to create specific thicknesses to suit the requirements of each project.

6 Cutting

Dekton® large format slabs can be cut to size, regardless of the shape.



Thickness



Cutting



Effects



Selective relief



Base relief



Vivid Colours



Copper



Brass

Basic Workflow



Send us your idea

Send your idea to customdk@cosentino.com and start from scratch customising its colour, texture and format thanks to Dekton ID.

Or release your creativity on Dekton surfaces with the help of Dekton ID Unlimited. You can check the project's development either through the samples that you will receive from Cosentino, or personally, through visiting Cosentino's facilities.



Personalised advice

Cosentino's R+D team will help you with your project, **supporting you** at every step of the process:

From the initial idea, to the features and creative possibilities of Dekton®.



We bring your vision to life

Dekton ID's aim is clear: to **achieve a perfect**, customised result just like you imagined it.

DEKTON ID

INDIVIDUALLY DESIGNED

CASE STUDY

An iconic building featuring Dekton ID inside and out

Gothenburg, Sweden

Material

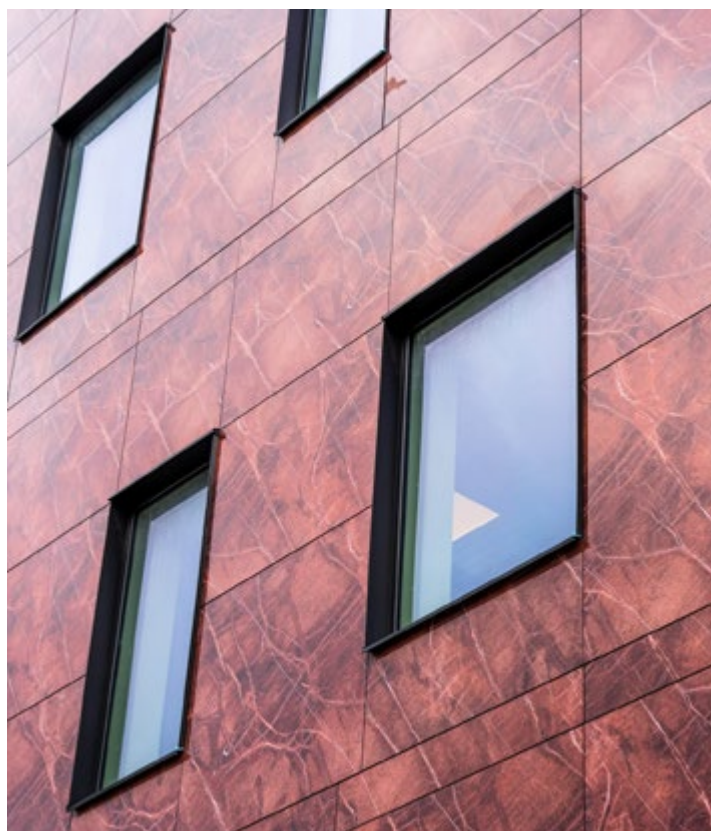
12,000 m² Dekton ID

Dekton® Wallenstam Black Marble, Red Marble and Green Marble, Dekton® Bromo and Keon

Thickness

12 mm





Teamwork for an iconic building

A striking office building in the new residential area of Kallebäcks Terrasser in Gothenburg, Sweden, has changed the landscape along the E6 motorway with its contemporary Dekton® facade.

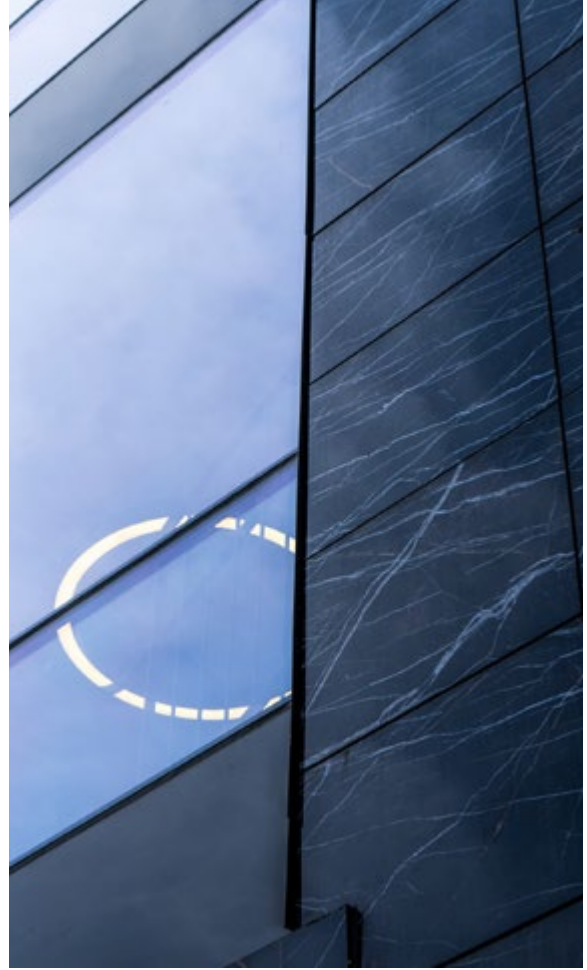
Conceived to house flexible workplaces, a gym with panoramic views and parking spaces for bicycles and cars, this spectacular building also acts as an acoustic barrier protecting the residential area from the noise and pollution of the nearby motorway.

A sturdy facade

Terraces ('Terrasser') are a concept that is developed throughout this area, through the different buildings and blocks and their different heights. Against this background, the Entré Kallebäck building, some 250 metres long and 20 metres high, has been built as an extension of the mountain. It functions as a wall or barrier in front of the E6, a road on which dangerous goods are transported, thus limiting the type of buildings that can be erected in the immediate vicinity.

The risk of explosion demanded a particularly strong western facade and Dekton® met the necessary criteria, such as stain resistance, durability and, above all, scratch resistance, which extends the life of the material. In addition, the versatility of formats and thicknesses makes design and installation as simple as possible.





Colour Stability

Accelerated Dekton® Ageing.

Cosentino has conducted tests on Dekton® surfaces to prove its stability to ultraviolet light. These tests have been done in an accelerated ageing xenon arc light chamber.

To do these tests two colours were selected as representative of the white and black ranges, Zenith and Domoos.

Tests have been conducted with a team model (Q Sun XE 3 HS) with daily light filters and irradiation of 0.51 W/m2 in 340 n and following a typical 102/18 cycle based on ISO 11341:2004 with the following test parameters: Dark panel temperature 63°C, air chamber temperature 43°C, humidity 30%; 1.42 hours of light/18 minutes of light and water spraying.

After 5000 hours of exposure, samples were measured and compared with a parameter that clearly determines colour variation. This is ΔE (Delta E) from CIELab. When the difference between two colours is ΔE<1 this means that both colours can be considered the same. If the colour change is ΔE>1, then it can be noticed by the human eye.

Results of this test:

Dekton® Colour	Exposure time	ΔE*
Domoos	>5000	<1
Zenith	>5000	<1

These values show that Dekton® is not altered by UV radiation so it can be used in outdoor applications with full guarantee of colour stability throughout the entire colour range.

Customising Cuts & Special Elements

With Dekton® it is possible to produce straight and curved cuts with special designs for each project. It is also possible to produce 3D elements in L-shape for corner cladding, U-shape for columns and any type of customised element.

Please contact the Project Service Unit (PSU) to find a customised solution.

Possibilities and references

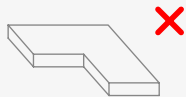
Minimum formats

Thickness (cm)	Format (cm)
0.4	71 x 71
	71 x 142
	142 x 142
	79 x 143
0.8	106 x 71
1.2	106 x 143
2	159 x 71
	159 x 143
	144 x 320
	71 x 320

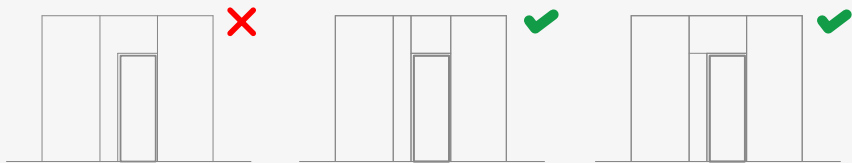
Pieces with unique shapes (L & U shapes)

Corners in facade openings are typically weaker points where stresses of the building structure or support wall can be easily transmitted to the cladding causing cracks to appear. This can be due to several factors such as the deviation of slabs and beams, differential settlements of foundations, expansion of the wall support etc.

For this reason, it is not recommended to cut special shaped pieces (L or U shapes) in facade application.



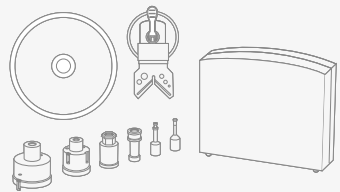
Example of L shaped piece in elevation and best layout solutions proposed:



In the event that these kinds of shapes cannot be avoided, it is recommended a minimum radius of 10mm in interior corners.

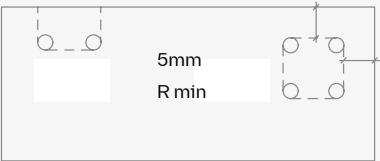
Cut-outs

When cut-outs are to be done on site, the recommended process is drilling in the corners before cutting. Mortises need to have drill holes with a minimum radius of 5mm before cutting. These cannot be done too close to edges and a minimum distance of 50mm to the edge is advisable.

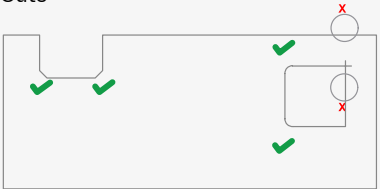


Approved disc and bit

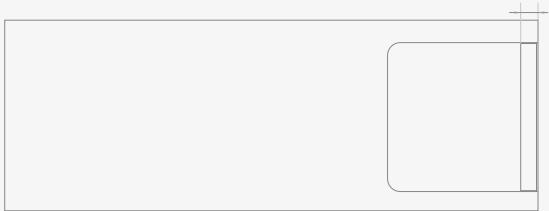
Drilling



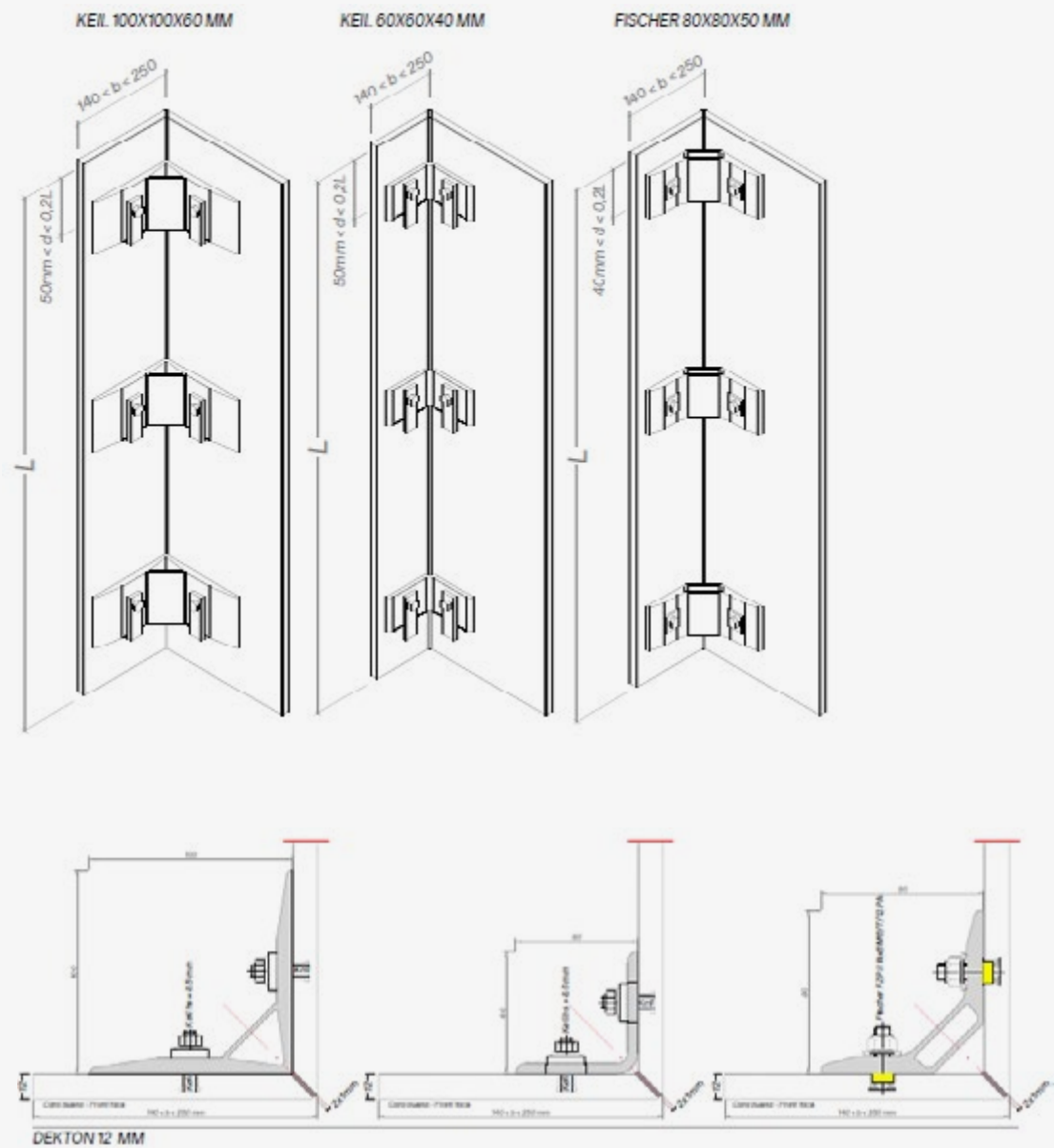
Cuts



min. 50mm



Corner solution with Keil and Fischer systems



Assembled pieces (L & U mounting)

Beveled edges of integral corners and U-shapes include drill holes, reinforced profiles, and metallic elements to reinforce the joint.

For return pieces with mechanical fixing systems in ventilated facade application, it is recommended a minimum width of 70mm and a maximum of 210mm.

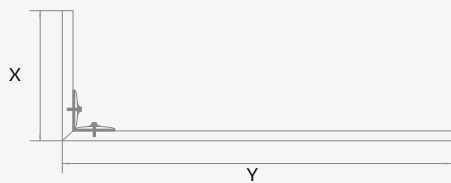
Dimension limitations, overhangs and distances between angular brackets and drill holes for special solutions should be studied for each case (Ask for support from the Project Service Unit - Facades technical department)

Cosentino was able to supply the assembled pieces in accordance with the installation drawings supplied by the project engineers.

U Shape

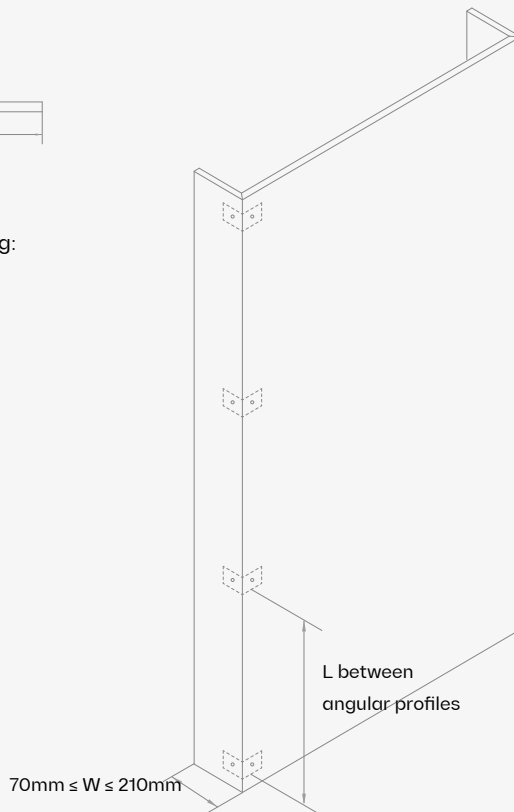
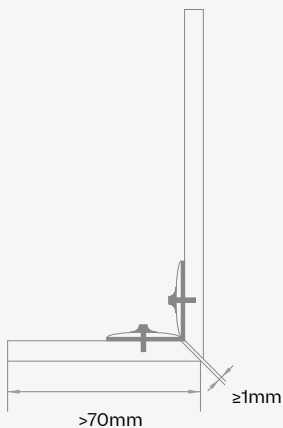


L Shape



Beveled corners joined with mechanical fixing:

- Returns width $70\text{mm} \leq X \leq 210\text{mm}$.
- Minimum open joint of 1-2 mm.



Cosentino's technical department offer specialised support to define and optimise a solution for each project.

Cladding System

03

62	Types of Fixing
64	Subframe and Fixing Systems
67	Cladding System
70	Dekton® Corner Solutions



Ventilated Facade

The ventilated facade is a construction solution that allows for the establishment of a physical separation between the exterior cladding solution and the supporting wall of the building.

This separation creates a ventilated chamber that allows the renewal of air, which allows a series of thermal, acoustic and functional advantages that give it great added value.

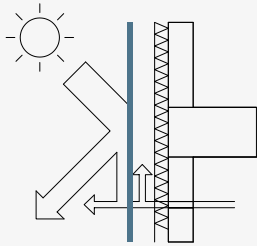
Glue and ETICS facade system

Dekton® can also be used for facade cladding and ETICS facade systems with the recommended adhesives, depending on the type of substrate and panel size.

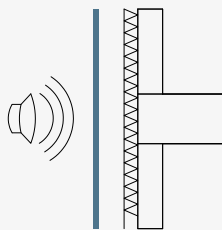
Curtain Wall

Dekton® can also be installed in the opaque areas of a curtain wall, always integrated with the fixing systems available from suppliers and manufacturers for this application.

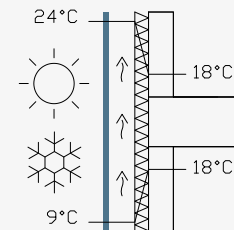
Ventilated Facade Advantages



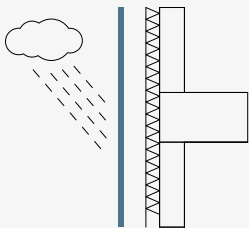
Energy savings



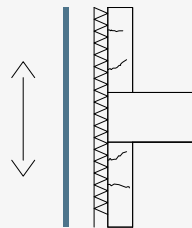
Aislamiento acústico



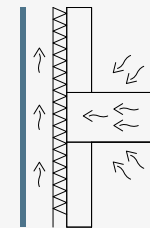
Salubridad: evitan puentes térmicos y condensaciones



Protección ante filtraciones de agua



Protección del muro soporte



Aislamiento térmico

Structural requirements

In facade projects, Cosentino provides a wide range of certifications available and data sheets for static calculations required on each project.

Wind loads

The local standards must be considered in order to determine the best solution for the panel and fixing, especially in tall buildings or areas classified with high wind loads.

- Dekton[®], with its range of thicknesses and systems, can be adapted to the different wind loads of each project. Cosentino continues to test and validate its cladding solutions through external laboratories.

Fire classification

Many European countries have adopted the European Reaction to Fire classification system (Euroclasses). Testing is defined in standard UNE-EN 13501-1 : Fire classification of construction products and building elements. There are seven Reaction to Fire classification levels, depending on the contribution to fire: A1, A2, B, C, D, E and F, from best (A1 and A2 are non-combustible) to worst. There are three smoke intensity levels: s1, s2 and s3. There are three classes of burning droplets: d0, d1 and d2 (**Table A**)

Seismic performance

In the event of an earthquake, lightweight ventilated facades perform better than heavier materials and solid wall solutions.

Lightweight substructures used in ventilated facades function by absorbing and dissipating the tensions generated due to building movements limiting the damage and making it easier to repair.

- Cosentino has carried out seismic tests, included in some systems and certificates, in external laboratories when required by certain projects or regulations.

Table A

Contribution to fire A-B-C-D-E-F	Smoke production s1, s2, s3	Flaming droplets/particles d0 - d1 - d2
A1 No contribution to fire.	No test needed	No test needed
A2 No contribution to fire.	s1 Quantity/Speed of emission low.	d0 No burning droplets
B Very limited contribution to fire.	s2 Quantity/Speed of emission average.	d1 Slow rate of burning droplets.
C Limited contribution to fire.	s3 Quantity/Speed of emission high.	d2 High degree of burning droplets.
D Acceptable contribution to fire.		
E Acceptable contribution to fire.	Not tested	-
F No performance requirements.		

The fire requirements will usually depend on the height of the building; for 18m and higher, buildings in Spain require a B-S3-d2 classification.

- Facade panels with fire classification A1 or A2-s1, d0 like Dekton[®] are non-combustible and suitable for facade installation in any type of building and at any height, meeting the most stringent fire performance requirements.

Subframe and Fixing Systems

Ventilated Facade

DKT1 ●
Hidden mechanical fixing using undercut screws on the reverse side of the piece.

Thickness: 8, 12 and 20 mm
Price: *****
Format: All formats.
Certificates: ETA, BBA (12 y 20 mm)

DKT2 ●
Hidden mechanical fixing with metallic profile on the continuous grooved edge of the piece.

Thickness: 12 and 20 mm
Price: ***
Format: not suitable for big formats on vertical layout.
Certificates: ETA, BBA

DKT3 ●
Hidden mechanical fixing with clips at intervals along the groove on the edge of the piece.

Thickness: 12 and 20 mm
Price: **
Format: not suitable for big formats on vertical layout.
Certificates: ETA, BBA

DKT4
Mechanical fixing using visible clips that hold the pieces.

Thickness: 4, 8, 12 and 20 mm
Price: *
Format: Not suitable for big formats on vertical layout.

DEKCLIP ●
Mixed fixing (mechanical plus chemical) hidden in the groove on the reverse side of the piece.

Thickness: 8, 12 and 20 mm
Price: ****
Format: All formats

DKC ●
Chemical structural fixing of pieces onto profiles.

Thickness: 4, 8 and 12 mm
Price: *
Format: All formats
Certificates: ETA SIKA, KOMO Innotec, KOMO Dynamic Bond, Dow Corning Silicone.

DKR
Rivet or screw fixing system with visible spot anchors.

Thickness: 4 and 8 mm.
Price: *

Glue and ETICS facade system

DKB
Pieces are fixed directly to the enclosure using mainly cement based adhesives.

DKS
Fixing of pieces onto an external thermal insulation system (ETIS)

Curtain Wall

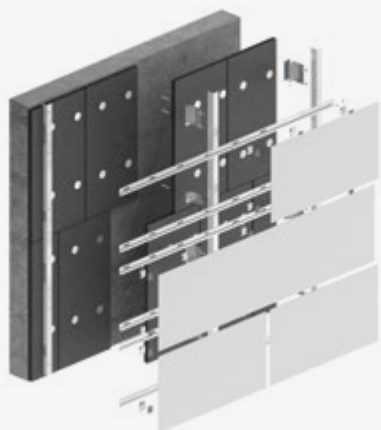
DKCW
Fixing in opaque areas of the curtain wall with perimeter chemical anchors with or without caps and middle reinforcement as required.

Thickness: 4, 8, 12 and 20 mm.
Price: ****

● Systems certified for ventilated facades

Indicates an approximate price level compared from the lowest price (*) to the highest price (****).

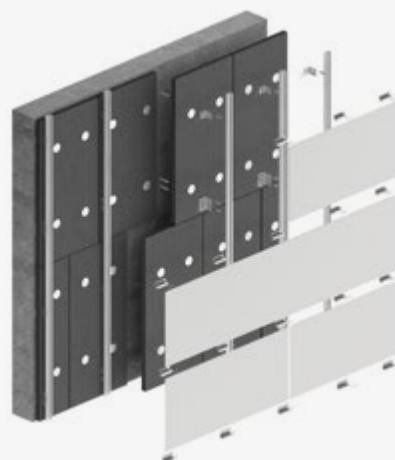
DKT1



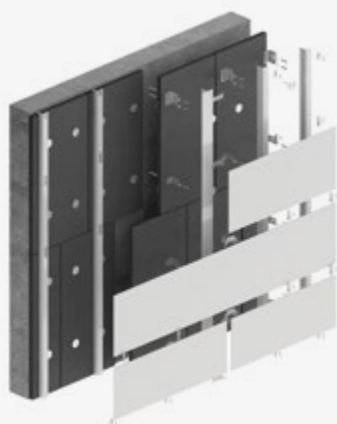
DKT2



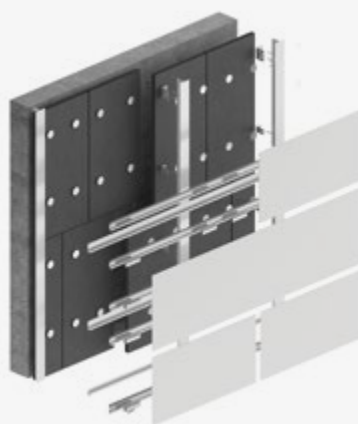
DKT3



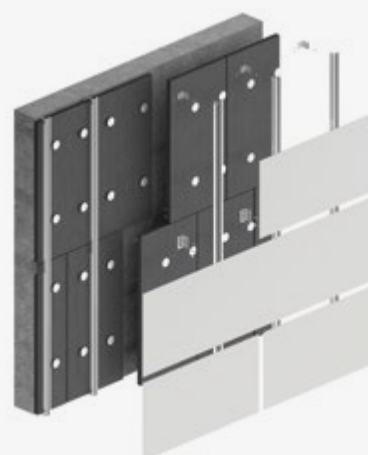
DKT4



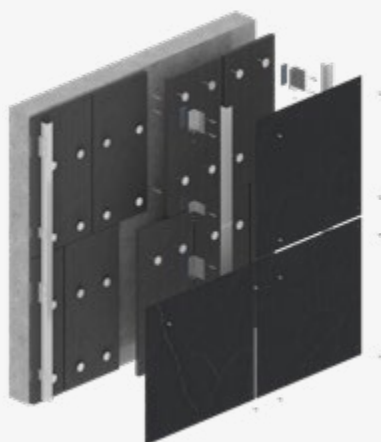
DEKCLIP



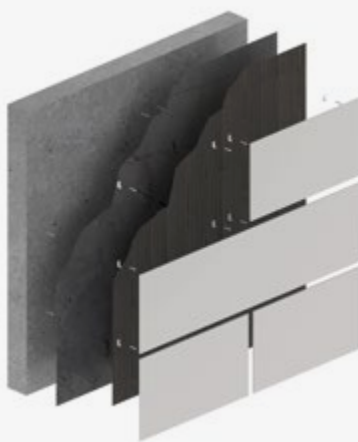
DKC



DKR



DKB



DKS

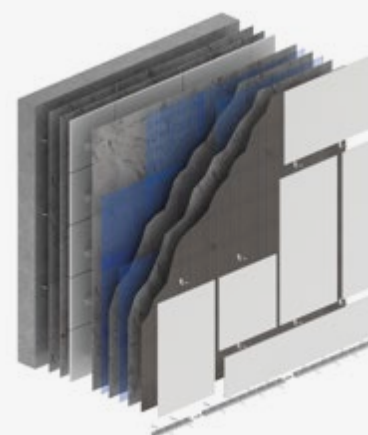


Table for different thicknesses and systems

FACADE SYSTEM	DESCRIPTION	MAX. SIZE	4mm	8mm	12mm	20mm
DKT1.1	Undercut anchor-Keil	FULL SLAB		KH 4 M6/8.5	KH 8.5 M6/11.5	
DKT1.2	Undercut anchor-Fischer	FULL SLAB			FZP II 11x8 M6/T/10PA	FZP II 11x10 M6/T/12PA
DKT2	Grooved edge and continuous profile	V: 1400 x H: 3200			Top/Bottom/Middle Profiles	
DKT3	Grooved edge and spot clips	V: 700 x H: 3200				
DKT4	Visible clips		System Supplier Documentation			
DKC	Chemical Anchor Sika	FULL SLAB	System Supplier Documentation			
	Chemical Anchor Dow Corning					
	Chemical Anchor Innotec					
	Chemical Anchor Bostik					
	Chemical Anchor Soltec					
DEKCLIP	Groove on the reverse with clips			System Supplier Documentation		
DKB	Direct Adhesion		R2 (UNE 12004)	C2S2 (UNE 12004)		
DKS	ETICS	V: 500 x H: 1500			C2S2 (UNE 12004)	
DKCW	Curtain Wall	FULL SLAB				

● ETA 14-0413 ● Possible ● Not Possible

Note: The author of the project must assess the appropriate thickness based on the planned activity and specific needs that cannot be collected in this guidance sheet. The definition and calculation of each system must be done by a competent technician according to the particular conditions of each project.

Dekton® 4mm is always supplied with mesh for all facade applications.
Dekton® 8, 12 or 20 mm is supplied with mesh for ventilated facades and without mesh for facade cladding and ETICS direct adherence systems.

Cladding System

Parts of a ventilated cladding system

Supporting wall
 Mechanical or chemical anchoring to the wall
 Substructure
 Substructure consisting of vertical or horizontal profiles
 Insulation and waterproofing
 Fixings
 Dekton®

Supporting wall

Support material can be either structural (beams, columns, slabs, bearing walls...) or not structural (brick walls, block walls, stud walls...).

The usual engineering of a ventilated facade considers substrate walls to bear directly horizontal loads (such as wind loads), while dead loads are designed to be directly supported by structural elements.

Insulation and waterproofing

Insulation should be applied continuously over substrate walls in order to achieve the required thermal and acoustic comfort level inside the building and avoiding thermal breaks when possible -weaknesses in the insulation will be where there is the greatest loss of energy from the building.

There are many materials available on the market, to be chosen considering their different properties such as thermal insulation values, fire resistance, waterproofing, etc.

- Mineral wool
- EPS, XPS
- PUR, PIR
- Other insulation materials (cork, natural fibres...)

Air chamber

One of the main features of ventilated facades is the air chamber. It is designed to act as a pillow of pressure to prevent water from reaching the insulation or supporting wall.

By ventilating the chamber, the moisture that could arise from water that may pass through the cladding system, whether from the internal wall's surface or appearing as condensation, will be removed by evaporation or simply slide down the back of the panel and fall from the wall bracket.

◦ Chamber Width

It is generally considered that the minimum width of the chamber should be at least 20mm, behind the rear of the facade panel. However, in some countries such as GB and Scandinavian countries, the regulations indicate a minimum width of 50mm. Therefore, it is important that national regulations and building codes are adopted in each country.

This minimum width is only suitable for low buildings, up to 10m. As the facade increases in height, the chamber needs to increase in width. For example, in Belgium and the Netherlands the following chamber width is recommended:

Building Height (m)	0-10	10-20	20-50
Min. cavity width (mm)	20	25	30

The type of joint used between the panels will also influence the width of the chamber. Open horizontal joints will allow more air movement than closed joints and therefore wider cavities should be considered when using closed profiles in horizontal joints.

◦ Protection of insulation in the chamber

Just as the chambers are ventilated through the upper and lower part of the facade (it is considered that this ventilation is achieved with a cross section of at least 50 cm² for each linear metre), it is also important to allow the air to enter and exit below and above openings like windows.

These openings need to be protected so that birds and small animals cannot enter the chamber. In the absence or failure of protection this could result in damage to the insulation, air chamber, or even on the supporting wall. This protection is usually achieved by fitting a perforated profile. It is important that the perforations are the correct size to allow a flow of air, while keeping creatures out.

Ventilated facade substructure

General indications for the main structure

1. Based on the cutting of the facade and the arrangement of the system's profiling, define the anchor points of the brackets in the support elements.
2. Verify the correct level of flatness, deviations and plumb of the substrate wall and correct if necessary, according to the project tolerances.
3. Anchor the supporting brackets to load bearing areas of the building (e.g. Slab edges) and use the vertical profiles to align the retaining brackets.

Fixed point supporting brackets carry the vertical weight of the profiles and cladding, as well as support horizontal wind loads (pressure and suction). This kind of bracket is usually longer than retaining brackets and present several drill holes for fixed points to the vertical profile.

Retaining brackets with sliding point fixing only support horizontal loads (wind loads).

Each vertical profile usually has a single fixed point of attachment to a support bracket, and the rest of the joints are sliding points to allow expansion of the vertical profiles.

Place the necessary brackets according to the load bearing capacity of the support wall and the structural calculation made. To do this, the type of anchorage (mechanical or chemical) must be defined according to the support wall properties, carrying out on-site dowel extension and load tests if necessary, in order to define the load bearing capacity of the supporting wall.

In case of fixing onto a stud wall, brackets should be fixed onto the studs.

The length of the brackets can be adapted to achieve the desired distance between exterior panels and the support wall, so that small differences in vertical alignment can be corrected.

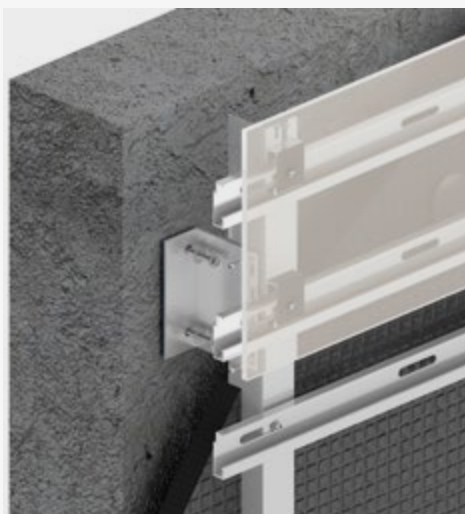
4. Insert the vertical profiles into the brackets, adjust and level so the profiles are not subject to stress before screwing the profiles to them.
5. Use the round holes for screwing vertical profiles to brackets with fix points, and vertical slot holes for sliding points.

6. Leave a gap between the end of one profile and the beginning of the other, typically 20mm or at least 10mm, according to length and expansion of vertical profiles. Facade cladding should never extend over a joint between profiles.
7. The supplier of the substructure should define the cantilever of the profiles depending on static calculations made and system chosen.
8. It is recommended that the air chamber between cladding and insulation is wide enough to avoid interference between the subframe and inner layers of the wall (insulation and waterproofing).
9. For panel installation, refer to each type of panel fixing system.

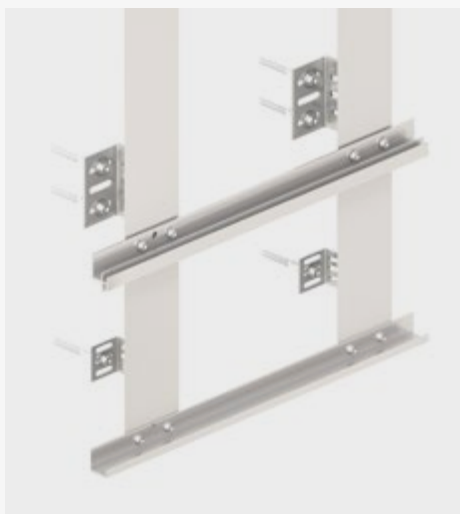
General recommendations for Dekton® on ventilated facades

1. The minimum width recommended for pieces in ventilated facades is 200mm;
2. Proportion (width: length) of 1:14 is recommended in order to ease manufacture and manipulation of pieces.
3. Custom cutting tolerances and machining of cut and machined pieces in our factory can be discussed with our Technical Department.

DKT1



DKT2 / DKT3



DKT4



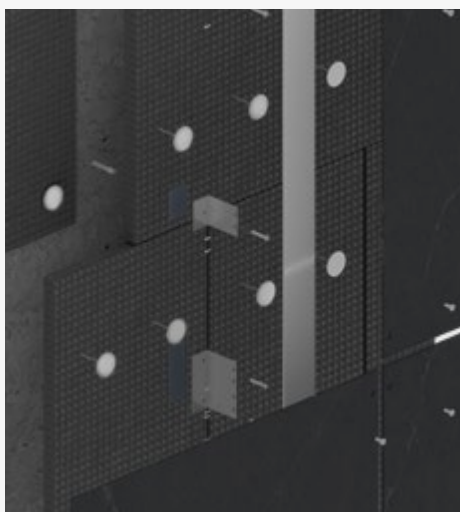
DEKCLIP



DKC



DKR



Dekton® Corner Solutions

Open Exterior Corner

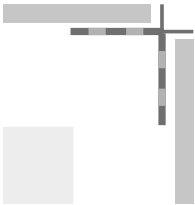
Open exterior corner



Open exterior corner with hidden profile.



Open exterior corner with visible profile



Corner with overlap

Exterior corner with overlap.



Exterior corner with overlap and hidden profile



Bevelled corner

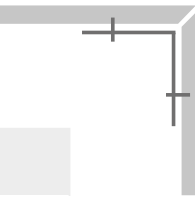
Exterior bevelled corner

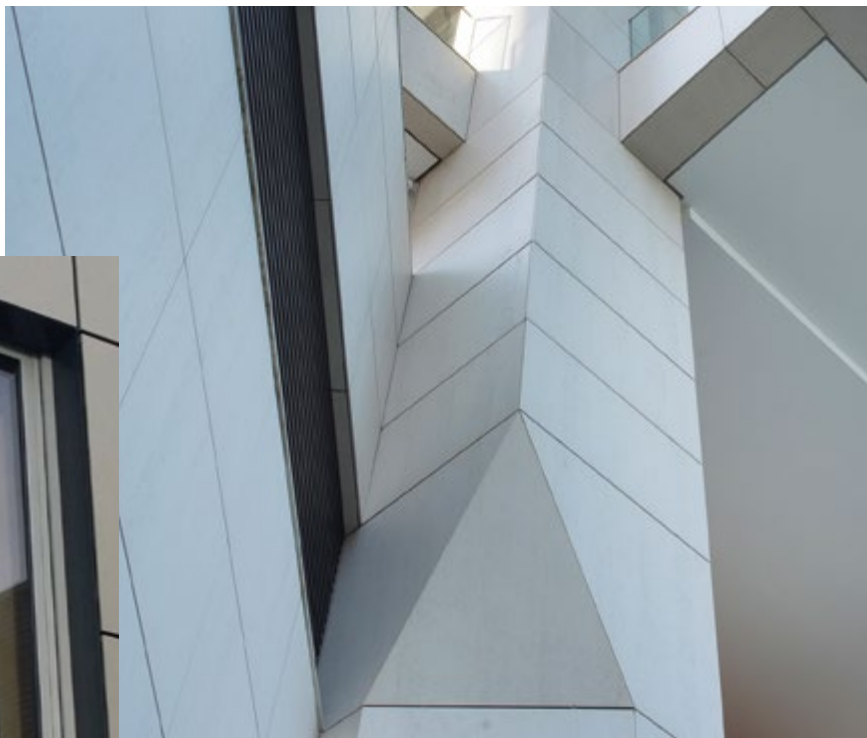


Exterior bevelled corner with hidden profile

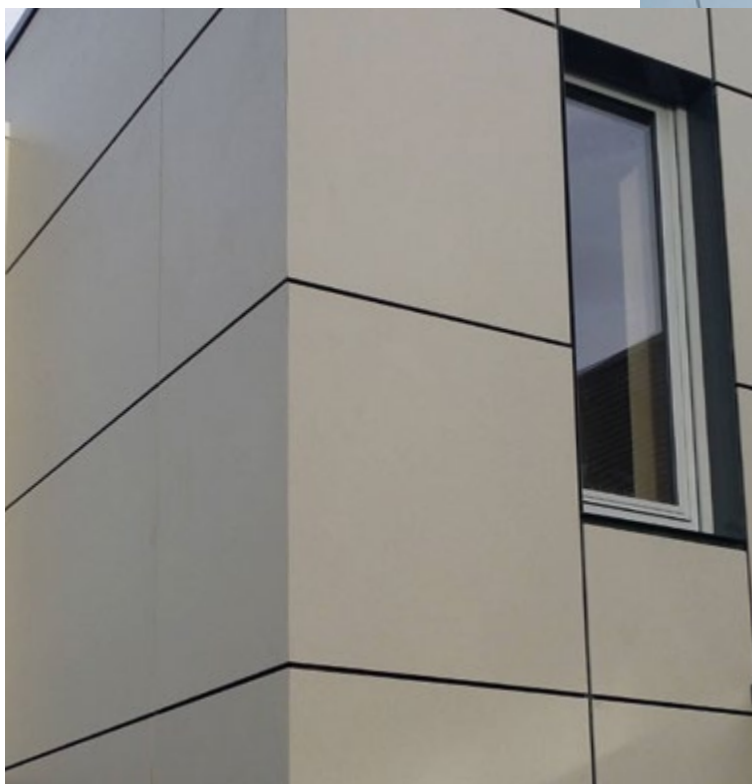


Exterior integrated bevelled corner





Cap Ferrat Building, Rio de Janeiro, Brazil



My Fathers Heart, Sheffield (UK.)



Shittethelm Office Building (Germany)



Erlangen Hospital (Germany)

Joints between panels in ventilated facade systems

Cladding and subframe should apply joints where building expansion, compression and structural joints are designed, as well as between panels.

- Structural joints must be placed in the same position as the ones of the building.
- Compression joints are made horizontally at each level, with a recommended gap of 15mm. They are commonly used in North America.
- Expansion joints are made vertically, each 6m, and at 5m from the corner of the building, recommended with 10mm thickness.
- Vertical and horizontal joints between panels are recommended to have a minimum of 6mm (butt end joints are not recommended due to possible tension between panels) and up to 10mm, while 6-8 mm is the most common joint width with minimal penetration of water. The dimensions of the joints between panels should be made considering the size, expansion and shrinkage of the panels and substructure.

Edges

The following table shows the recommended edge finish depending on the possible impact on the pieces.

Straight edge (2mm min. bevel, ecommended 3>mm bevel)	Mitred edge (2mm min. bevel, recommended 3>mm bevel)
--	---



Types of Fixing

04

VENTILATED FACADE - HIDDEN MECHANICAL SYSTEMS

- 78 DKT1 - Hidden undercut drill hole
- 112 DKT2 - Continuous groove on the edge and fixing with profile
- 130 DKT3 - Continuous groove on the edge and fixing with clips
- 148 DEKCLIP - Groove on the reverse with clips

VENTILATED FACADE - VISIBLE MECHANICAL SYSTEMS

- 170 DKT4 - Visible clips
- 186 DKR - Rivets

VENTILATED FACADE - CHEMICAL SYSTEMS

- 200 DKC - Chemical fixing with adhesive

FACADE CLADDING AND ETICS FACADE SYSTEMS

- 230 DKB - Glued on continuous substrate
- 246 DKS - Glued on ETICS system

CURTAIN WALL

- 256 DKWC - Curtain wall system



Subframe and Fixing Systems

Ventilated facade - Hidden mechanical systems



DKT1
Hidden mechanical anchoring system with undercut drill hole

P. 78



DKT2
Edge grooving system with continuous profile

P. 112



DKT3
System with clips in the groove on the edge

P. 130



DEKCLIP
Mechanical or mechanical-chemical systems with double back grooving

P. 148

Ventilated facade - Visible mechanical systems



DKT4
Fixing system with visible clips

P. 170



DKR
Rivet or screw fixing system with visible spot anchors

P. 186

Ventilated facade - Chemical systems



DKC
Fixing consisting of chemical anchoring of pieces on profiles

P. 200

Glued and ETICS facade system



DKB
Fixing with
cement-based
adhesive

P. 230



DKS
ETICS system
with Dekton®
cladding

P. 246

Curtain wall



DKCW
Curtain wall
system

P. 256

Cap Ferrat by Juan Carlos Di Filippo, Rio de Janeiro, Brasil



DK T1

Hidden mechanical anchoring system with undercut drill hole

The panels are fixed to the wall by attaching the metal hangers on the horizontal profiles.

Each plate has two adjustment points and a fixed point at the top, which makes possible the adjustment while preventing undesired movements of the piece.

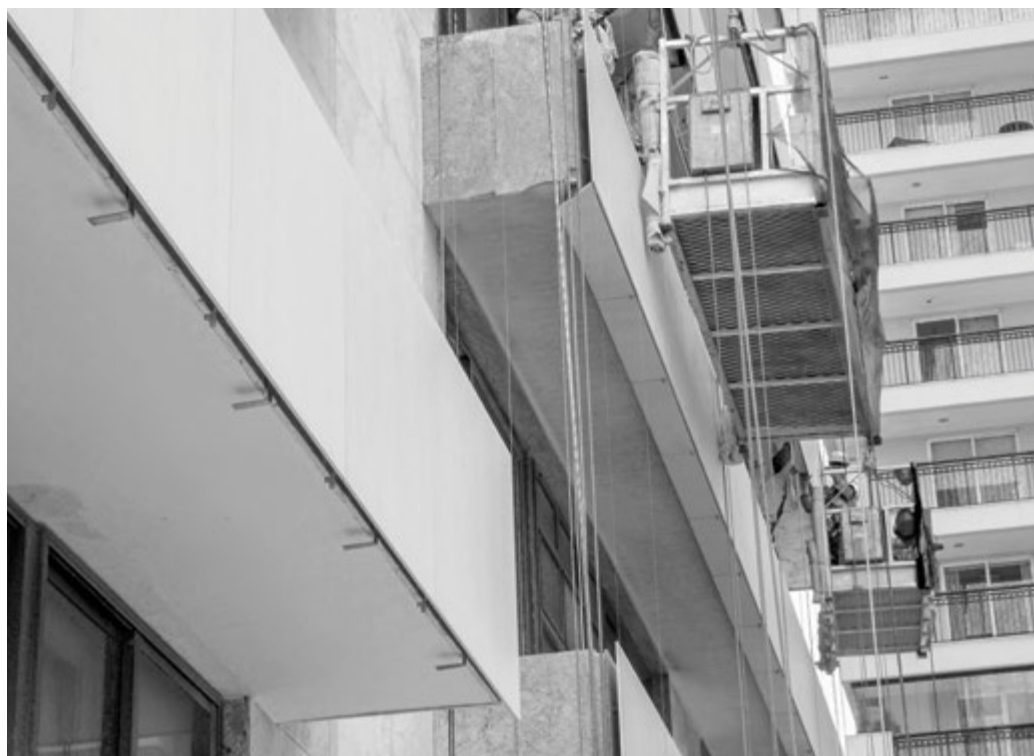
DKT1 system lends lots of design freedom and a wide range of combinations, allowing modification of panel sizes both horizontally and vertically.

Projects with impossible layouts.

There are very complex facades with different formats in the same design.

A flexible system is needed to optimise the points of fixing the material to the substructure and that responds to the principal loads of each project.

The screws are anchored to the profile, ensuring the fixing of the entire piece to the substructure.



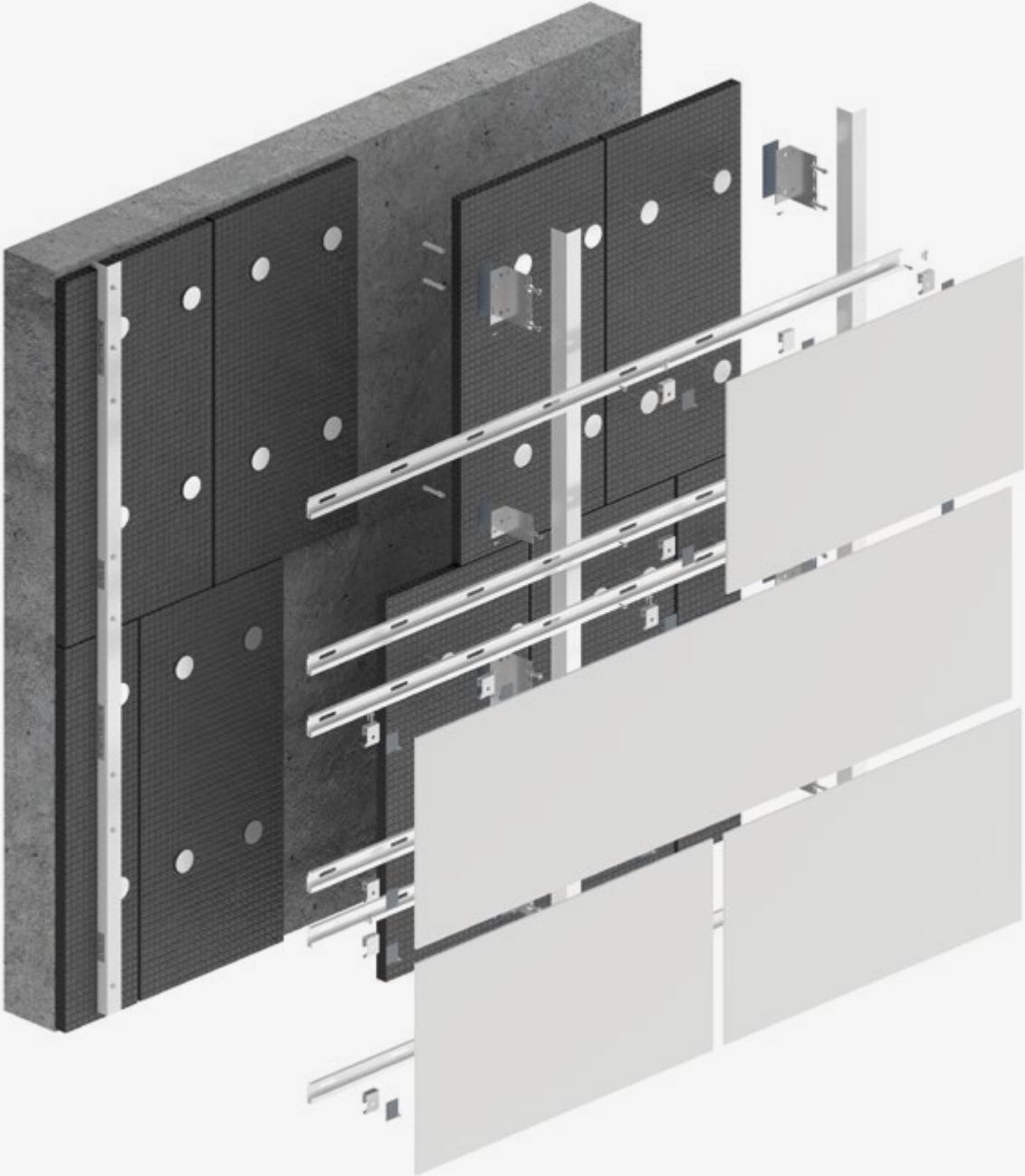
Dekton® has the certifications for ventilated facades according to ETA 14/0413 and BBA 16/5346 in thicknesses 12mm and 20mm, although it can be used in other non-certified thicknesses.

In the DKT1 system, individual stresses that Dekton material and anchors must absorb are calculated depending on the density of fasteners and minimum distances between drill holes.

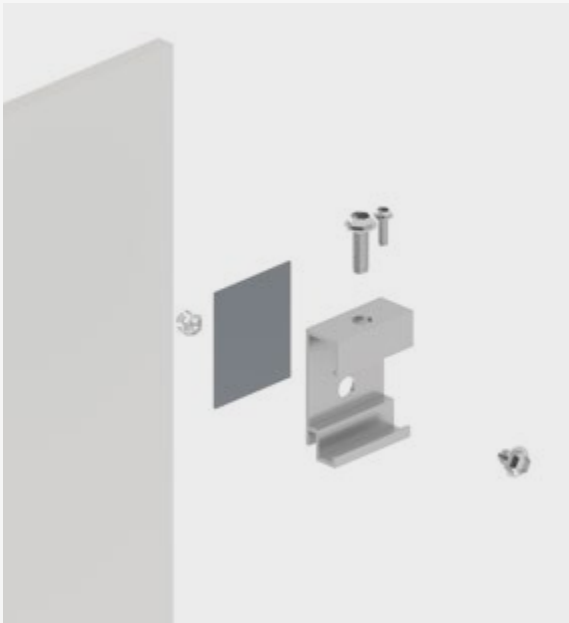
The cylindrical drilling, as well as the undercut drilling, achieve a clean and precise hole, where the plug and the pan head screw work together under tension and shear on the back of the material.

Concealed fixing system
by using metal hangers
attached to the panel
via undercut anchors to
the back of the pieces.

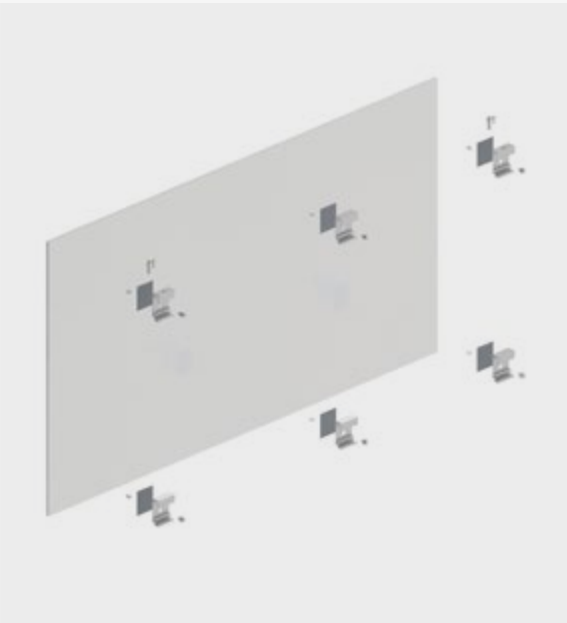




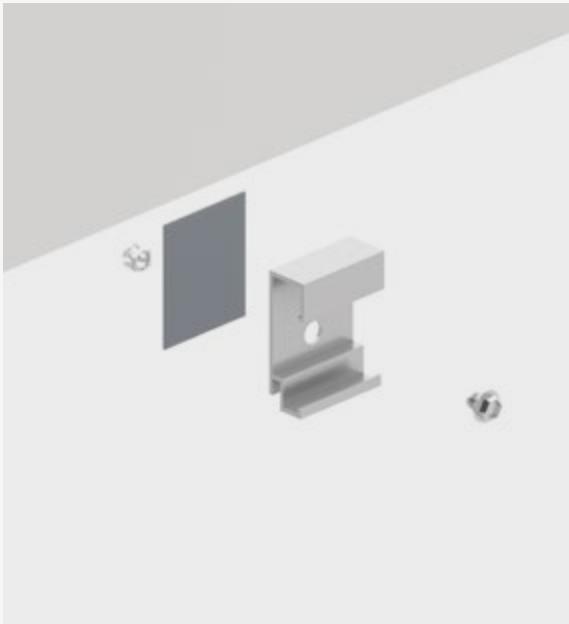
Adjustable hanger



Back view



Fixed hanger



Joints



Secondary structure and general assembly instructions

1. Arrange the horizontal profiles by levelling and marking their position on the vertical structure previously installed.
2. Fix the horizontal profiles to the vertical ones in horizontal slots with self tapping screws.

To control the expansion direction of the horizontal profile, use one fixed point in each profile and sliding points for the rest of the fixings.

3. Insert the undercut anchors into the rear panel drill holes.

Minimum recommended distribution is 4 anchors per panel.

Minimum recommended distance to perimeter is between 5-20 cm.

4. Pre-assemble the hanging clips to the rear panel face by fixing them into the undercut anchors. Attach the adjustable hangers at the top level on the corners, and the rest of the hangers to the rest of the anchors with the corresponding screws and bolts.

5. Hang the piece with the assembled hangers by hooking and positioning them into the horizontal profiles.

When installing the panels, it is recommended to always follow the same direction from bottom to top, for an easier hanging and levelling process.

6. Adjust the final position and the joints width with levelling screws on the upper corner adjustable hangers,

and fix one of them to the horizontal carrier profile with a blocking screw to control the direction of expansion without creating tension (one fixed point per piece) and to avoid slab movements.

Dead load of the panel is considered to be supported by these two upper anchors.

7. The rest of the hangers are for retention of horizontal loads due to action of the wind.

This system makes it easy to replace the pieces, provided the correct size of joint is used to install the new piece.

Fig. 1

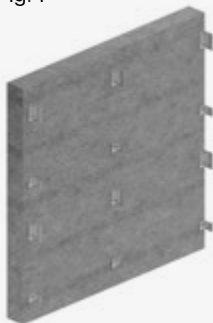


Fig. 2

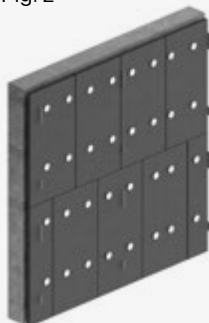


Fig. 3

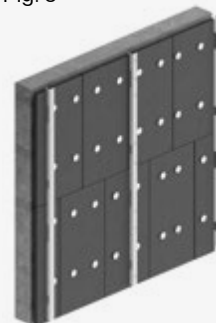


Fig. 4



Fig. 5



Fig. 6



DKT1 System Description

Hidden system

Supporting substructure composed of; metal brackets, adjustable for correction of unevenness compatible with different types of supports and can include thermal break insulation; vertical metal profiles of different sections according to the required application; horizontal metal profiles type C-Carrier/Rail; hidden anchorage system by means of undercut screw and fixing by means of Hanger/Clip accessory to the Dekton® Panel.

Installation process

Brackets installed on the surface to be covered by means of a mechanical system or welding; vertical profiles installed on brackets with a regulation and fixing system, by means of specific screws*; horizontal C-Carrier/Rail profiles with a regulation and fixing system, installed by means of specific screws* on vertical profiles; Hanger/

Clip accessory after joining with hidden anchorage to the back of the Dekton® surface, installed on C-Carrier/Rail with a system of regulation and fixing.

*Specific screws according to the structural calculation of each project or indicated by the supplier of the substructure.

- **Fixings:** Undercut anchors and hangers on horizontal profiles.
- **Depth of undercut drill and anchor:** to be defined according to the thickness of Dekton and static calculation.

Recommended undercut anchors

Keil
8mm, Keil Anchor 4mm
12mm, Keil Anchor 8.5mm
20mm, Keil Anchor 8.5mm

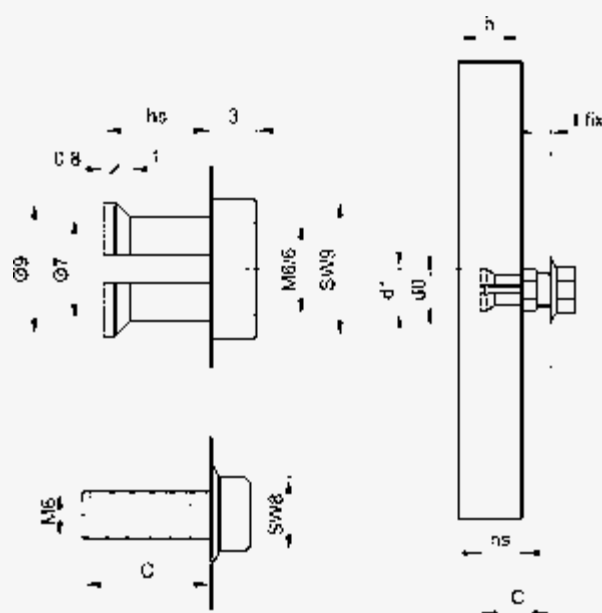
Fischer

8mm, FZP II 11x6 M6/T/10 PA
12mm, FZP II 11x8 M6/T/12 PA
20mm, FZP II 11x10 M6/T/9 PA

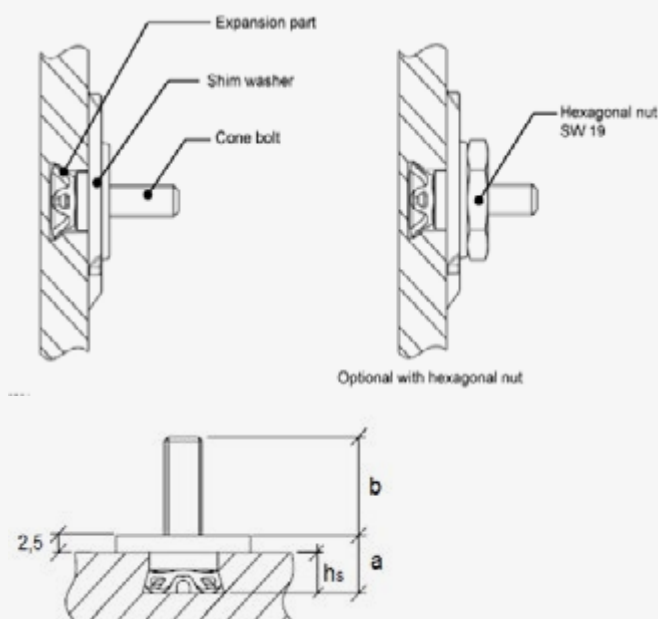
Other anchors

Please contact the Technical Department

Technical note: Horizontal application. It is possible to use this type of fixing in lintels and suspended ceilings as long as there is no accumulation of water in the area of the drill hole, as this could cause the material to crack in this area during freeze-thaw cycles. In this position, it is essential to seal the drill holes with a sealant before inserting the plug and screw. (For detailed instructions on how to use it, please contact Cosentino®)



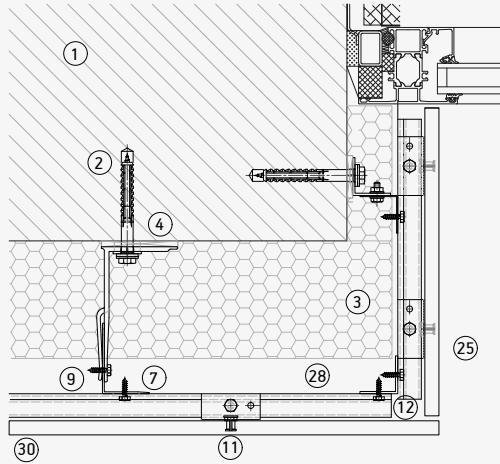
KEIL KH undercut anchor.
Anchor sleeve and hexagonal screw (DKT1.1)



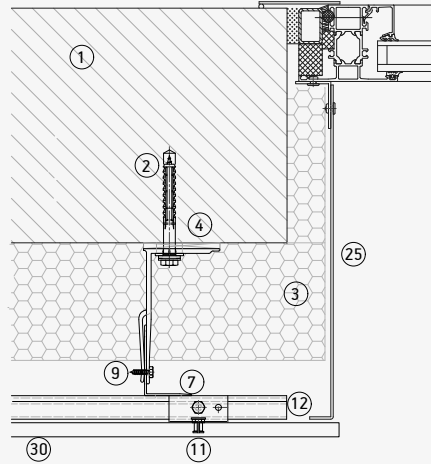
FISCHER FZP II
Undercut anchor (DKT1.2)

DKT1.1 KEIL. Horizontal section

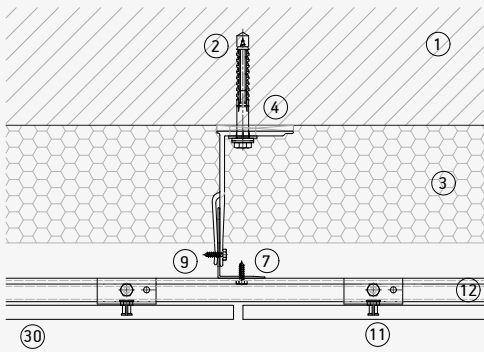
Dekton jamb



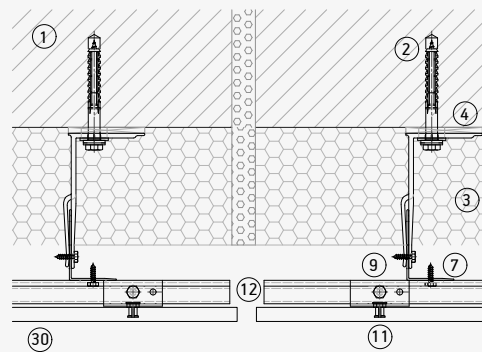
Metallic jamb



Vertical joint



Vertical expansion joint



1. Supporting wall.
2. Anchor bracket.
3. Insulation.
4. Insulating layer.
5. Fixed bracket.
6. Adjustable bracket.
7. L profile.
8. T profile.
9. Self tapping screw.

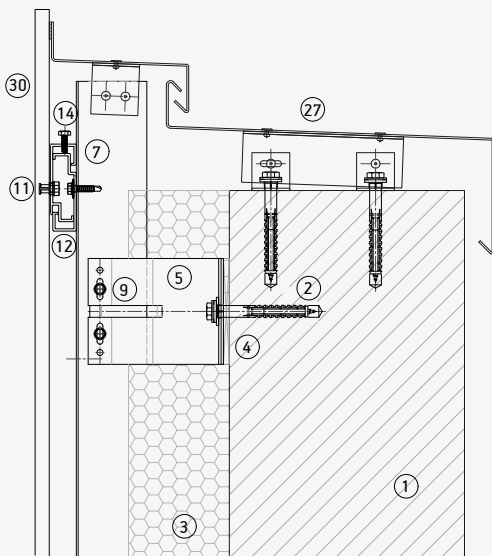
10. Rivet.
11. Undercut anchor.
12. Horizontal rail.
13. C hanger.
14. Adjustable C hanger.
15. Bottom/top edge profile/clip.
16. Intermediate edge profile/clip.

17. Bottom/top visible clamp.
18. Intermediate visible clamp.
19. Interior back clamp.
20. Exterior back profile.
21. Chemical fixing system.
22. Security fixing.
23. Ventilation profile.

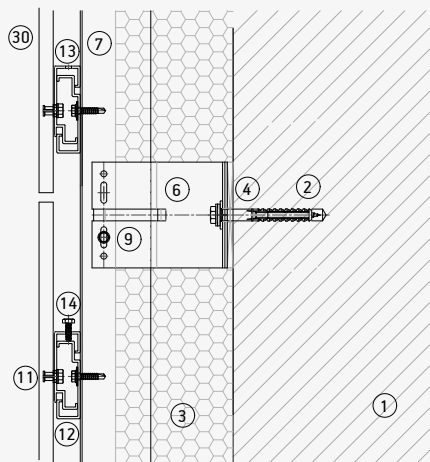
24. Lintel.
25. Jamb.
26. Window sill.
27. Top coping.
28. Corner profile.
29. Bonding adhesive.
30. Dekton.

DKT1.1 KEIL. Vertical section

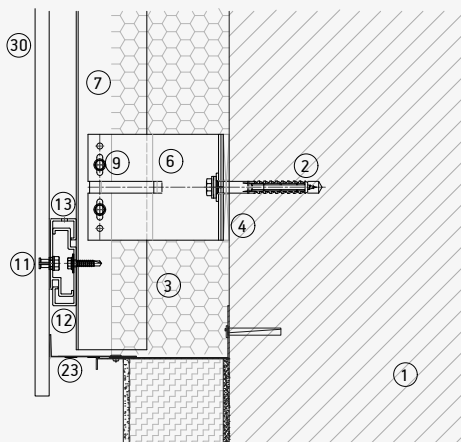
Upper detail



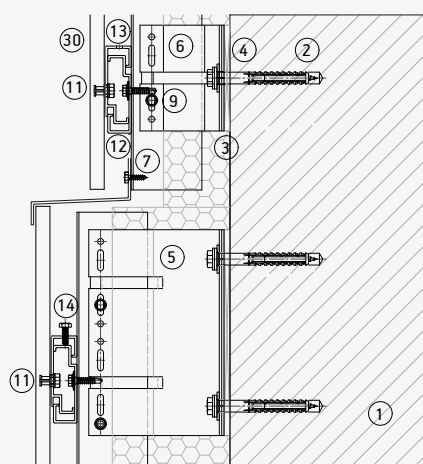
Horizontal joint



Bottom detail



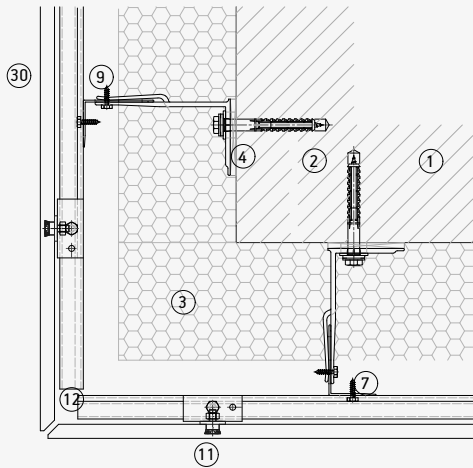
Joint between profiles



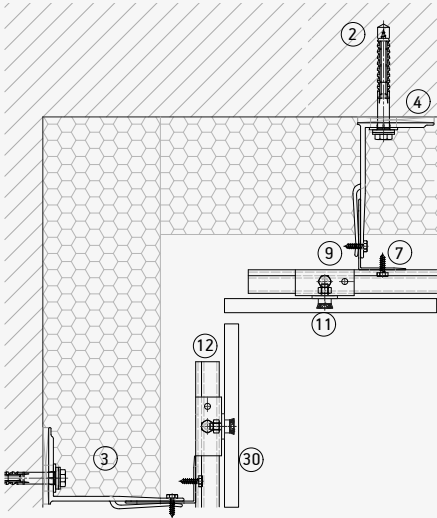
- | | | | |
|------------------------|-------------------------------------|---------------------------------|----------------------|
| 1. Supporting wall. | 10. Rivet. | 17. Bottom/top visible clamp. | 24. Lintel |
| 2. Anchor bracket. | 11. Undercut anchor. | 18. Intermediate visible clamp. | 25. Jamb |
| 3. Insulation. | 12. Horizontal rail. | 19. Interior back clamp | 26. Window sill |
| 4. Insulating layer. | 13. C hanger. | 20. Exterior back profile | 27. Top coping |
| 5. Fixed bracket. | 14. Adjustable C hanger. | 21. Chemical fixing system | 28. Corner profile |
| 6. Adjustable bracket. | 15. Bottom/top edge profile/clip. | 22. Security fixing | 29. Bonding adhesive |
| 7. L profile. | 16. Intermediate edge profile/clip. | 23. Ventilation profile | 30. Dekton |
| 8. T profile. | | | |
| 9. Self tapping screw. | | | |

DKT1.2 FISCHER. Horizontal section

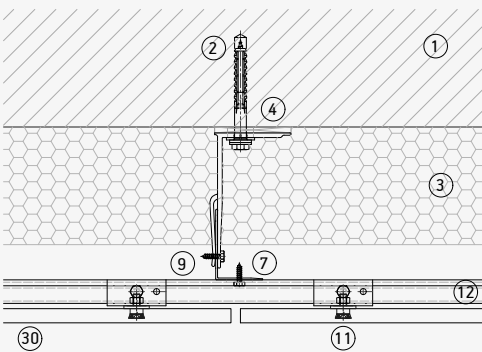
Mitered external corner



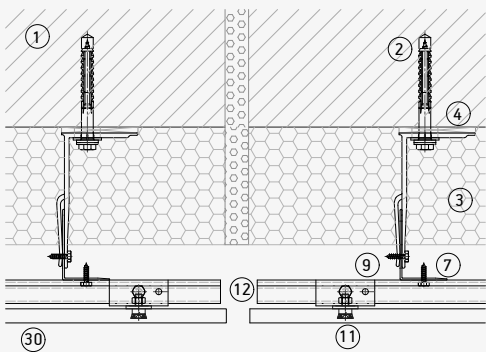
Internal Corner



Vertical joint



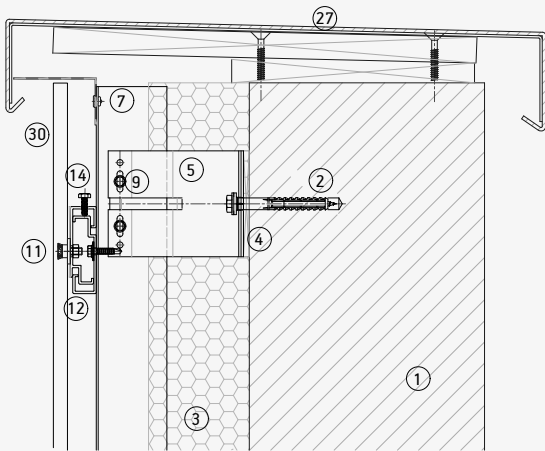
Vertical expansion joint



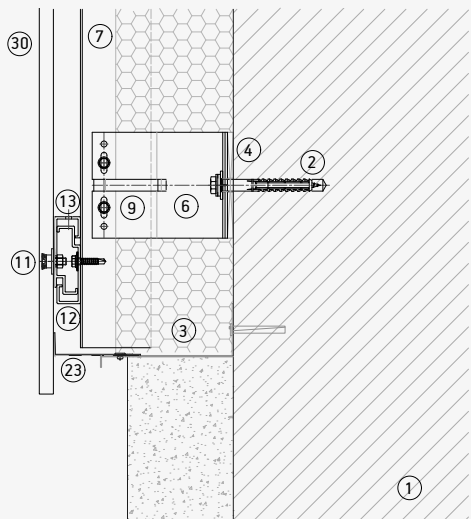
- 1. Supporting wall.
- 2. Anchor bracket.
- 3. Insulation.
- 4. Insulating layer.
- 5. Fixed bracket.
- 6. Adjustable bracket.
- 7. L profile.
- 8. T profile.
- 9. Self tapping screw.
- 10. Rivet.
- 11. Undercut anchor.
- 12. Horizontal rail.
- 13. C hanger.
- 14. Adjustable C hanger.
- 15. Bottom/top edge profile/clip.
- 16. Intermediate edge profile/clip.
- 17. Bottom/top visible clamp.
- 18. Intermediate visible clamp.
- 19. Interior back clamp.
- 20. Exterior back profile.
- 21. Chemical fixing system.
- 22. Security fixing.
- 23. Ventilation profile.
- 24. Lintel.
- 25. Jamb.
- 26. Window sill.
- 27. Top coping.
- 28. Corner profile.
- 29. Bonding adhesive.
- 30. Dekton.

DKT1.2 FISCHER. Vertical section

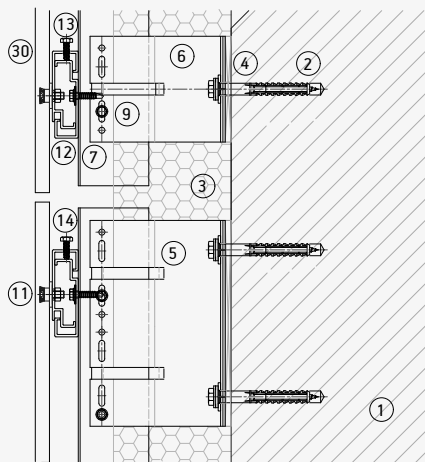
Upper detail



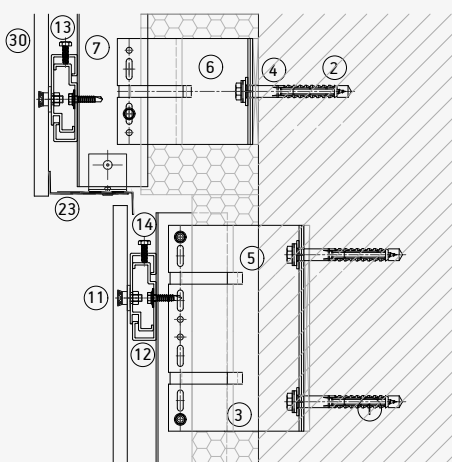
Bottom detail



Horizontal joint

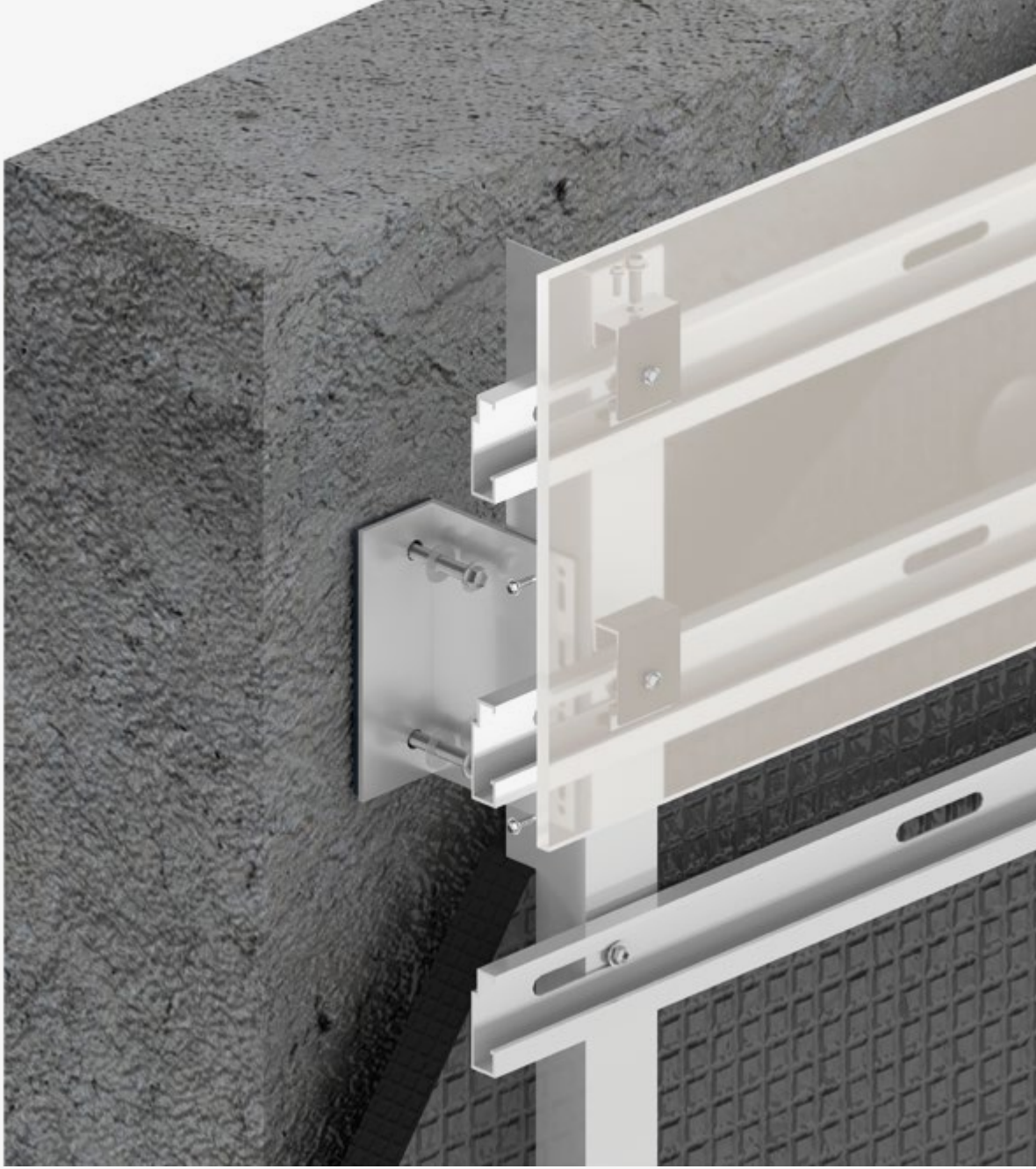


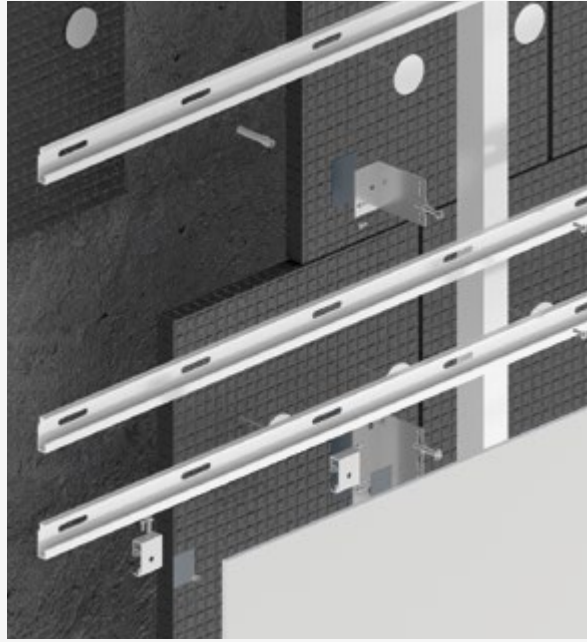
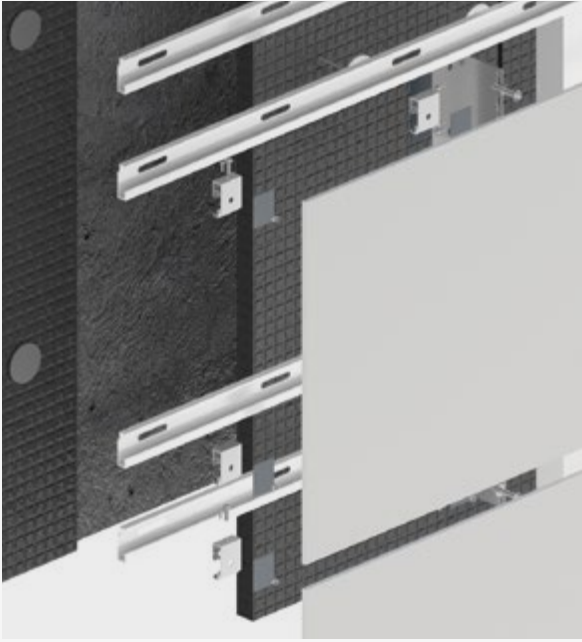
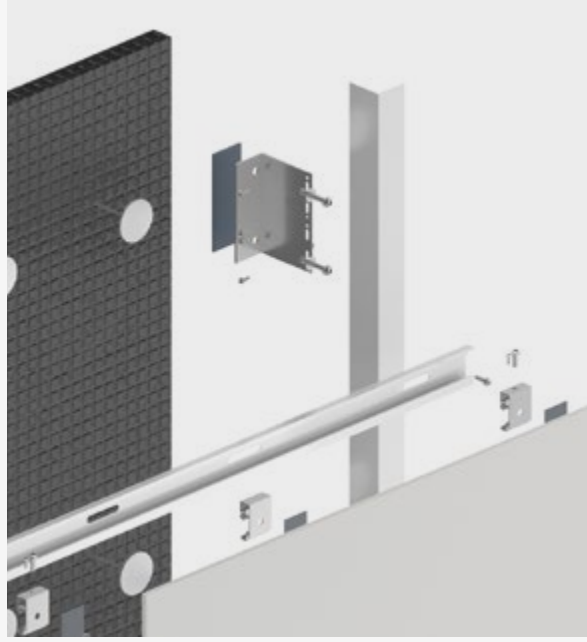
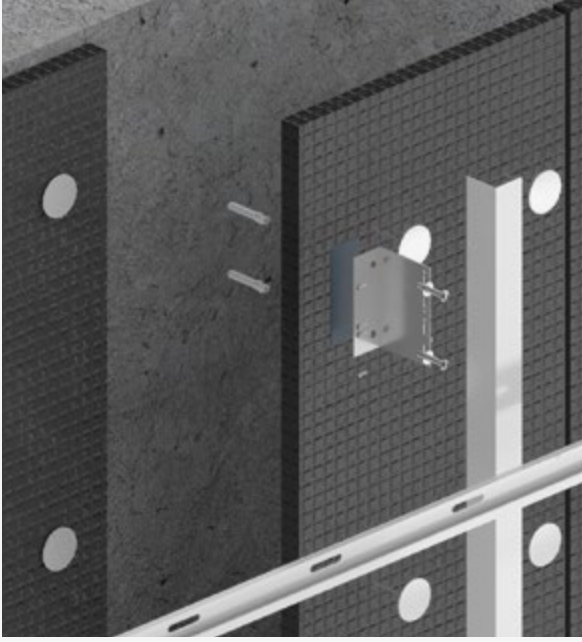
Joint option between profiles



- | | | | |
|------------------------|-------------------------------------|---------------------------------|----------------------|
| 1. Supporting wall. | 10. Rivet. | 17. Bottom/top visible clamp. | 24. Lintel |
| 2. Anchor bracket. | 11. Undercut anchor. | 18. Intermediate visible clamp. | 25. Jamb |
| 3. Insulation. | 12. Horizontal rail. | 19. Interior back clamp | 26. Window sill |
| 4. Insulating layer. | 13. C hanger. | 20. Exterior back profile | 27. Top coping |
| 5. Fixed bracket. | 14. Adjustable C hanger. | 21. Chemical fixing system | 28. Corner profile |
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| 8. T profile. | | | |
| 9. Self tapping screw. | | | |

DKT1 System





DKT1 Static Calculations

Schemes and data to be defined with SDP software

Panels in horizontal or vertical layout. Maximum wind loads shown in the following configurations depend on the grid spacing and distance from drill holes to the edges.

These configurations have been calculated considering a distance of fixing to the edges of 200mm. For other distances and configurations please contact our Technical Department.

The tables and diagrams presented are based on Dekton calculation software and refer only to Dekton®. They cannot be considered as definitive data for on-site installation and it is necessary for a qualified technician

to make a specific project calculation for the entire facade system including support anchors, brackets, profiles, screws and Dekton® fixing elements to the facade.

How to use the reference configurations:

- Determine the design wind load KN/m².
- Choose the table according to the fixing system and Dekton thickness.
- Select the closest design wind load. The wind load chosen should not be less than actual requirements.
- Select a reference configuration showing maximum spacing between fixings.

DKT1.1 KEIL

Dekton 8mm - Keil 4mm depth

Full slab configuration				
Design wind load kN/m²	Horizontal	Grid spacing (mm)	Vertical	Grid spacing (mm)
0.5	H1	H 933 x V 1040	V1	H 1040 x V 933
1	H2	H 700 x V 520	V2	H 520 x V 700
1	H3	H 560 x V 520	V3	H 520 x V 560
2	H4	H 467 x V 347	V4	H 347 x V 467

Dekton 12mm - Keil 8.5mm depth

Full slab configuration				
Design wind load kN/m²	Horizontal	Grid spacing (mm)	Vertical	Grid spacing (mm)
1.5	H1	H 933 x V 1040	V1	H 1040 x V 933
3	H2	H 700 x V 520	V2	H 520 x V 700
3.5	H3	H 560 x V 520	V3	H 520 x V 560
5.5	H4	H 467 x V 347	V4	H 347 x V 467

DKT1.2 FISCHER

Dekton 12mm - Fisher FZP II 8mm depth

Full slab configuration				
Design wind load kN/m²	Horizontal	Grid spacing (mm)	Vertical	Grid spacing (mm)
1.5	H1	H 933 x V 1040	V1	H 1040 x V 933
3	H2	H 700 x V 520	V2	H 520 x V 700
3.5	H3	H 560 x V 520	V3	H 520 x V 560
5.5	H4	H 467 x V 347	V4	H 347 x V 467

DKT1.1 KEIL. Design

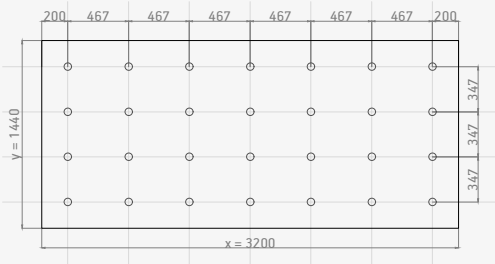
The design wind loads that are compared to the reference design wind loads provided in this document must have factors on the wind load applied to the characteristic values according to the applicable standards and regulations.

Design wind loads and fixing distances should be calculated per local standards, regulations and certificates applicable, with further testing if required.

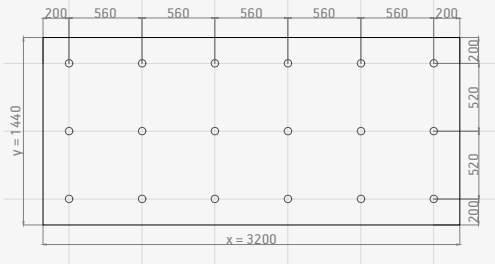
Cosentino does not provide static calculations for projects.

Cosentino will not accept any liability whatsoever for any direct or indirect damage resulting from any errors, omissions or miscalculations of the static calculations for the project.

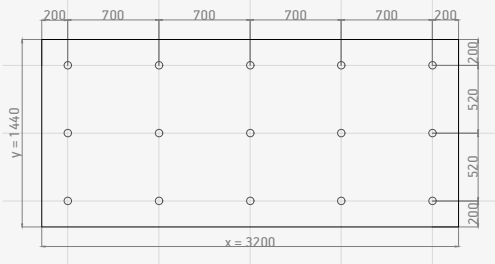
8mm - KEIL 4mm Depth HORIZONTAL CONFIGURATION



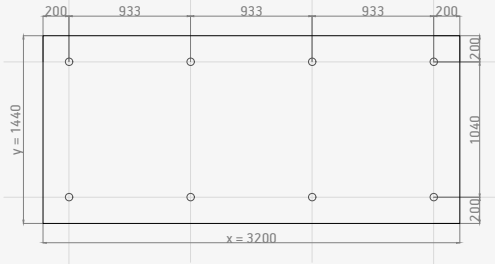
H4. Max. Design wind load: 2 kN/m²



H3. Max. Design wind load: 1 kN/m²

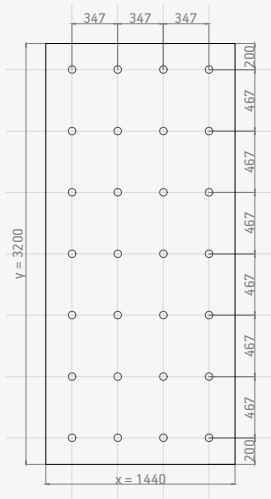


Max. Design wind load: 1 kN/m²

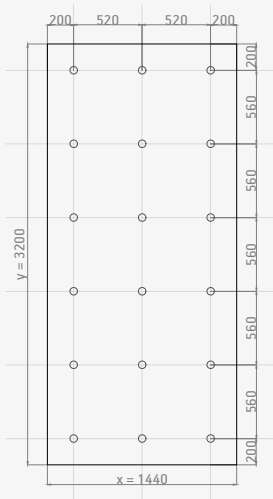


H1. Max. Design wind load: 0.5 kN/m²

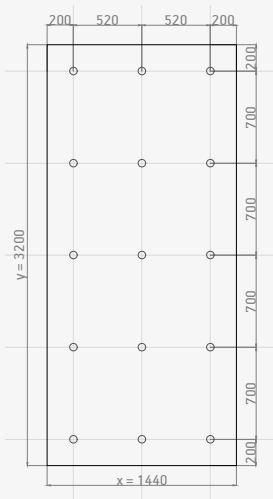
VERTICAL CONFIGURATION



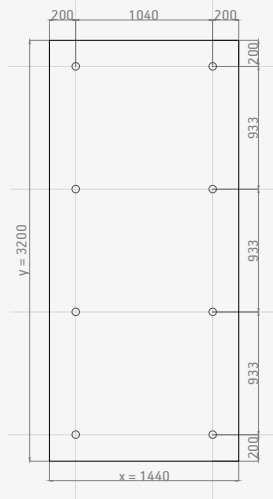
V4. Max. Design wind load: 2 kN/m²



V3. Max. Design wind load: 1 kN/m²



V2. Max. Design wind load: 1 kN/m²



V1. Max. Design wind load: 0.5 kN/m²

DKT1.1 KEIL. Design

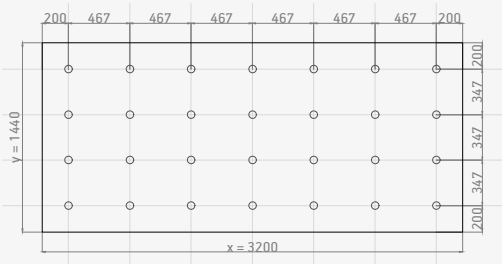
The design wind loads that are compared to the reference design wind loads provided in this document must have factors on the wind load applied to the characteristic values according to the applicable standards and regulations.

Design wind loads and fixing distances should be calculated per local standards, regulations and certificates applicable, with further testing if required.

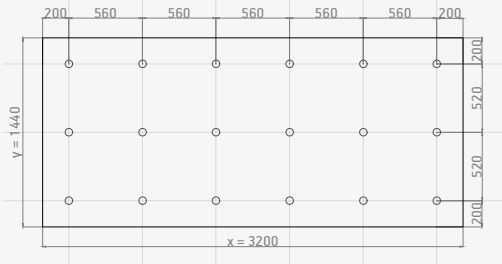
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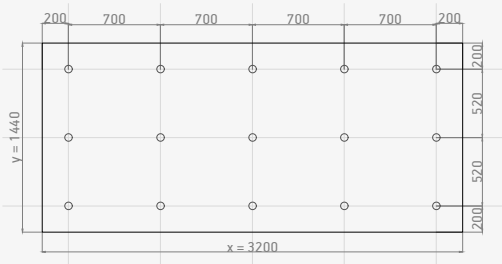
12mm - KEIL 8.5mm Depth
HORIZONTAL CONFIGURATION



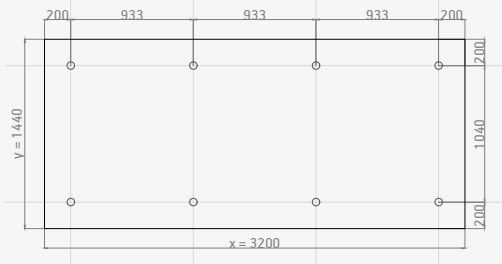
H4. Max. Design wind load: 5.5 kN/m²



H3. Max. Design wind load: 3.5 kN/m²

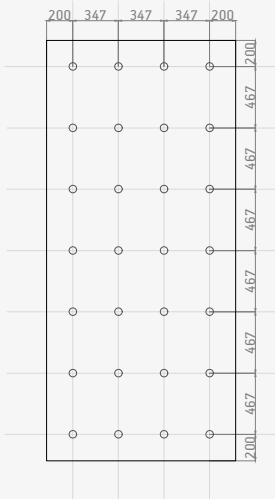


H2. Max. Design wind load: 3.0 kN/m²

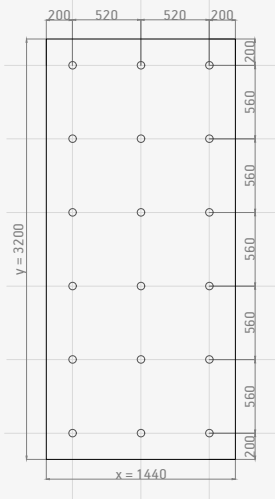


H1. Max. Design wind load: 1.5 kN/m²

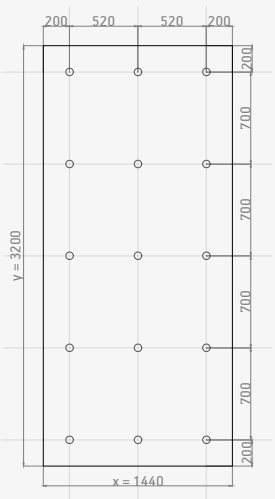
VERTICAL CONFIGURATION



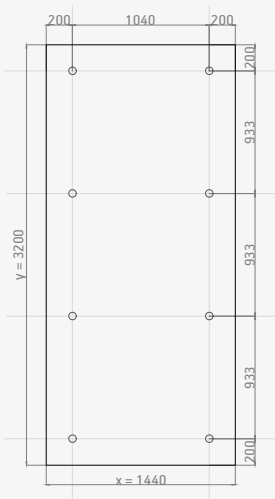
V4. Max. Design wind load: 5.5 kN/m²



V3. Max. Design wind load: 3.5 kN/m²



V2. Max. Design wind load: 3.0 kN/m²



V1. Max. Design wind load: 1.5 kN/m²

DKT1.2 FISCHER. Design

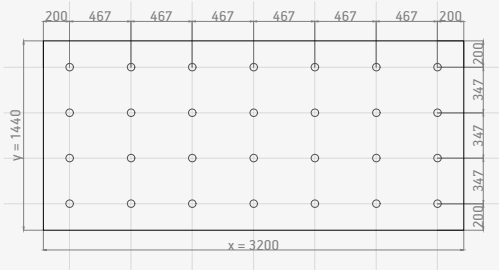
The design wind loads that are compared to the reference design wind loads provided in this document must have factors on the wind load applied to the characteristic values according to the applicable standards and regulations.

Design wind loads and fixing distances should be calculated per local standards, regulations and certificates applicable, with further testing if required.

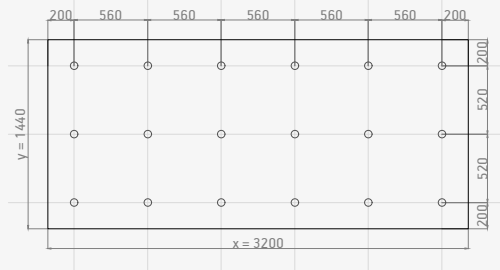
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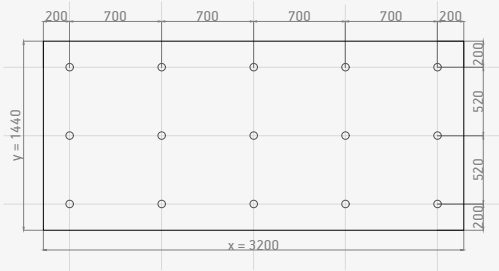
12mm - FISCHER 8mm Depth HORIZONTAL CONFIGURATION



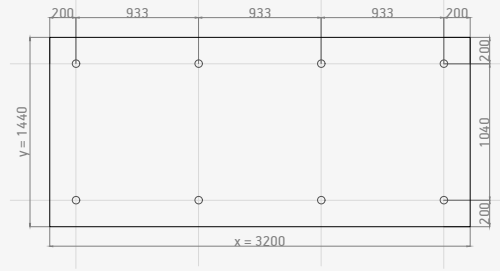
H4. Max. Design wind load: 5.5 kN/m²



H3. Max. Design wind load: 3.5 kN/m²

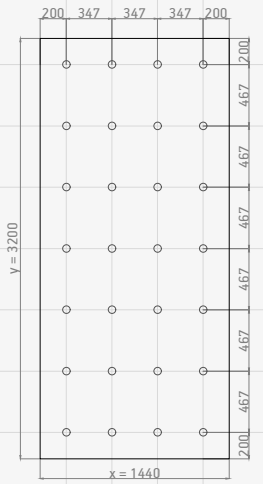


H2. Max. Design wind load: 3.0 kN/m²

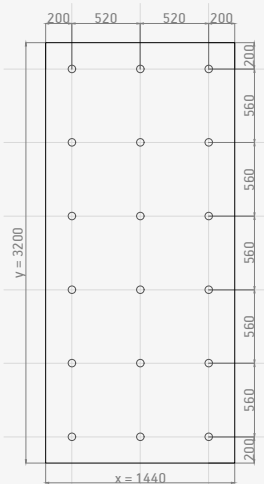


H1. Max. Design wind load: 1.5 kN/m²

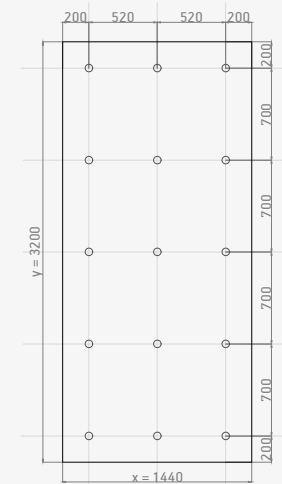
VERTICAL CONFIGURATION



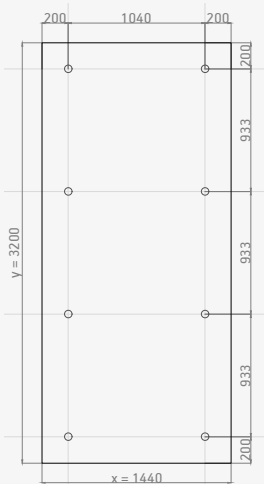
V4. Max. Design wind load: 5.5 kN/m²



V3. Max. Design wind load: 3.5 kN/m²



V2. Max. Design wind load: 3.0 kN/m²



V1. Max. Design wind load: 1.5 kN/m²

CASE STUDY

Cap Ferrat by Juan Carlos di Filippo

Rio de Janeiro, Brazil

Material

3,800 m² Dekton®

Facade system

DKT1

Thickness

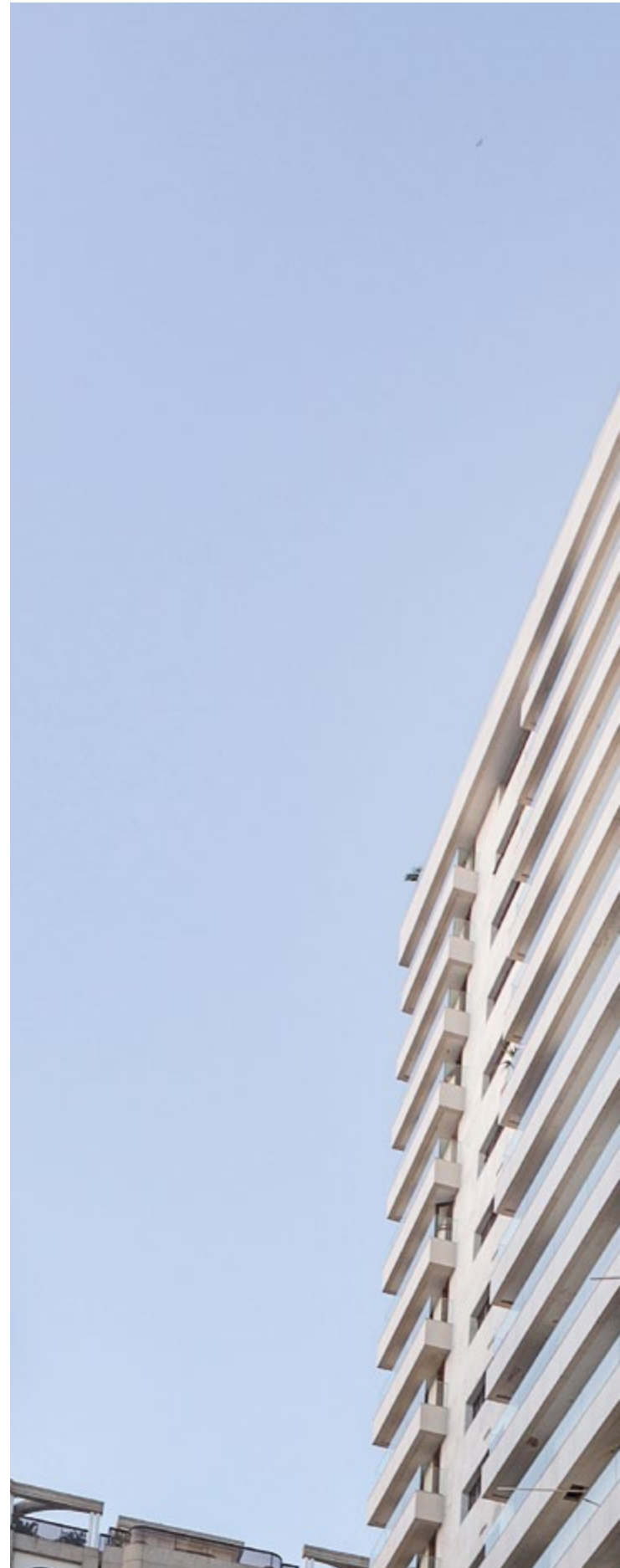
12 mm

For the refurbished facade of the iconic Cap Ferrat building, 3,800 m² of the ultra-compact Dekton® surface by Cosentino was used.

Cap Ferrat is an iconic residential building located on the exclusive Avenida Vieira Souto in Ipanema, Rio de Janeiro. Built in 1976, this 20 storey landmark of the Ipanema district has a surface area of 2,000m² and is home to apartments, duplexes, garages and communal areas.

Forty years after it was built, the tower underwent a project between 2013 and 2016 to refurbish the cladding of its balconies. These had deteriorated due to galvanic corrosion of the aluminium railings, which had caused the original granite cladding of the perimeter girders of the tower's six balconies to crack.

Having analysed the performance of various materials, the architectural studio in charge of the project, Di Filippo Architettura, identified Dekton® as meeting all of the essential requirements.





The biggest challenge faced by the project team was to find a new cladding that could be installed over the original material and would entail a maximum load of 90 kilograms per square metre. In addition, due to the building's proximity to the sea, the chosen material needed to match the exterior aesthetic with a subtle tone that blended into the surroundings.



Di Filippo Architettura chose Dekton® by Cosentino for the facade for various reasons: it represented just 50% of the permitted load for the material, it can be manufactured in large format, bespoke slabs (320 x 144 cm), the precision cutting of pieces, its optimal performance against sand and saltwater erosion from the beach, and its other exceptional qualities such as its high resistance to ultraviolet rays, its colour stability and high resistance to stains.

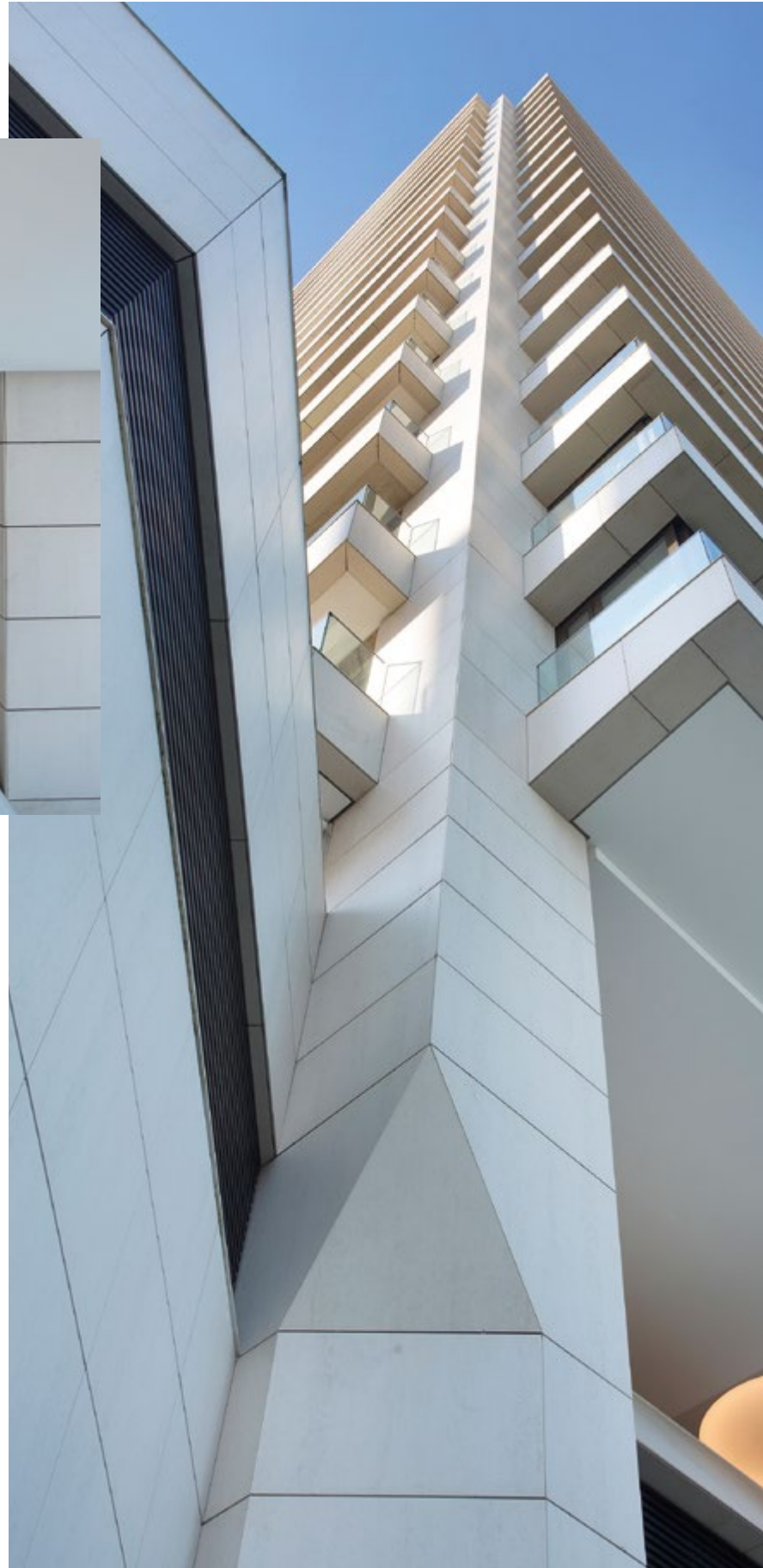
“When we decided to maintain the existing cladding, we were faced with the need to choose a cladding material with very special characteristics: it must have minimal porosity to withstand the conditions of a coastal environment, it must be lightweight but have generous dimensions, and it must be able to be installed using a system of stainless steel fixings.

Last but not least, we needed a material with a low level of solar radiation absorption to meet the characteristics of the location, as well as being available in a colour that matched the local sand, as Cap Ferrat is located opposite Ipanema beach.

Having analysed various materials, the ultra-compact surface Dekton® by Cosentino was chosen. It fulfilled all the requirements of the project.”

Architect: Juan Carlos Di Filippo.





The 12mm-thick pieces were cut and the exact number, dimensions and location of holes were made at the Cosentino factory in Cantoria, Almería, before being shipped to Brazil. The holes made were the result of a ground-breaking fixing technique developed for this project by the company GMM Anchor Systems, supported throughout by the Cosentino engineering department. For the anchoring, Keil pieces provided by Cosentino were used. Other pieces and metal accessories were produced by GMM.

The Dekton® colour chosen for the facade's cladding was the cream tone Danae, for its elegance and similarity to the colour of the sand on the beach.



Project details

Name: Cap Ferrat Building

Address/location: Av. Vieira Souto, 564

Ipanema, Rio de Janeiro, Brazil

Project dates: 2013-2016

Duration of works: 12 months

Architecture studio / architects: Di Filippo Arquitetura, Juan Carlos

Di Filippo Architect - Universidad Nacional de Rosario-Argentina

Collaborators: Gabriela de Lana, Carolina Luz,

Renata Martinho, Marina Accioly

Construction / Cladding installation company: Gmm-Anchor

Systems, Sa Martins Puertas de Correr, Q-Railing Barandas

Cosentino materials:

Application: Facade

Material: Dekton® by Cosentino

Colour: Danae

Thickness: 12 mm

Quantity: 3,800 m²

Format: Cut to size

Installation system: Keil peg, metallic insert





CASE STUDY

MK8 Kap West

Munich, Germany

Material

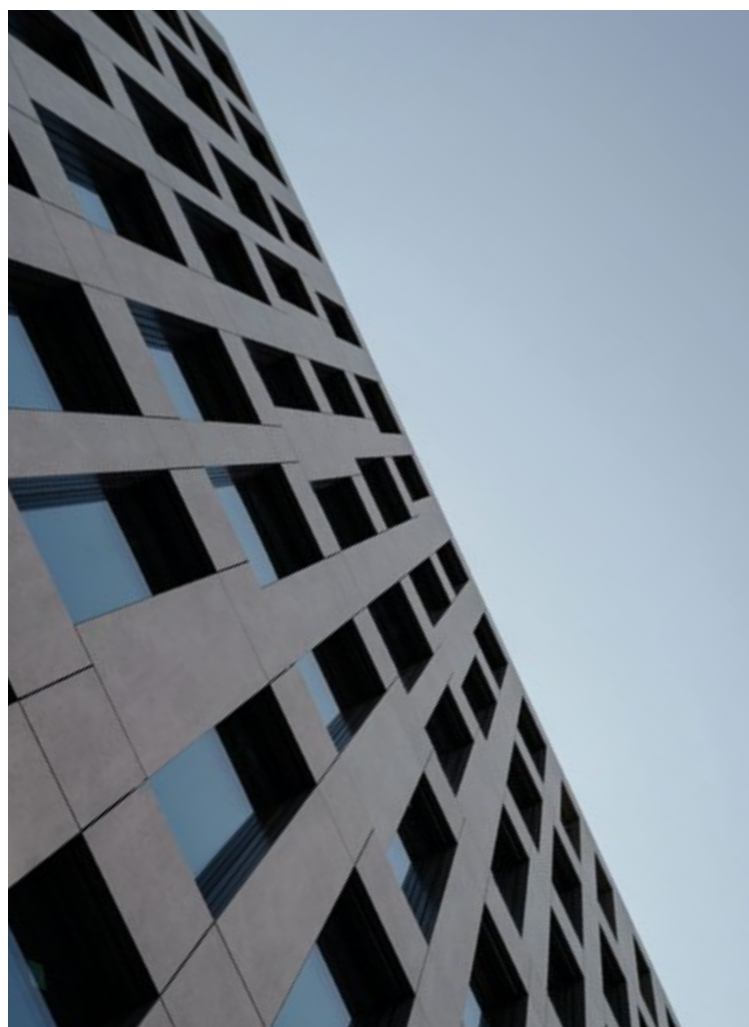
13,000 m² Dekton® Keon

Facade system

DKT1

Thickness

12 mm



CASE STUDY

Hartl Promenade

Seewalchen am Attersee, Austria

Materials

780 m²

Dekton® Dance

Dekton® Zenith

Facade system

DKT1

Thicknesses

8, 12, 20 and 30 mm







CASE STUDY

The Pacific

IBI Group | ACDF

Vancouver, Canada

Material

1,115 m² Dekton® Aura 15

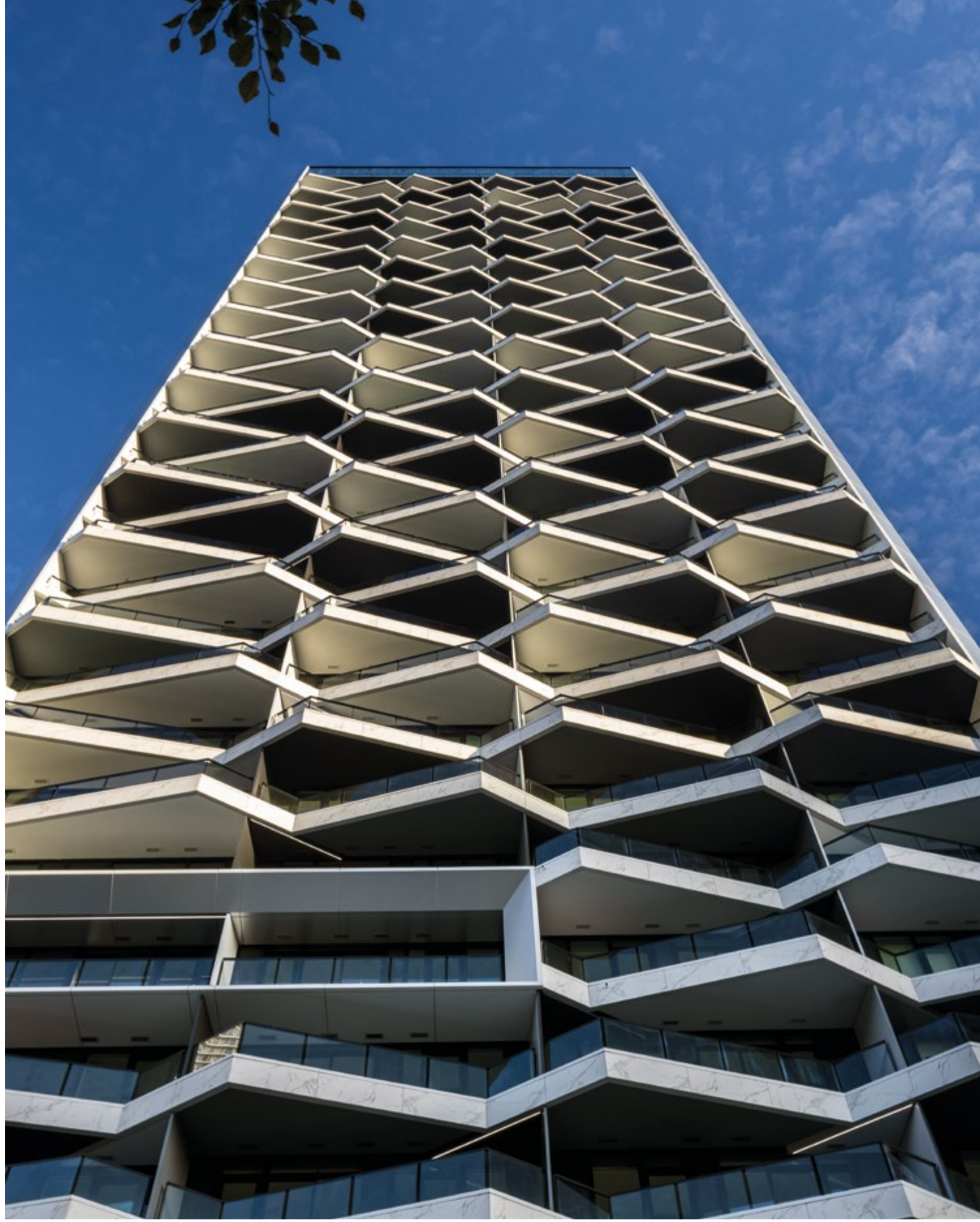
Facade system

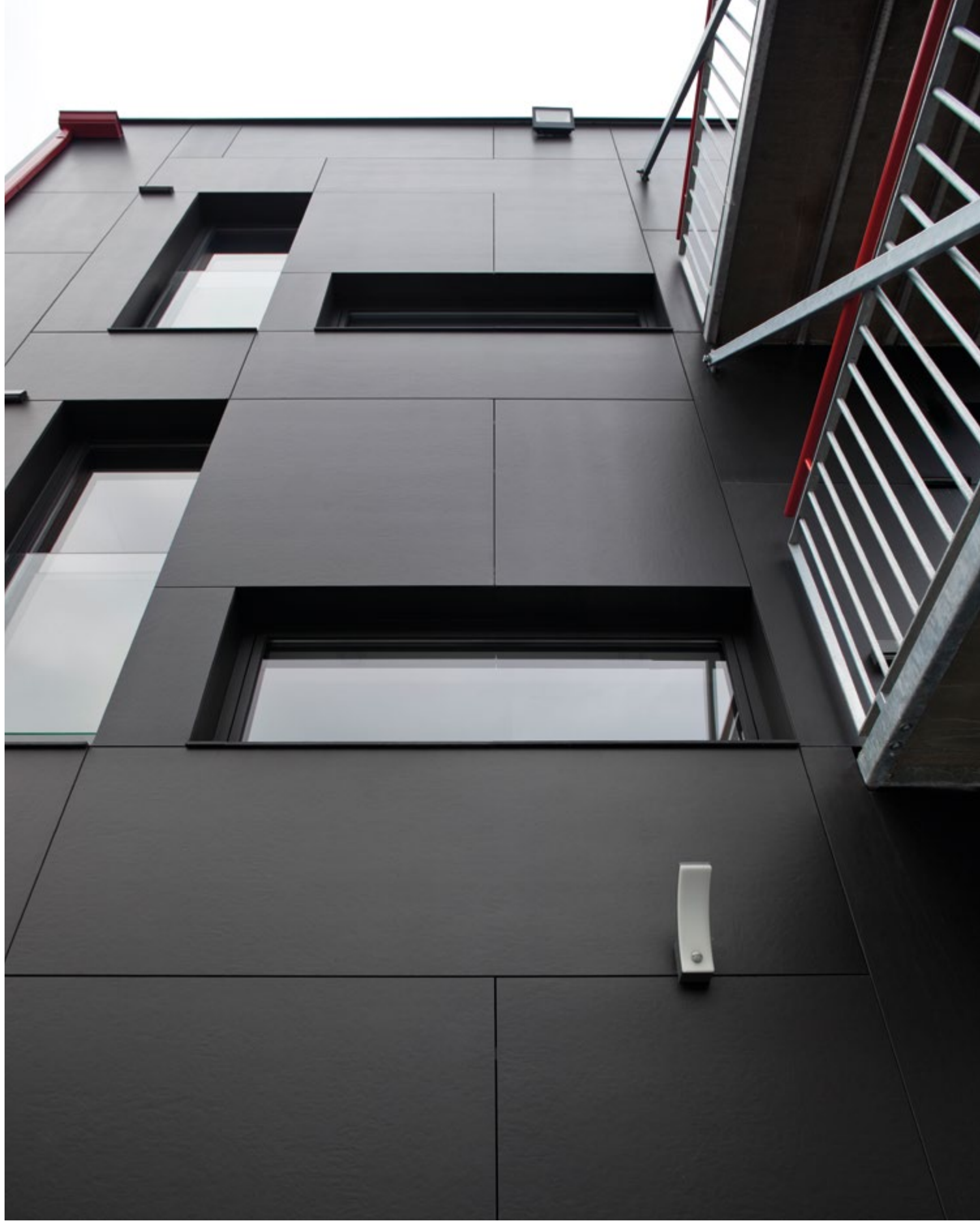
DKT 1.1 Keil

Thickness

12 mm









CASE STUDY

Cerceda Strow Building

A Coruña, Spain

Material

105 m² Dekton® Sirius

Facade system

DKT1

Thickness

12 mm





CASE STUDY

The Charles Building

Atlanta, USA

Materials

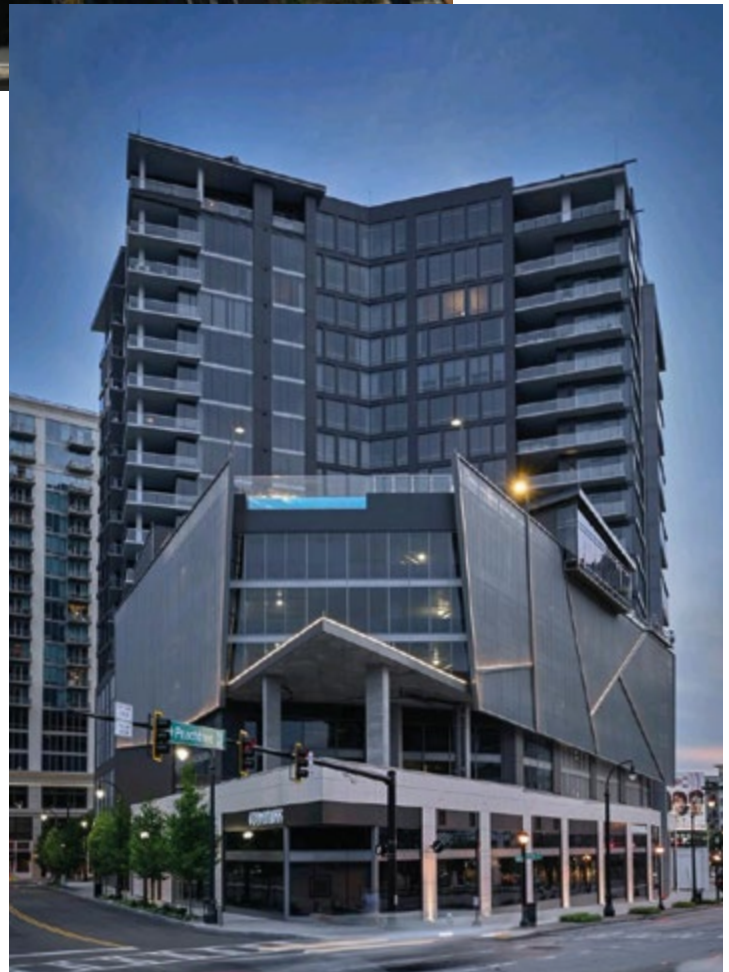
1,200 m² Dekton® Domoos and Dekton® Danae

Facade system

DKT1 and DKT2

Thicknesses

12 and 20 mm







CASE STUDY

University of Missouri Stadium

Missouri, USA

Materials

524 m² Dekton[®] Domoos and Dekton[®] Spectra

Facade system

DKT1 and DKT2

Thicknesses

12 and 20 mm



Valdebebas Building, Madrid, Spain



DK T2**Edge grooving system
with continuous profile**

Traditional fixing system widely used in natural stone. A continuous groove is made in the edges of the piece to place a continuous profile where it is to be fitted. There is a single starter and end profile and a double middle profile for horizontal joints.

This system is limited to horizontal panel sizes up to a maximum of 1.44 m and a minimum Dekton® thickness of 12 mm, which allows for grooving.



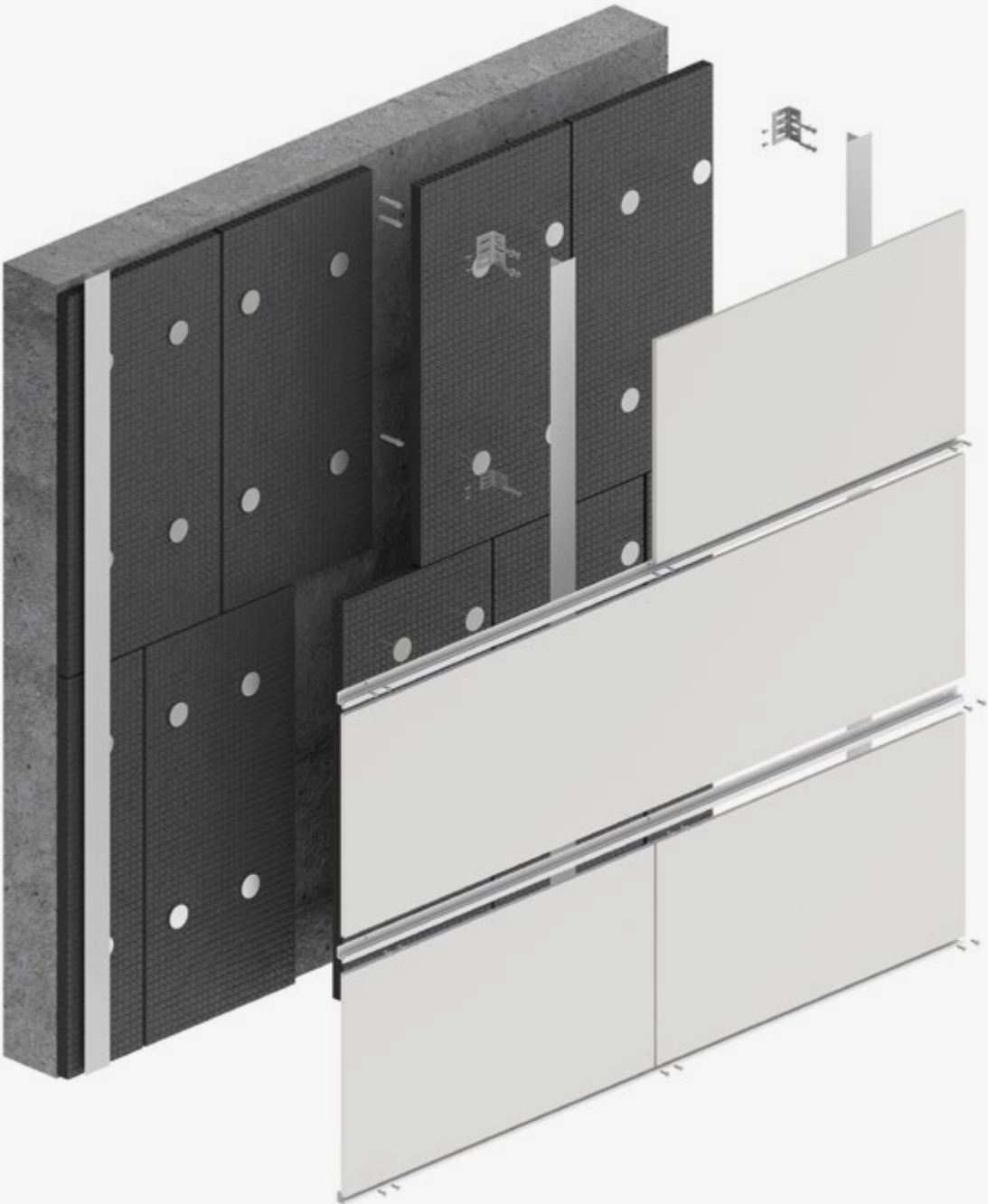
This solution creates an almost hermetic ventilated chamber, due to the continuity of the supporting profile itself.

A groove of 3-4 mm minimum and with a depth of up to 10 mm is required to conceal the length-wise profile that is anchored to the uprights of the sub-structure.

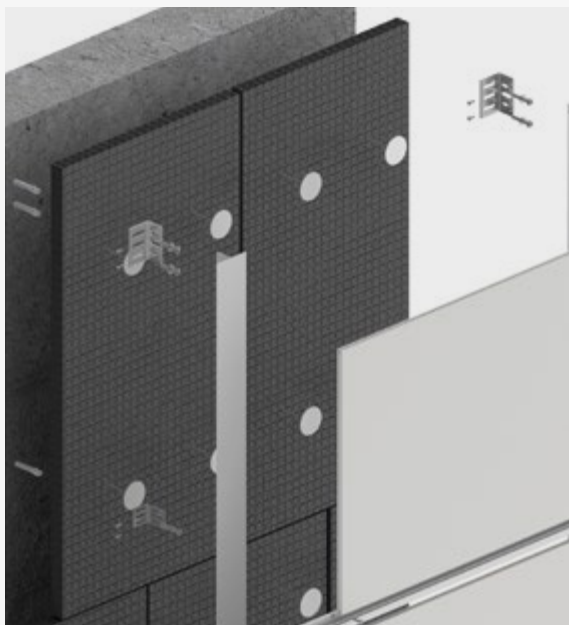
With this system, it is important to ensure correct air entry at the base of the facade, as the horizontal joints are enclosed by the horizontal profile that holds each piece.

Hidden mechanical
fixing with metallic
profile on the
continuous groove
of the edge of
the piece.





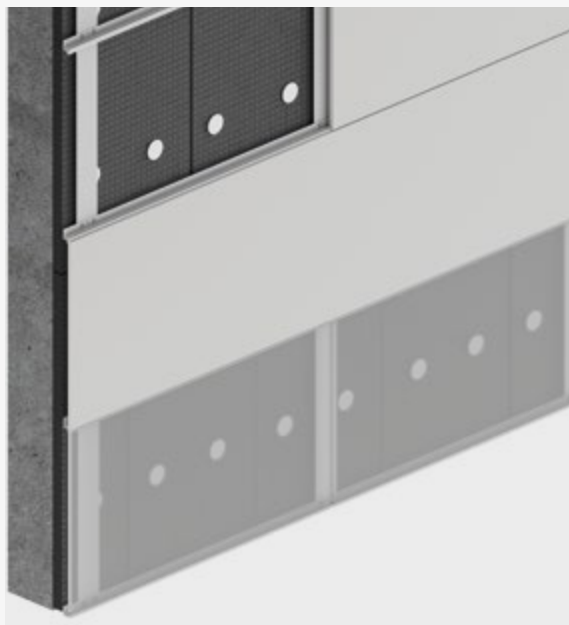
System detail



Middle profile detail



Bottom profile



Bottom profile detail



DKT2 Structure

DKT2 - Structure



Secondary structure and general fixing instructions

1. Define the layout of the horizontal profiles over the vertical substructure.
2. Drill the vertical profile to fix the horizontal rails from bottom to top on the facade so the grooved edge Dekton® slab can be placed on it.
3. Place the horizontal rail over one piece, insert inside the top grooves of the piece. Level and fix it to the vertical profiles.
4. Enter the rest of the pieces from the row, using spacers to achieve the desired gap for vertical joints.
5. For some systems, the installation process may require installing first both bottom and top horizontal profiles. If so insert Dekton® pieces into the top groove first and then into the bottom profile.
6. Repeat the process for all rows until the top, installing a top-end profile on the top row pieces.
7. The maximum cantilever distance of horizontal rails must be defined by the system supplier.

Installation sequence from one side to another and from bottom to top

Fig. 1

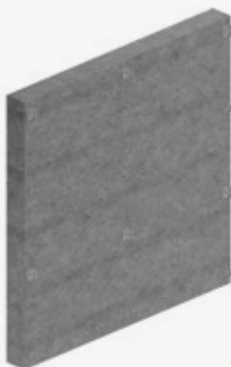


Fig. 2

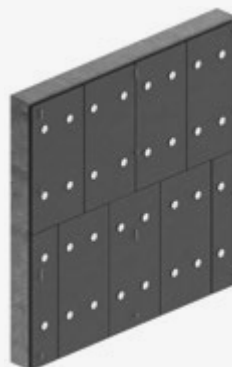


Fig. 3

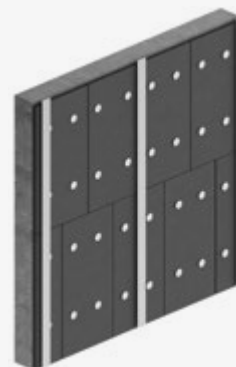


Fig. 4



Fig. 5

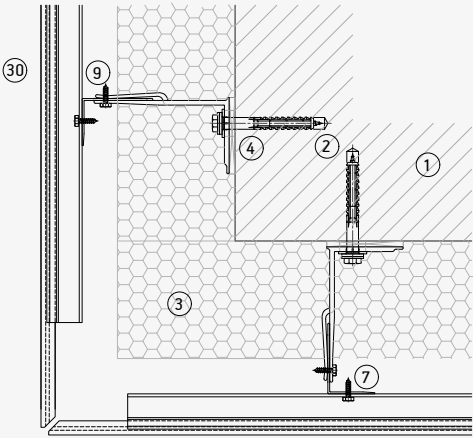


Fig. 6

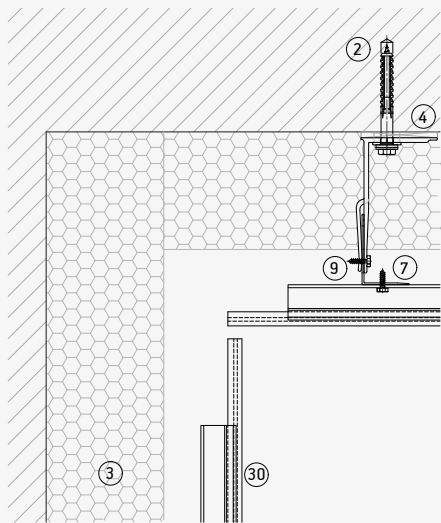


DKT2 Horizontal section

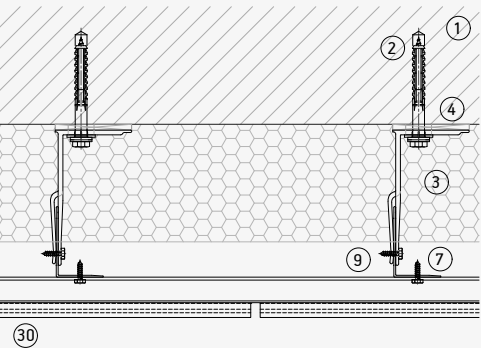
Mitered external corner



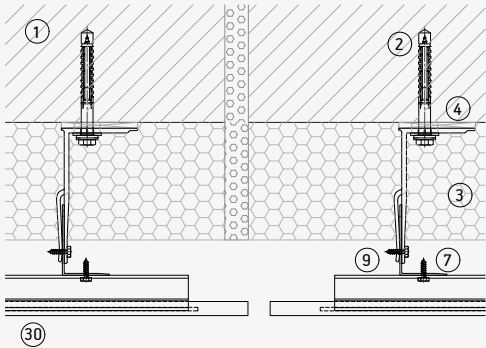
Internal Corner



Vertical joint



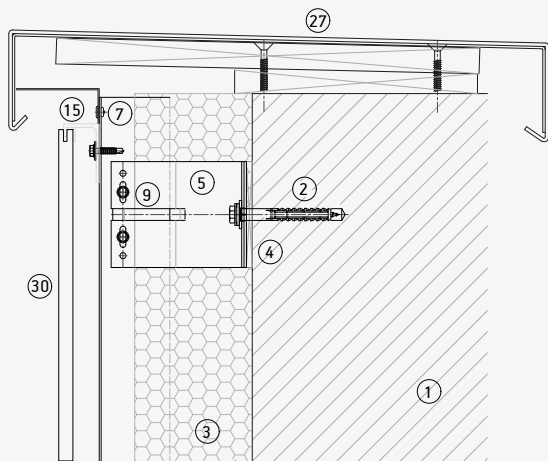
Vertical expansion joint



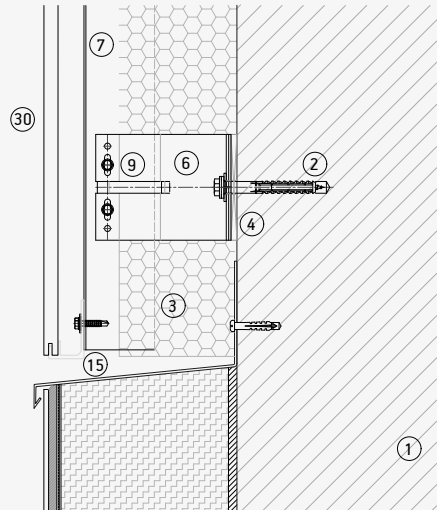
- 1. Supporting wall.
- 2. Anchor bracket.
- 3. Insulation.
- 4. Insulating layer.
- 5. Fixed bracket.
- 6. Adjustable bracket.
- 7. L profile.
- 8. T profile.
- 9. Self tapping screw.
- 10. Rivet.
- 11. Undercut anchor.
- 12. Horizontal rail.
- 13. C hanger.
- 14. Adjustable C hanger.
- 15. Bottom/top edge profile/clip.
- 16. Intermediate edge profile/clip.
- 17. Bottom/top visible clamp.
- 18. Intermediate visible clamp.
- 19. Interior back clamp
- 20. Exterior back profile
- 21. Chemical fixing system
- 22. Security fixing
- 23. Ventilation profile
- 24. Lintel
- 25. Jamb
- 26. Window sill
- 27. Top coping
- 28. Corner profile
- 29. Bonding adhesive
- 30. Dekton

DKT2 Vertical section

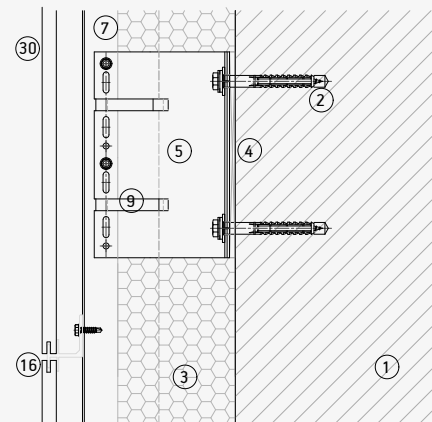
Upper detail



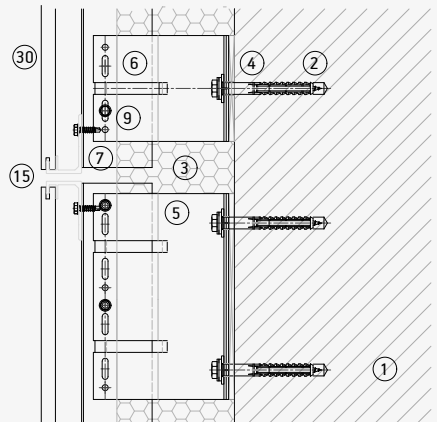
Bottom detail



Horiozntal joint



Joint between profiles



- | | | | |
|------------------------|-------------------------------------|---------------------------------|----------------------|
| 1. Supporting wall. | 10. Rivet. | 17. Bottom/top visible clamp. | 24. Lintel |
| 2. Anchor bracket. | 11. Undercut anchor. | 18. Intermediate visible clamp. | 25. Jamb |
| 3. Insulation. | 12. Horizontal rail. | 19. Interior back clamp | 26. Window sill |
| 4. Insulating layer. | 13. C hanger. | 20. Exterior back profile | 27. Top coping |
| 5. Fixed bracket. | 14. Adjustable C hanger. | 21. Chemical fixing system | 28. Corner profile |
| 6. Adjustable bracket. | 15. Bottom/top edge profile/clip. | 22. Security fixing | 29. Bonding adhesive |
| 7. L profile. | 16. Intermediate edge profile/clip. | 23. Ventilation profile | 30. Dekton |
| 8. T profile. | | | |
| 9. Self tapping screw. | | | |

DKT2 System Description

Hidden system

Supporting substructure made up of; metal brackets, adjustable for correction of unevenness compatible with different types of supports, can include thermal break insulator; vertical metal profiles of different sections according to the required application; continuous horizontal metal profiles type H-Carrier/ Rail; hidden anchorage system by means of continuous grooving in the Dekton® panel for fixing by insertion.

Installation process

Brackets installed on the surface to be covered by means of a mechanical system or welding; vertical profiles installed on brackets with a system of regulation and fixing, by means of specific screws*; continuous horizontal H-Type profiles with a system of regulation and fixing, installed by means of specific screws* on vertical profiles; positioning of the lower edge of the Dekton® panel on continuous H-Carrier/Rail profile; installation of the blocking device on the upper part, continuous H-Carrier/Rail profile.

*Specific screws according to the structural calculation of each project or indicated by the supplier of the substructure.

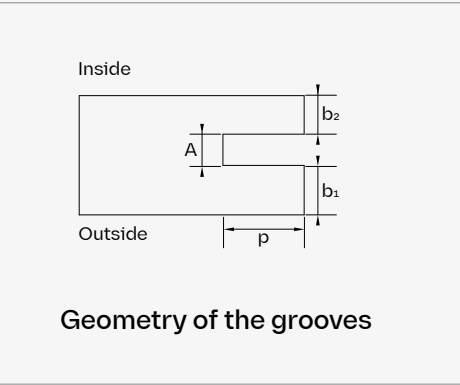
The minimum width of the grooves is 3mm, and the depth of grooving typically goes 10mm. Groove dimensions need to be defined for each project according to the Dekton thickness chosen and the project static calculations.

Cutting and machining

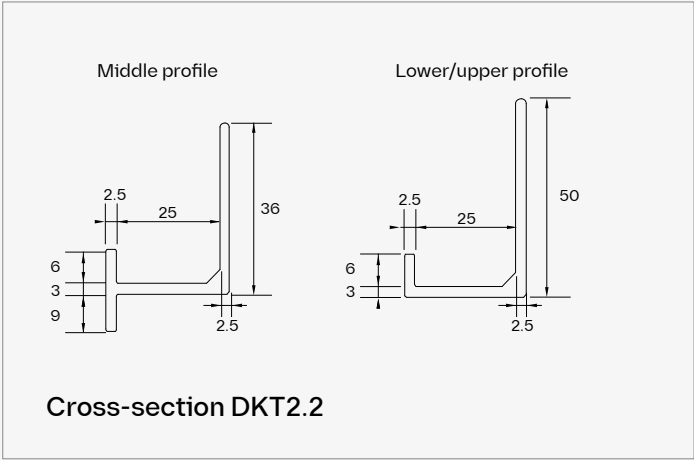
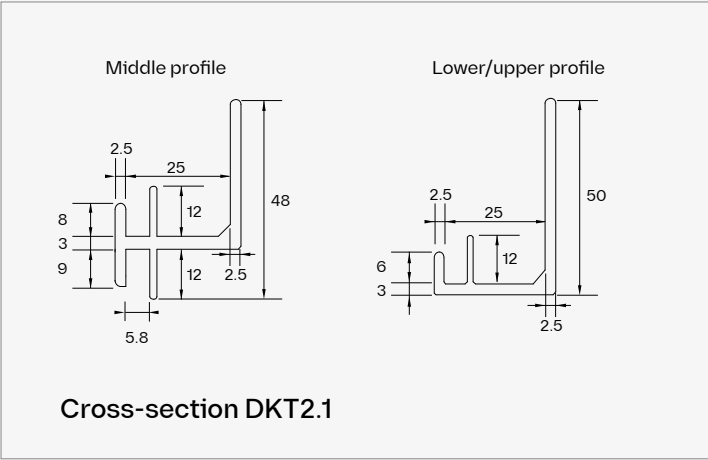
At the Cosentino Factory all slabs can be cut and machined following project drawings and delivered to site in the desired order.

Please consult with the Project Service Unit department for special project requirements.

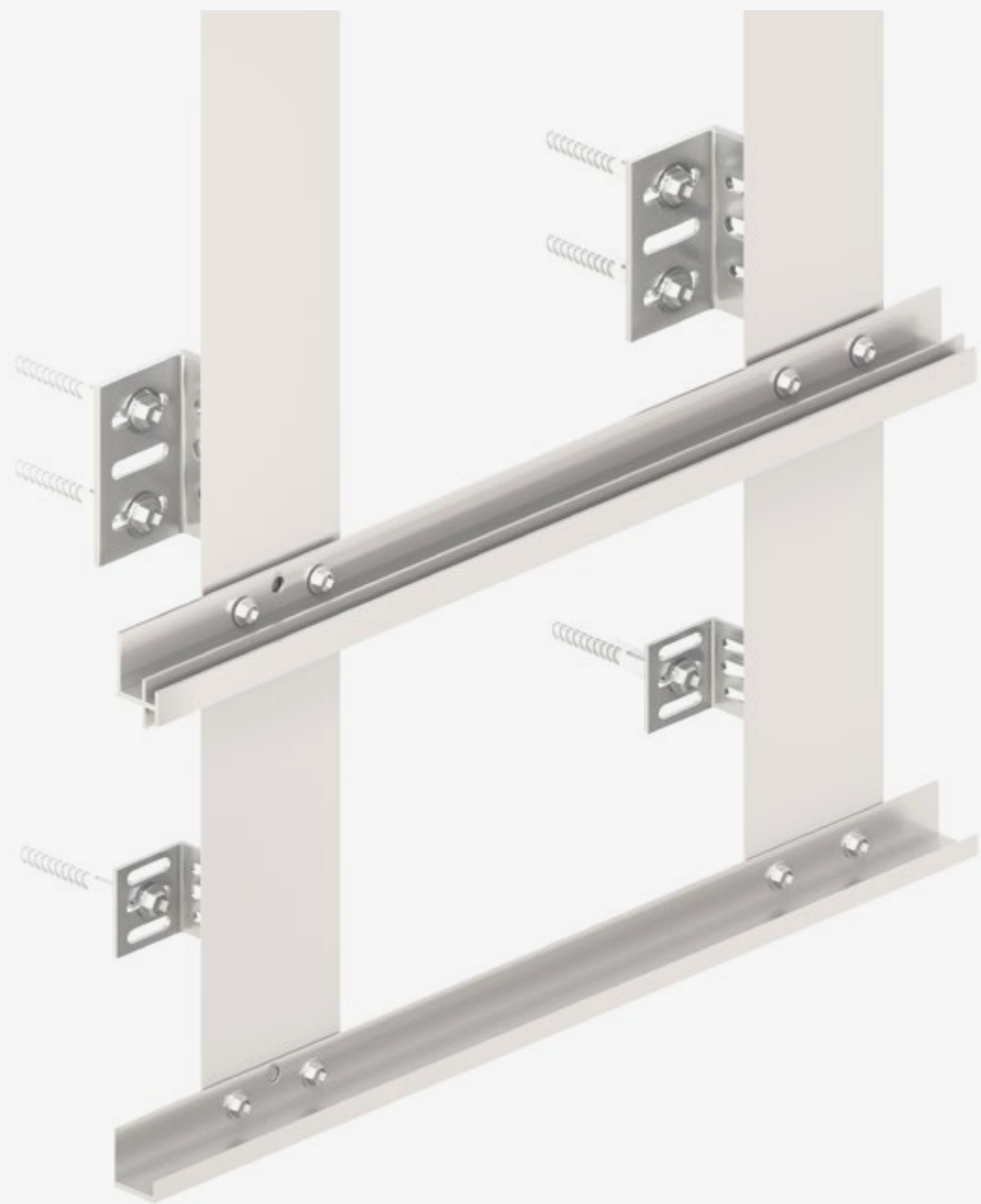
Grooves can be done following provided project details and static calculations.



Fixing the cladding	Dekton® thickness (mm)	Geometry of the grooves			
		b1 (mm)	b2 (mm)	A (mm)	p (mm)
DKT2.1	12	4	5	3	10
	20	12	5	3	10
DKT2.2	12	4	4	4	10
	20	8	8	4	10



DKT2 Structure



DKT2 Static Calculations

Schemes and data to be defined with SDP software

Panel in horizontal or vertical layout. Maximum wind loads shown in the following configurations depend on the grid spacing and distance from drill holes to the edges.

These configurations have been calculated considering a distance of fixing to edges of 200mm. For further distances and configurations please consult with our Technical Department.

The tables and diagrams presented are based on Dekton calculation software and refer only to Dekton®. They cannot be considered as definitive data for on-site installation and it is necessary for a qualified technician

to make a specific project calculation for the entire facade system including support anchors, brackets, profiles, screws and Dekton® fixing elements to the facade

How to use the reference configurations:

- Determine the design wind load kN/m².
- Choose the table according to the fixing system and Dekton thickness.
- Select the closest design wind load. The wind load chosen should not be less than actual requirements.
- Select a reference configuration showing maximum spacing between fixings.

DKT2

Dekton 12 mm

Full slab configuration		
Design wind load kN/m²	Horizontal	Spacing between hor. profiles (mm)
0.5	H2	1200
1	H4	900
1.5	H6	600
2	H8	400
6	H10	170

Dekton 20 mm

Full slab configuration		
Design wind load kN/m²	Horizontal	Spacing between hor. profiles (mm)
0.5	H1	1440
1	H3	1000
1.5	H5	650
2	H7	500
5.5	H9	350

DKT2 Layout

Design wind loads to be compared with reference design wind loads provided in this document should have applied wind load factors on characteristic values per applicable standards and regulations.

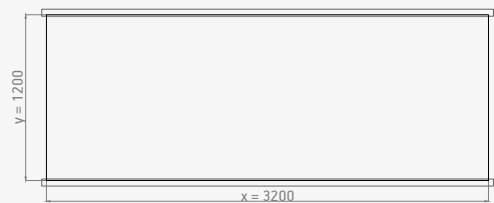
Design wind loads and fixing distances should be calculated per local standards, regulations and certificates applicable, with further testing if required.

Cosentino does not provide static calculations for projects.

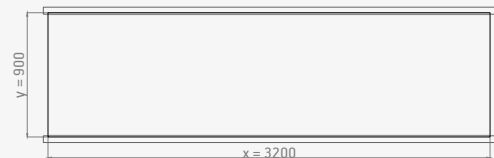
Cosentino will not accept any liability whatsoever for any direct or indirect damage resulting from any errors, omissions or miscalculations of the static calculations for the project.

12mm

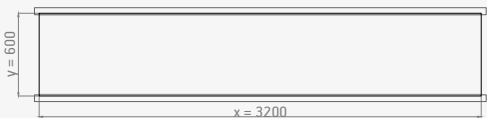
HORIZONTAL CONFIGURATION



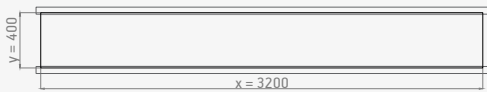
H2. Max. Design wind load: 0.5 kN/m²



H4. Max. Design wind load: 1.0 kN/m²



H6. Max. Design wind load: 1.5 kN/m²



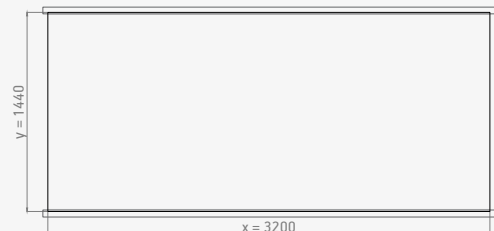
H8. Max. Design wind load: 2.0 kN/m²



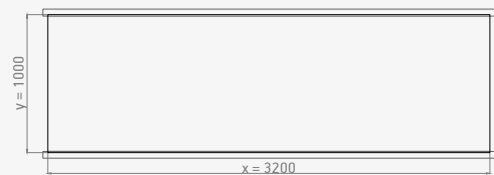
H10. Max. Design wind load: 5.5 kN/m²

20mm

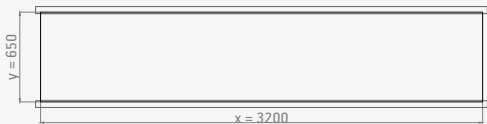
HORIZONTAL CONFIGURATION



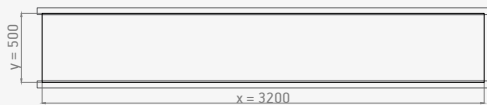
H1. Max. Design wind load: 0.5 kN/m²



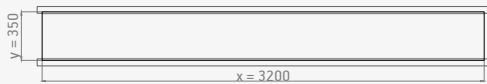
H3. Max. Design wind load: 1.0 kN/m²



H5. Máx. Design wind load: 1.5 kN/m²



H7. Max. Design wind load: 2.0 kN/m²



H9. Max. Design wind load: 6.0 kN/m²



CASE STUDY

Valdebebas 127

Madrid, Spain

Materials

7,600 m²

Dekton® Warm (customised)

Dekton Korus

Installation system

DKT2

Thickness

12 mm









CASE STUDY

LD Hotel

Sevilla, Spain

Material

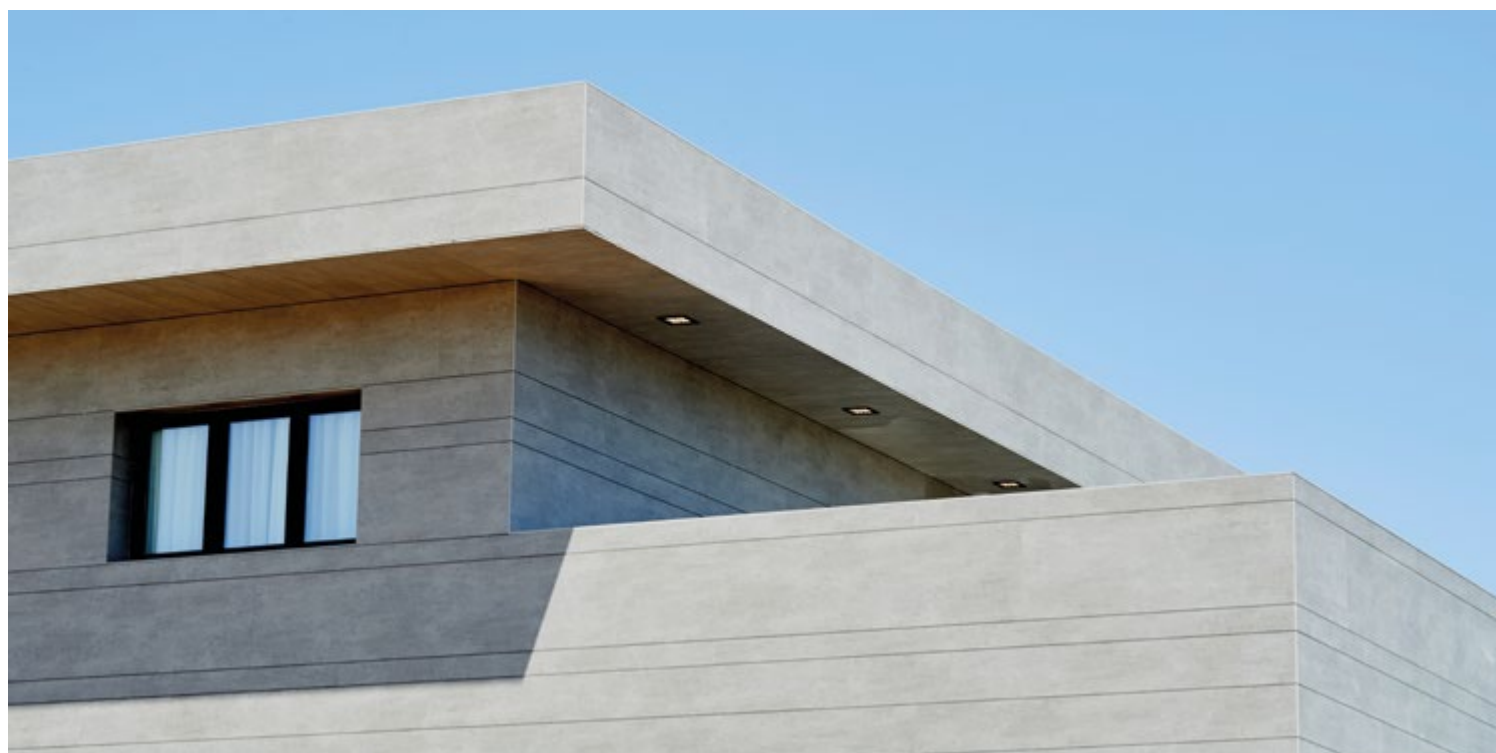
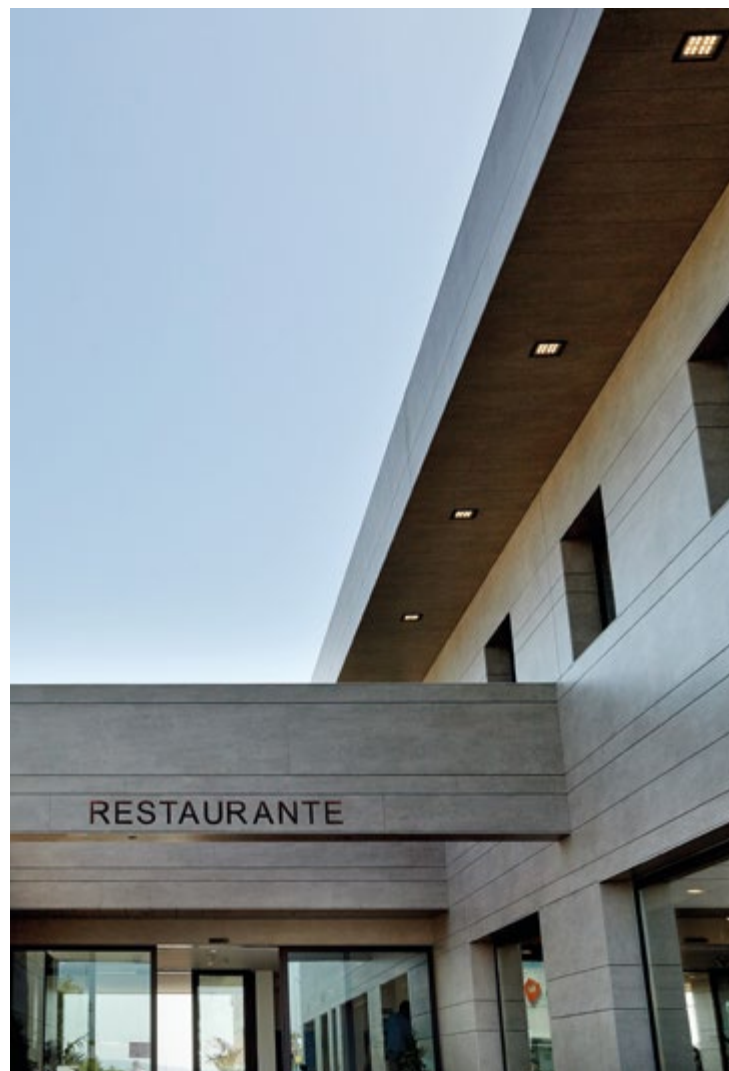
2,500 m² Dekton® Keon

Facade system

DKT2

Thickness

12 mm



Tabacalera apartment building, A Coruña, Spain



DK T3**Sistema con grapa
en ranurado en el canto.**

This system is suitable for horizontal cutting of Dekton® in thicknesses of 12 mm and 20 mm. In the DKT3 system, pieces are fastened to the profile by hidden clips that are inserted at intervals along a continuous groove at the edge of the piece, which can end at 3 cm at each extreme, thereby improving the aesthetics and

functionality of the lateral pieces. This system is fairly flexible, although there are certain dimensional limits, as the maximum a piece can be for 12 mm thickness is 70 cm vertical and 100 cm for 20 mm thickness.

In cases that require a greater dimension on the vertical section, 30 mm thickness



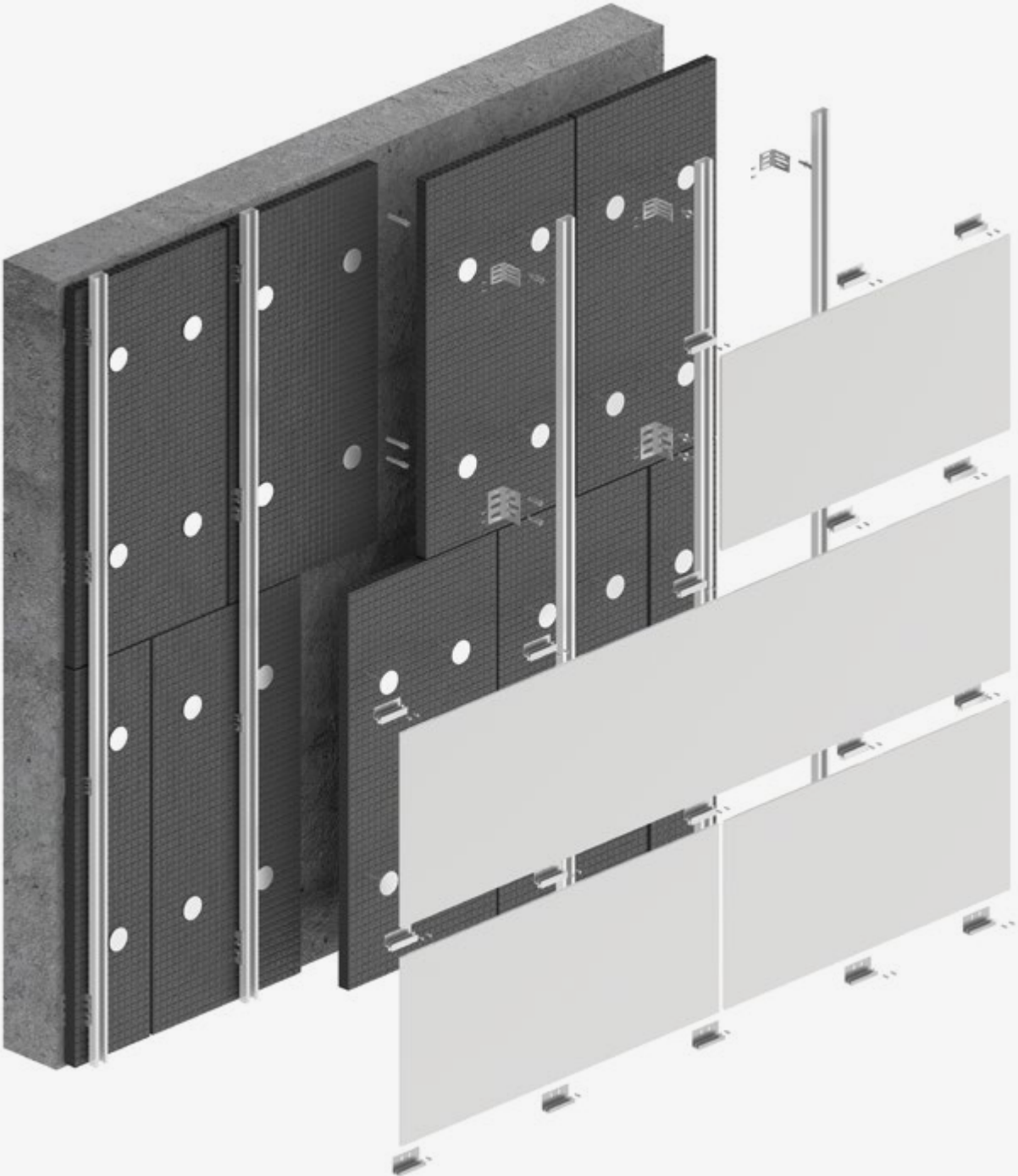
should be used to counteract fatigue on the grooved part of the material from the anchoring.

This system usually has two different types of clips: a single starter/end clip and a double middle clip, which are screwed to the vertical profiles.

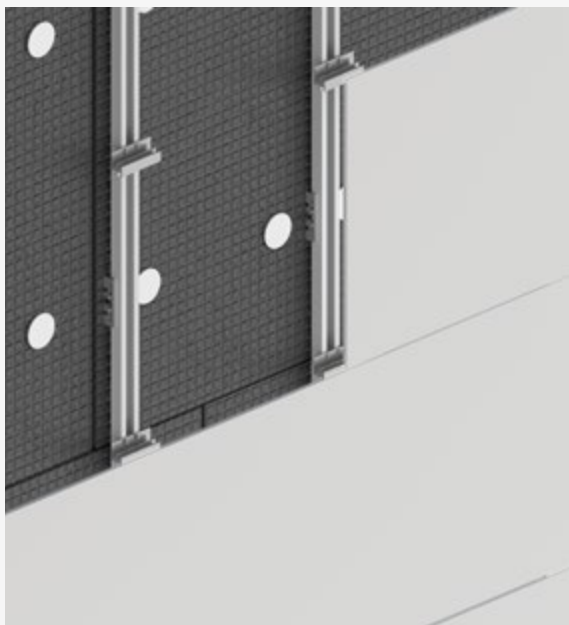
Hidden mechanical fixing
with clips at intervals
along the groove on the
edge of the piece.



DKT3 - Diagram



Joints



Middle clips



Bottom clips



Bottom clips detail



DKT3 Structure

DKT3 - Structure



General fixing instructions

1. Define the layout and position of the clips over the vertical substructure.
2. In some clip systems, a spring is installed into the vertical profiles before fixing the clips, in order to avoid looseness between the Dekton® piece and vertical profiles.
3. Screw the bottom clips to the vertical profiles.
4. Place the Dekton® piece with grooved edges laying on the clips, that will support the piece weight.
5. Place the intermediate clips, inserting the tabs into the top grooves of the Dekton® piece and screw the clips to the vertical profiles.
6. Repeat the process by placing another piece over the installed clips and fixing with upper clips.
7. Finish with the top pieces. Installing a top-end clip with a slotted hole and screw them to the vertical profile. Insert the clips into the top groove of the panel by adjusting its position vertically.
8. Maximum cantilever distance of horizontal rails must be defined by the system supplier.

Installation sequence from one side to another and from bottom to top

Fig. 1



Fig. 2



Fig. 3



Fig. 4



Fig. 5



Fig. 6



DKT3 System Description

Hidden system

Supporting substructure made up of; metal brackets, adjustable to correct unevenness and compatible with different types of supports, can include thermal break insulators; vertical metal profiles of different sections according to the application required; horizontal metal profiles or H-Carrier/Rail or J-Carrier/Rail type clips; hidden anchoring system by means of continuous grooving in the Dekton Panel for fixing by insertion.

Installation process

Brackets installed on the surface to be covered by means of a mechanical or welding system; vertical profiles installed on brackets with a regulation and fixing system, by means of specific screws*; specific horizontal profiles or H-Carrier/Rail or J-Carrier/Rail clip with a regulation and fastening system, installed by means of specific screws* on vertical profiles; Installation of the lower edge of the Dekton® panel on a point profile or H-Carrier/Rail or J-Carrier/Rail clip; installation of the locking device on the upper part, point profile or H-Carrier/Rail or J-Carrier/Rail clip.

*Specific screws according to the structural calculation of each project or indicated by the supplier of the substructure.

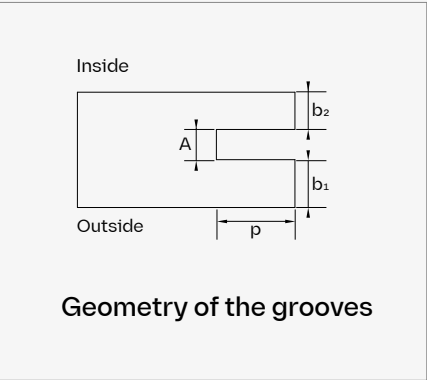
The minimum width of the grooves is 3mm, and the depth of grooving typically goes from 10mm to 15mm. Groove dimensions need to be defined for each project according to the Dekton thickness chosen and the project static calculations.

Cutting and machining

At the Cosentino Factory all slabs can be cut and machined following project drawings and delivered to site in the desired order.

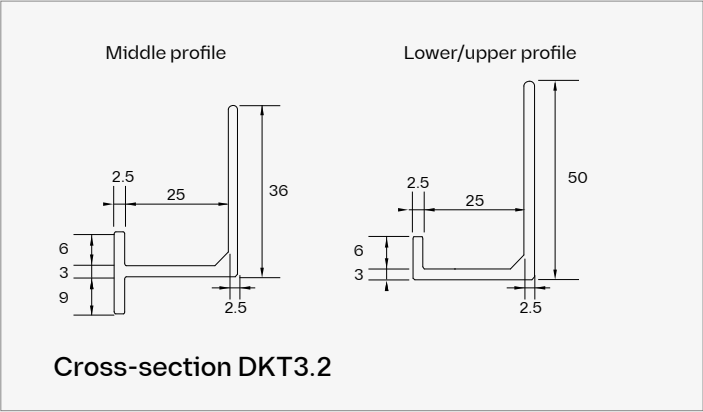
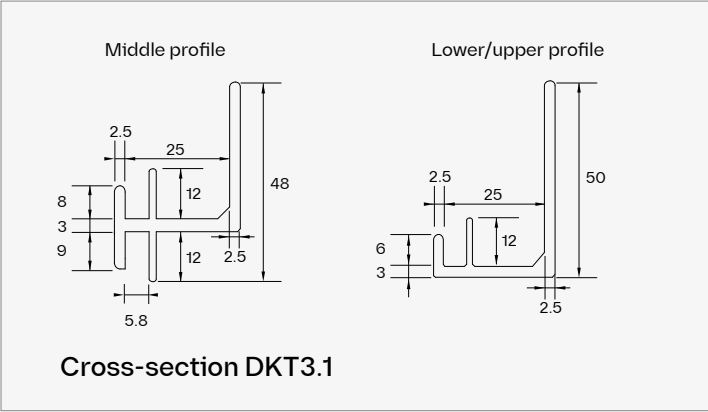
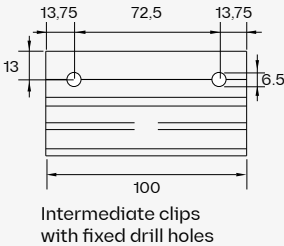
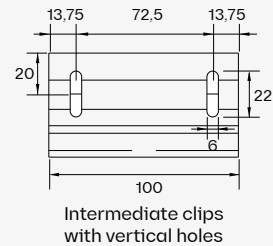
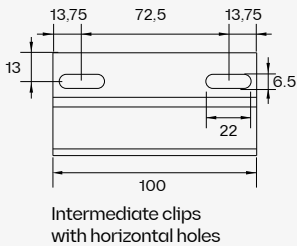
Please consult with the Project Service Unit department for special project requirements.

Grooves can be made following provided project details and static calculations.



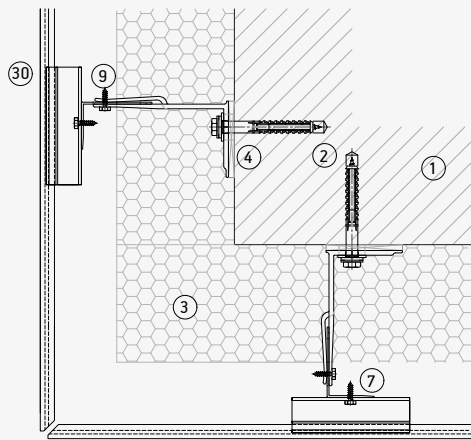
Fixing the cladding	Dekton® thickness (mm)	Geometry of the grooves			
		b1 (mm)	b2 (mm)	A (mm)	p (mm)
DKT3	12	4	5	3	10
	20	12	5	3	10

Cladding fixings

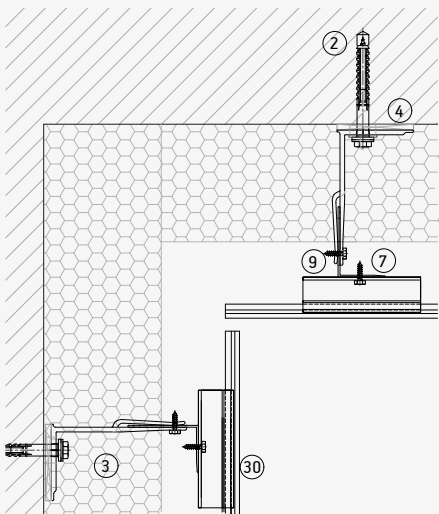


DKT3 Horizontal section

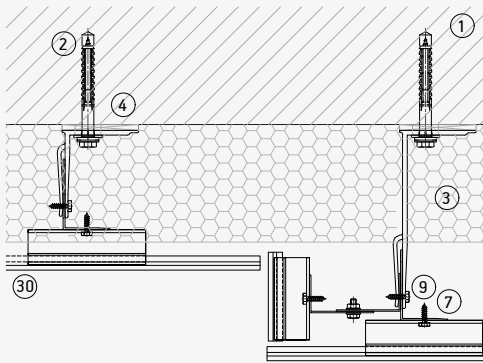
Mitered external corner



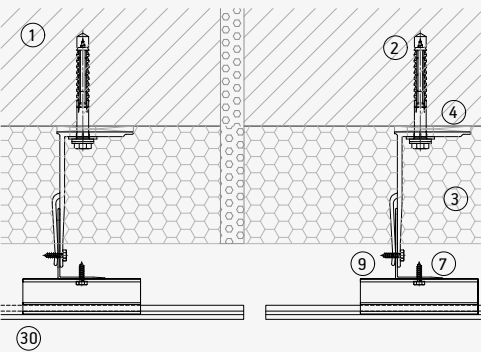
Internal Corner



Vertical joint



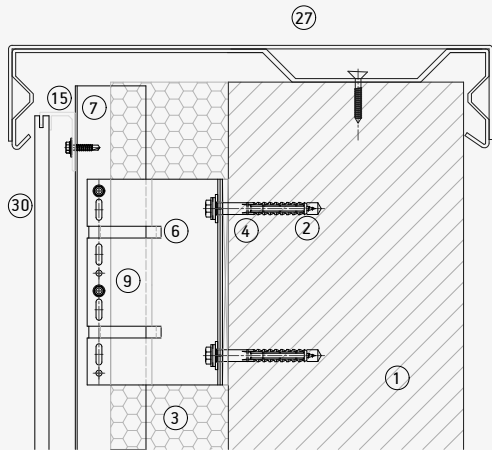
Vertical expansion joint



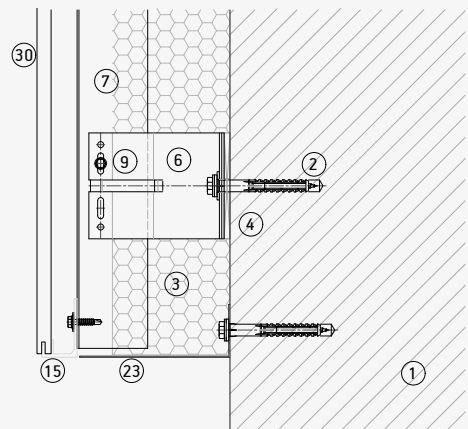
- | | | | |
|------------------------|-------------------------------------|--------------------------------|----------------------|
| 1. Supporting wall. | 10. Rivet. | 17. Bottom/top visible clip. | 26. Window sill |
| 2. Anchor bracket. | 11. Undercut anchor. | 18. Intermediate visible clip. | 27. Top coping |
| 3. Insulation. | 12. Horizontal rail. | 19. Interior back clip | 28. Corner profile |
| 4. Insulating layer. | 13. C hanger. | 20. Exterior back profile | 29. Bonding adhesive |
| 5. Fixed bracket. | 14. Adjustable C hanger. | 21. Chemical fixing system | 30. Dekton |
| 6. Adjustable bracket. | 15. Bottom/top edge profile/clip. | 22. Security fixing | |
| 7. L profile. | 16. Intermediate edge profile/clip. | 23. Ventilation profile | |
| 8. T profile. | | 24. Lintel | |
| 9. Self tapping screw. | | 25. Jamb | |

DKT3 Vertical section

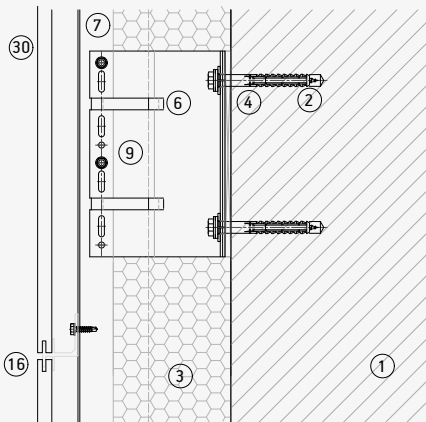
Upper detail



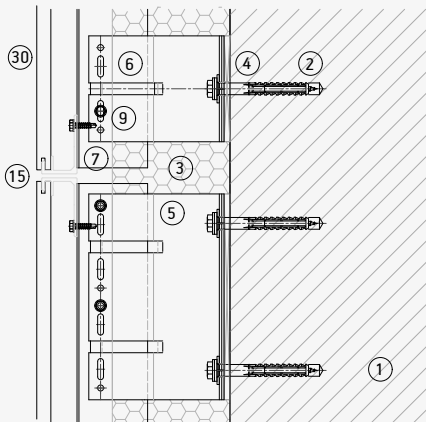
Bottom detail



Horizontal joint



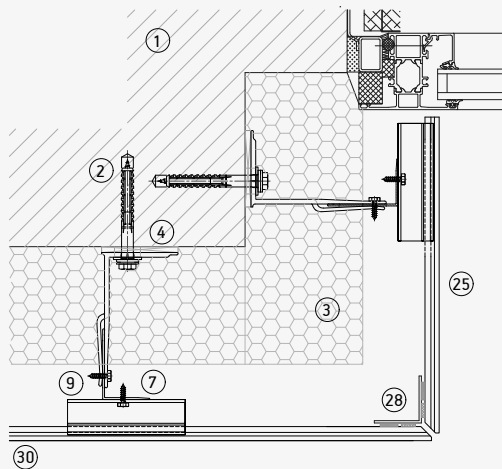
Joint between profiles



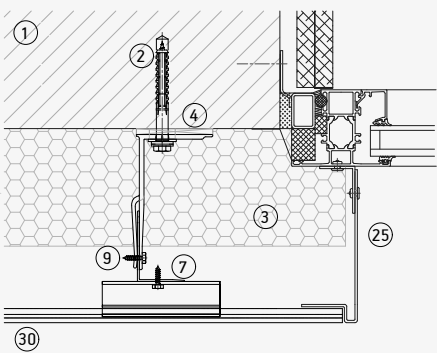
- 1. Supporting wall.
- 2. Anchor bracket.
- 3. Insulation.
- 4. Insulating layer.
- 5. Fixed bracket.
- 6. Adjustable bracket.
- 7. L profile.
- 8. T profile.
- 9. Self tapping screw.
- 10. Rivet.
- 11. Undercut anchor.
- 12. Horizontal rail.
- 13. C hanger.
- 14. Adjustable C hanger.
- 15. Bottom/top edge profile/clip.
- 16. Intermediate edge profile/clip.
- 17. Bottom/top visible clip.
- 18. Intermediate visible clip.
- 19. Interior back clip
- 20. Exterior back profile
- 21. Chemical fixing system
- 22. Security fixing
- 23. Ventilation profile
- 24. Lintel
- 25. Jamb
- 26. Window sill
- 27. Top coping
- 28. Corner profile
- 29. Bonding adhesive
- 30. Dekton

DKT3 Vertical section

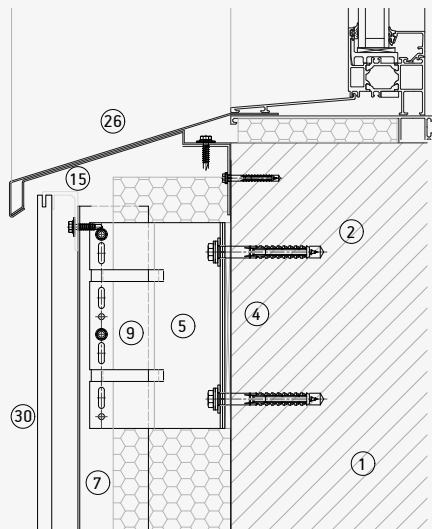
Dekton jamb



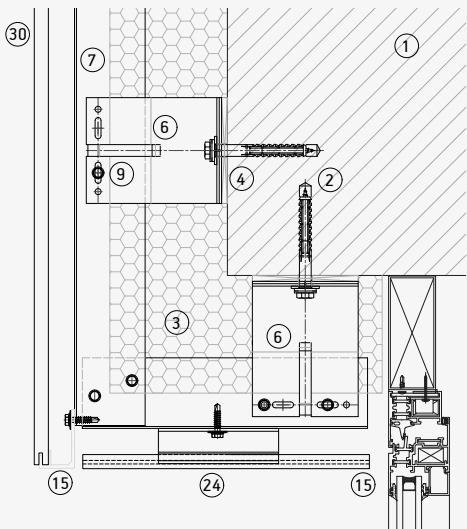
Metallic jamb



Metallic window sill



Dekton lintel



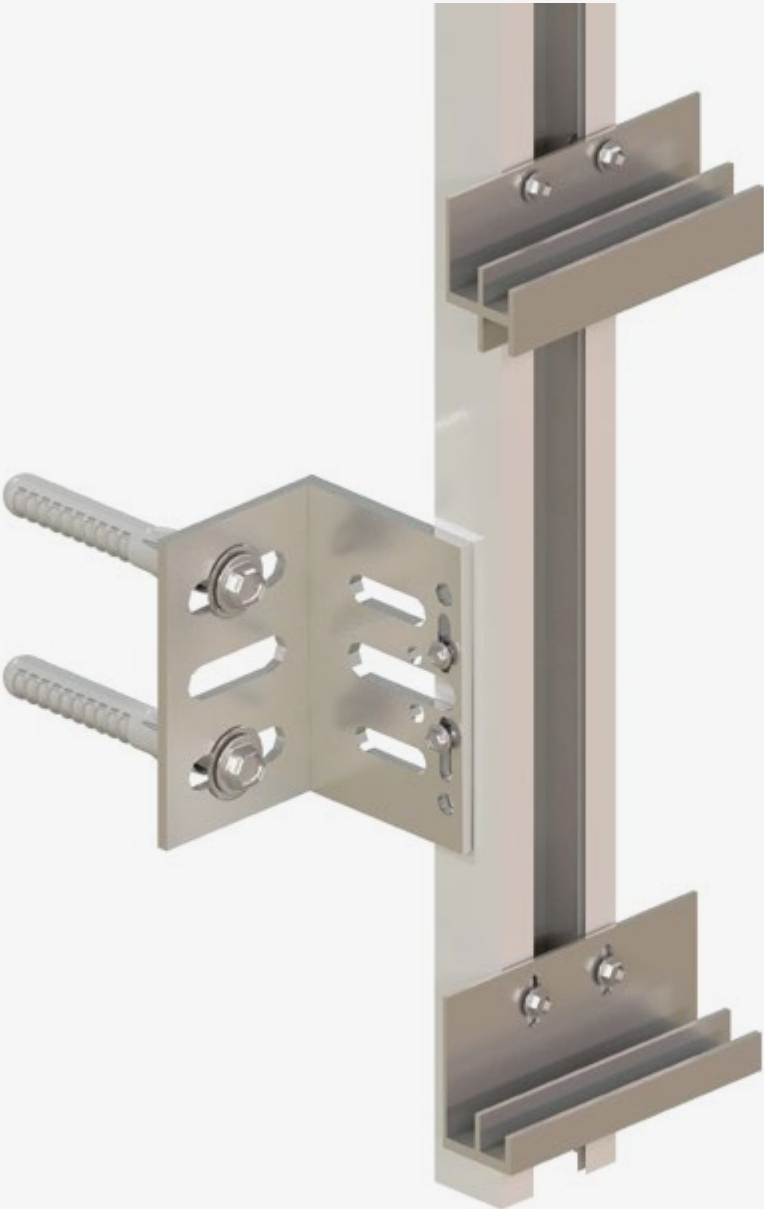
- 1. Supporting wall.
- 2. Anchor bracket.
- 3. Insulation.
- 4. Insulating layer.
- 5. Fixed bracket.
- 6. Adjustable bracket.
- 7. L profile.
- 8. T profile.
- 9. Self tapping screw.

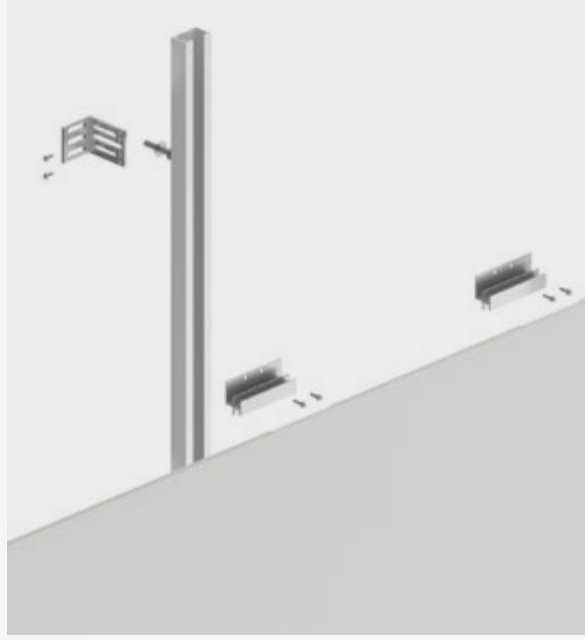
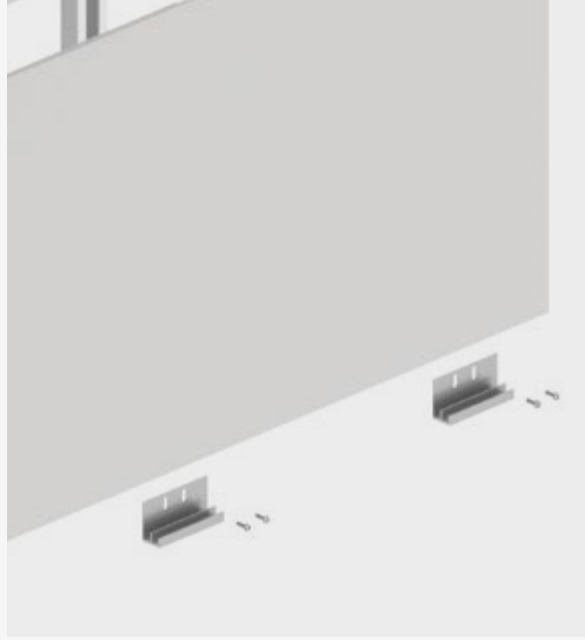
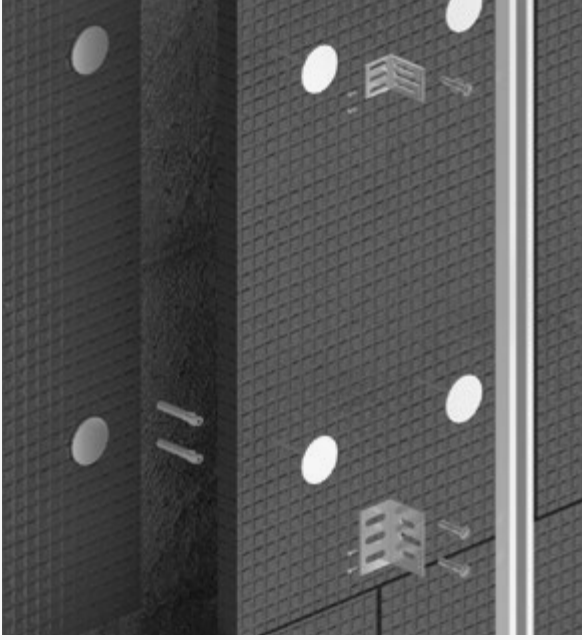
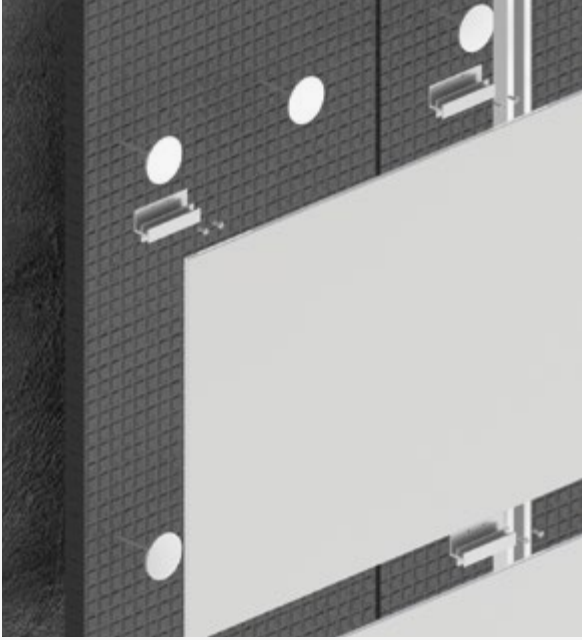
- 10. Rivet.
- 11. Undercut anchor.
- 12. Horizontal rail.
- 13. C hanger.
- 14. Adjustable C hanger.
- 15. Bottom/top edge profile/clip.
- 16. Intermediate edge profile/clip.

- 17. Bottom/top visible clip.
- 18. Intermediate visible clip.
- 19. Interior back clip
- 20. Exterior back profile
- 21. Chemical fixing system
- 22. Security fixing
- 23. Ventilation profile
- 24. Lintel
- 25. Jamb

- 26. Window sill
- 27. Top coping
- 28. Corner profile
- 29. Bonding adhesive
- 30. Dekton

DKT3 System





DKT3 Static Calculations

Schemes and data to be defined with SDP software

Panels in horizontal or vertical layout. Maximum wind loads shown in the following configurations depend on the grid spacing and distance from drill holes to the edges.

These configurations have been calculated considering a distance of fixing to edges of 200 mm. For further distances and configurations please consult with our Technical Department.

The tables and diagrams presented are based on Dekton calculation software and refer only to Dekton. They cannot be considered as definitive data for on-site installation and it is necessary for a qualified technician

to make a specific project calculation for the entire facade system including support anchors, brackets, profiles, screws and Dekton® fixing elements to the facade

How to use the reference configurations:

- Determine the design wind load kN/m².
- Choose the table according to the fixing system and Dekton® thickness.
- Select the closest design wind load. The wind load chosen should not be less than actual requirements.
- Select a reference configuration showing maximum spacing between fixings.

DKT3

Dekton® 12 mm

Complete configuration table

Design wind load kN/m²	Horizontal	Spacing between top/ bottom clips (mm)	Spacing between clips (mm)
5,5	H7	170	450
2	H5	400	450
1,5	H3	600	450
1	H1	700	450

Dekton® 20 mm

Complete configuration table

Design wind load kN/m²	Horizontal	Spacing between top/ bottom clips (mm)	Spacing between clips (mm)
6	H6	350	450
2	H4	500	450
1,5	H2	650	450
1	H1	700	450

DKT3 Layout

Design wind loads to be compared with reference design wind loads provided in this document should have applied wind load factors on characteristic values per applicable standards and regulations.

Design wind loads and fixing distances should be calculated per local standards, regulations and certificates applicable, with further testing if required.

Cosentino does not provide static calculations for projects.

Cosentino will not accept any liability whatsoever for any direct or indirect damage resulting from any errors, omissions or miscalculations of the static calculations for the project.

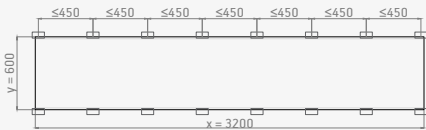
The configurations shown are valid when using the profiles and grooves indicated below.

Any other groove or profile shall be validated by a project-specific test to be carried out by the Technical Management (pages 15 and 19 of the ETA).

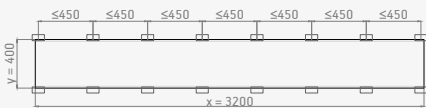
12 mm CONFIGURACIÓN HORIZONTAL



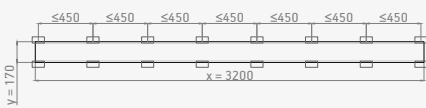
H1. Max. Design wind load: 1 kN/m²



H3. Max. Design wind load: 1,5 kN/m²



H5. Max. Design wind load: 2 kN/m²



H7. Max. Design wind load: 5,5 kN/m²

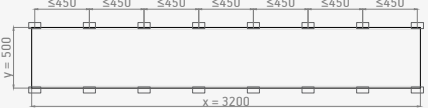
20 mm CONFIGURACIÓN HORIZONTAL



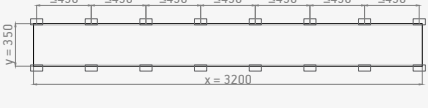
H1. Max. Design wind load: 1 kN/m²



H2. Max. Design wind load: 1,5 kN/m²



H4. Max. Design wind load: 2 kN/m²



H6. Max. Design wind load: 6 kN/m²

CASE STUDY

Building facade in Bergamo

Bergamo, Italy

Material

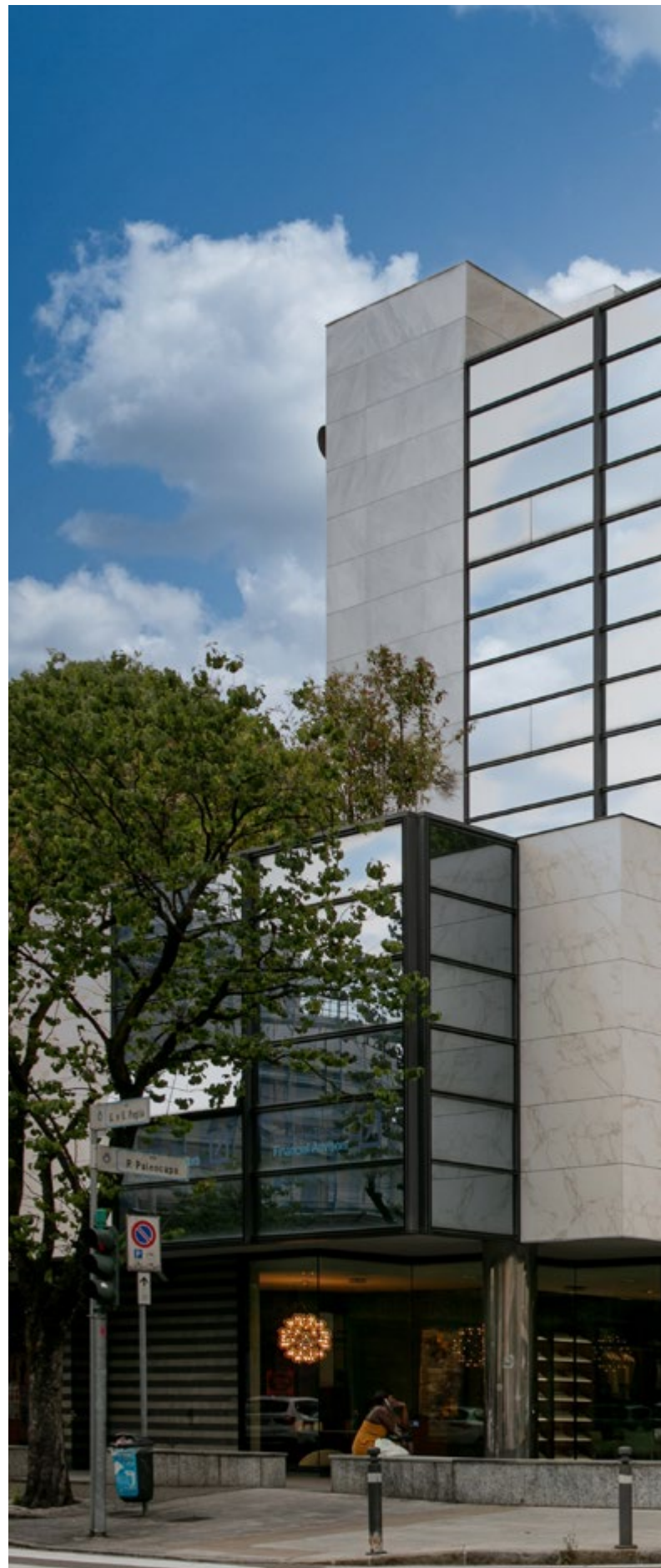
158 m² Dekton® Entzo

Installation system.

DKT3

Thickness

12 mm





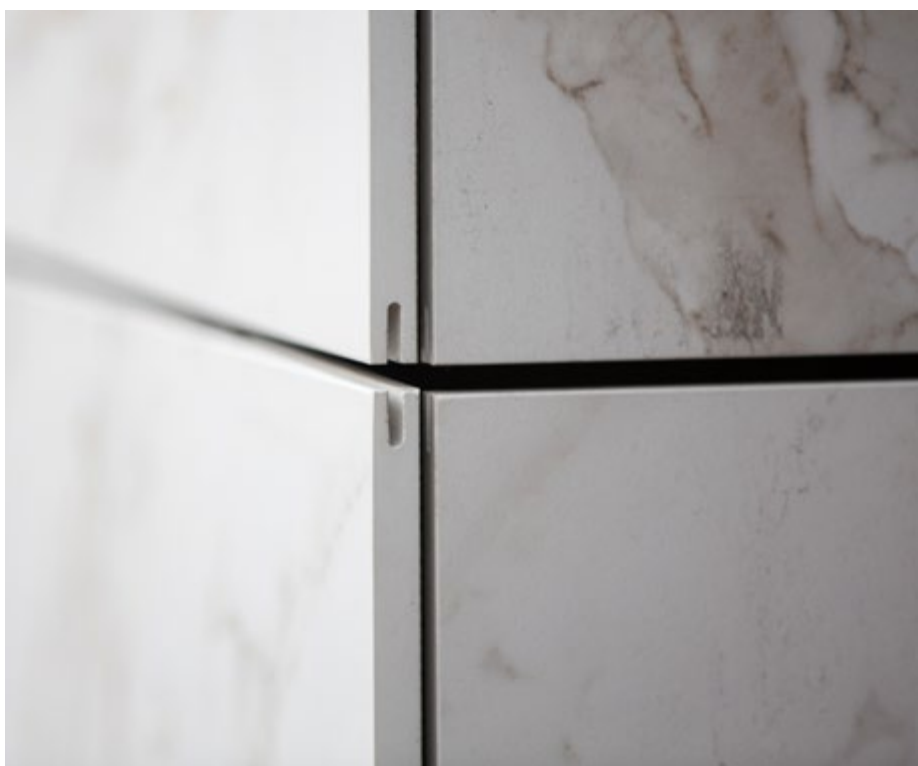
Dekton® provides a solution to the structural problems of this Italian facade

It was necessary to find a material as beautiful as natural stone and with a finish similar to Calacatta. The wide range of Dekton® colours made it possible to find the closest finish to the original cladding: Entzo. The result is the same chromatic and 'natural' stone effect required by municipal and provincial authorities for areas of historic interest.





DKT3 - Case Study



In short, Dekton® ventilated facades are perfect both for the refurbishment of existing cladding and for new projects. There are five properties that make Dekton® the perfect solution for ventilated facades:

1. Lightweight;
2. Large format slabs (Jumbo format 330 x 163 cm);
3. Quick installation;
4. Natural appearance;
5. High static and architectural performance.

Gunni & Trentino Flagship Store, Madrid, Spain





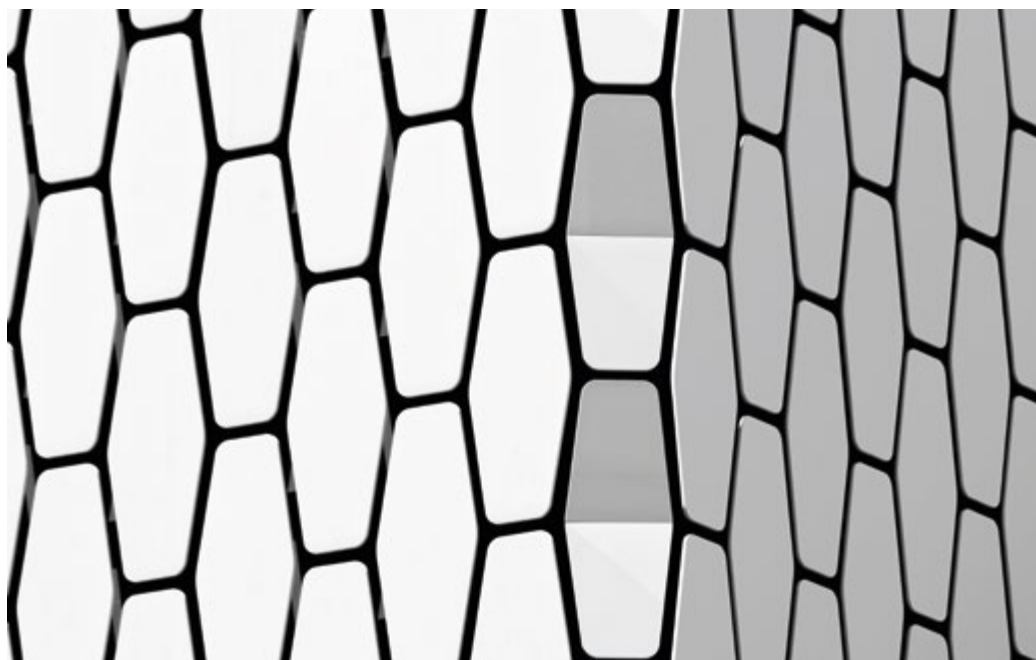
Mechanical or Mechanical-Chemical Systems with Double Back Grooving

DEKCLIP is a mechanical or hybrid fixing system (mechanical with chemical reinforcement).

The type of mechanical anchorage is made up of a series of clips of variable length with two inclined flanges that are fixed to the discontinuous grooves of greater or lesser length made in

the rear face of the piece, and later they are fitted and fixed within a rail horizontal with hook function.

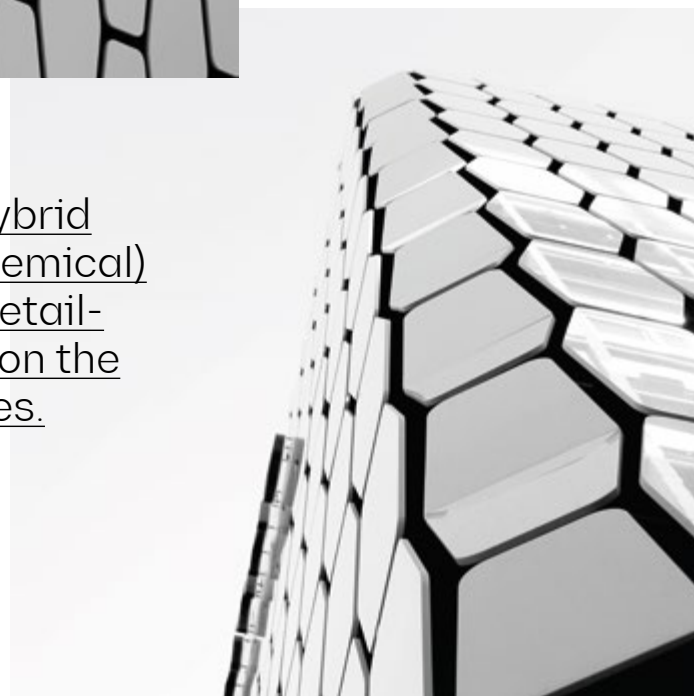
In this type of hybrid system, two hanger profiles (upper and lower) or a clamp-type clip are chemically and mechanically anchored to the material by means of an adhesive and an inclined



or straight grooving with more or less travel on the back of the piece, forming a metal hook.

In both types of systems, the profiles with support rail function that are assembled to the uprights of the substructure ensure the stability of the fixing under heavy loads.

Mechanical or hybrid (mechanical + chemical) fixation with dovetail-shaped grooves on the back of the pieces.



CASE STUDY

ToHa by Ron Arad and Avner Yashar

Tel Aviv, Israel

Materials

28,000 m² of Strato and 6 Dekton iD colours

Facade system

DEKCLIP

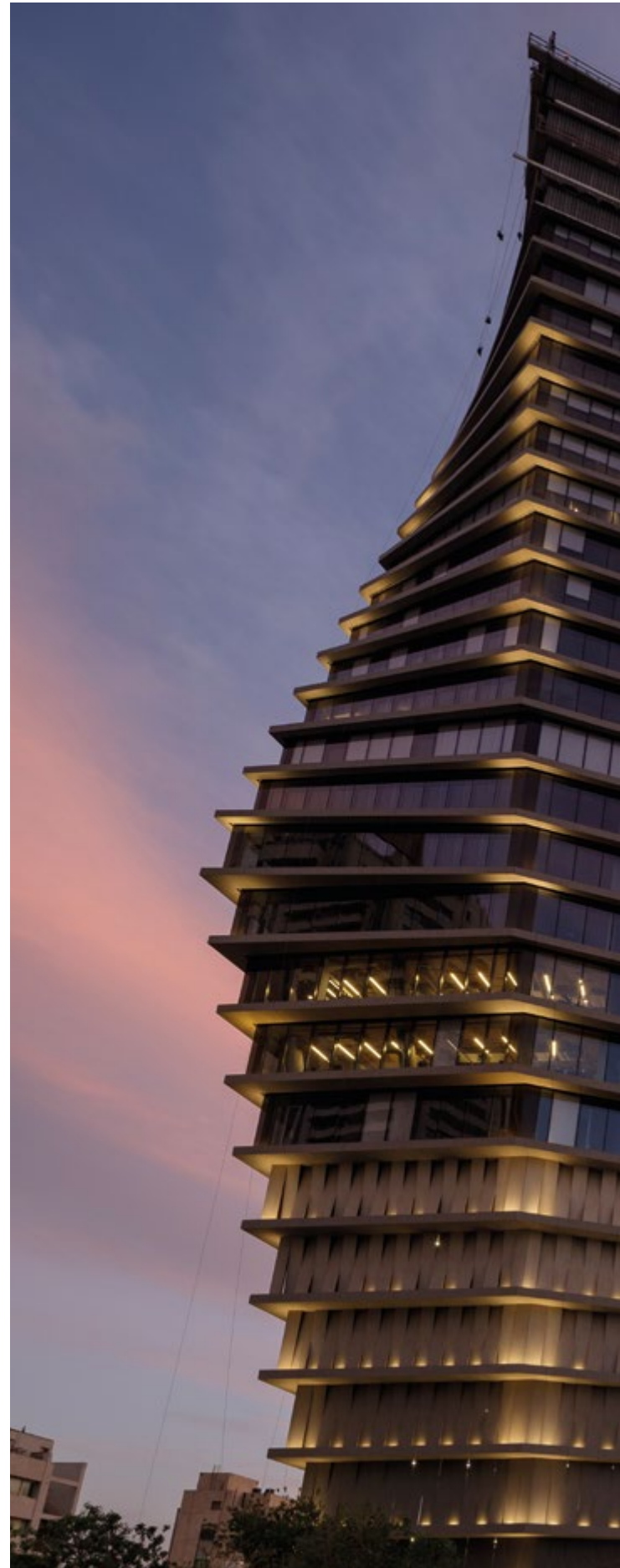
Thicknesses

12 and 20 mm

For the ToHa building project in Tel Aviv, Israel, over 28,000 m² of Dekton® by Cosentino has been used to clad the facade, flooring, lifts, ceilings and interior partitions.

Located in the centre of Tel Aviv at the junction of two shopping streets, the ToHa building reaches 29 storeys high. Its unique, faceted profile, inspired by the geometry of an iceberg, was designed by Ron Arad together with Avner Yashar's local team to house an office complex that includes a public garden, viewing point and restaurant.

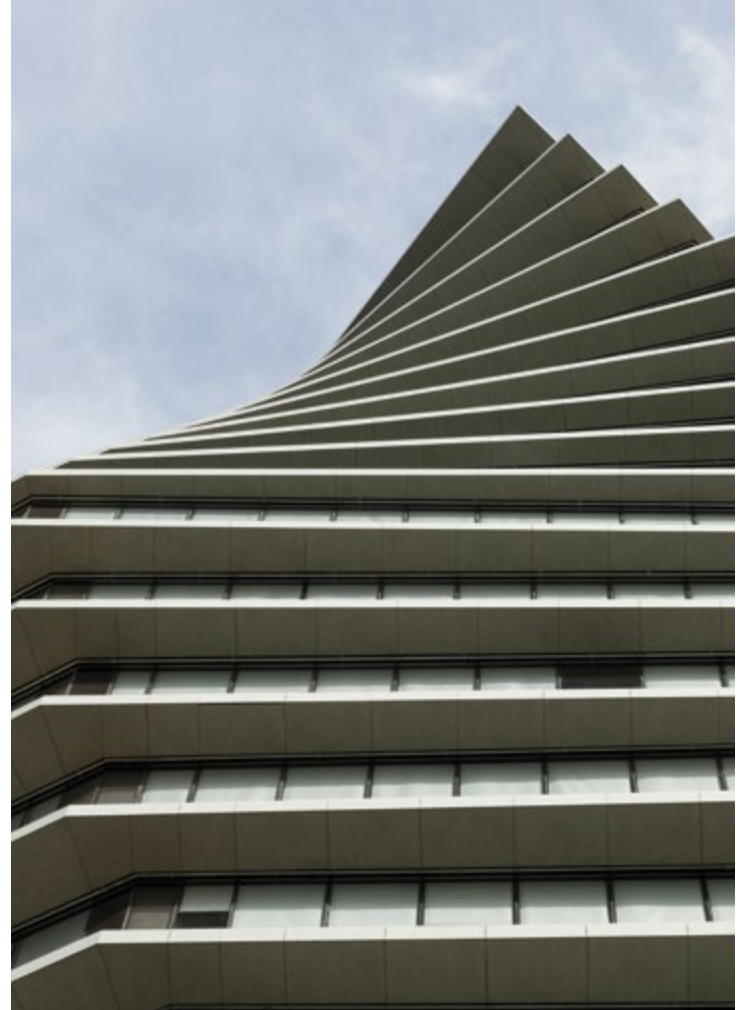
Over 28,000 m² of Dekton® by Cosentino was used to clad the building's facade, flooring, elevators, ceilings and interior partitions. The pieces, formed by more than 10,000 different types, were manufactured and cut at Cosentino's headquarters in Cantoria (Almeria, Spain) and transported by ship to Israel.



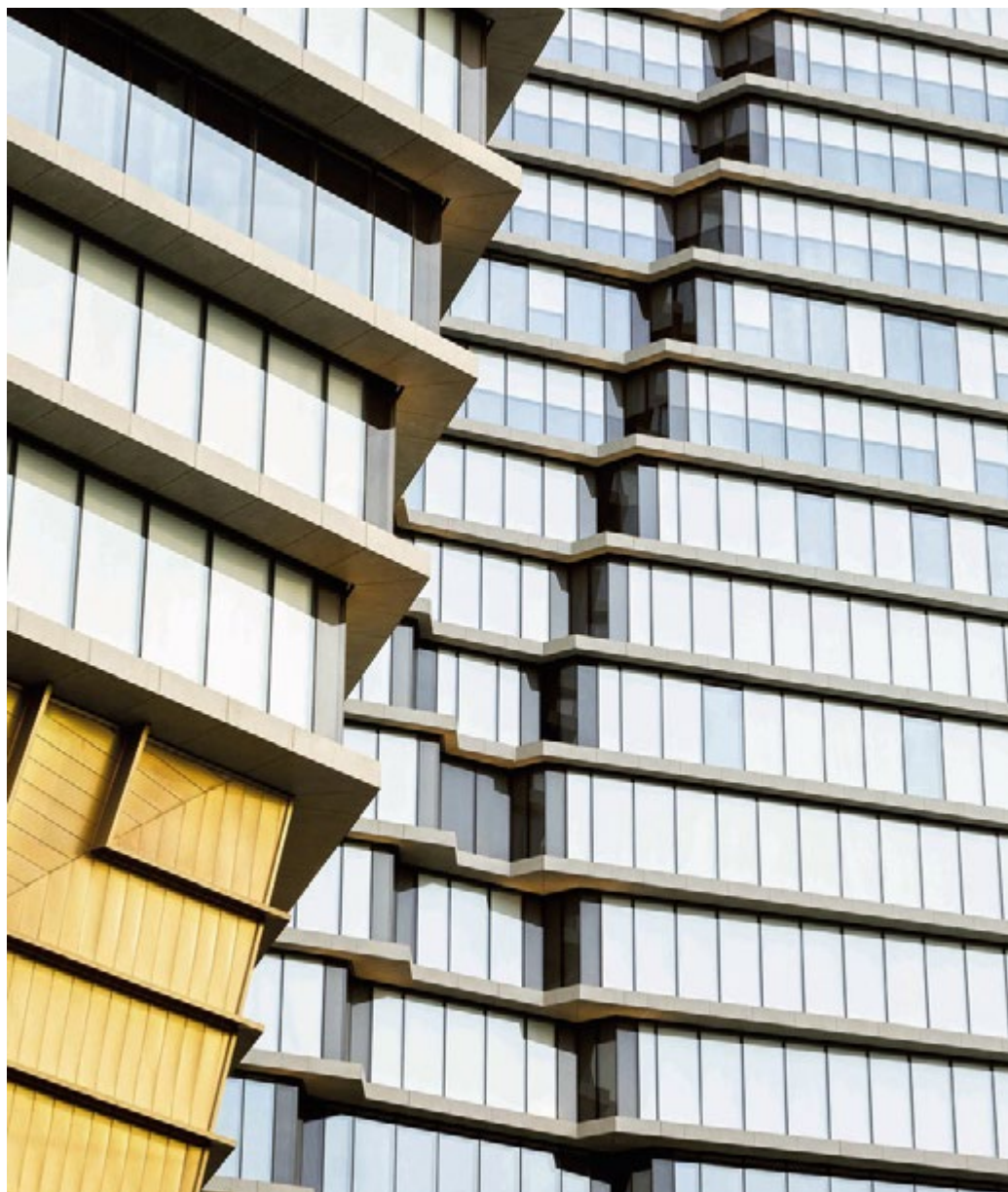


Architectural and decorative aspect of the project.

A key strategic focus of the project was to reduce the building's surface area at street level to create a large garden area, improving the quality of the surrounding area for the public. As a result, the building rises up on two huge legs that widen progressively, framing a spiralled profile. Geometrically versatile, Dekton® adapts with precision to the complexity of the building, thanks to its infinite range of formats, from minimal thickness to maximum surface areas.



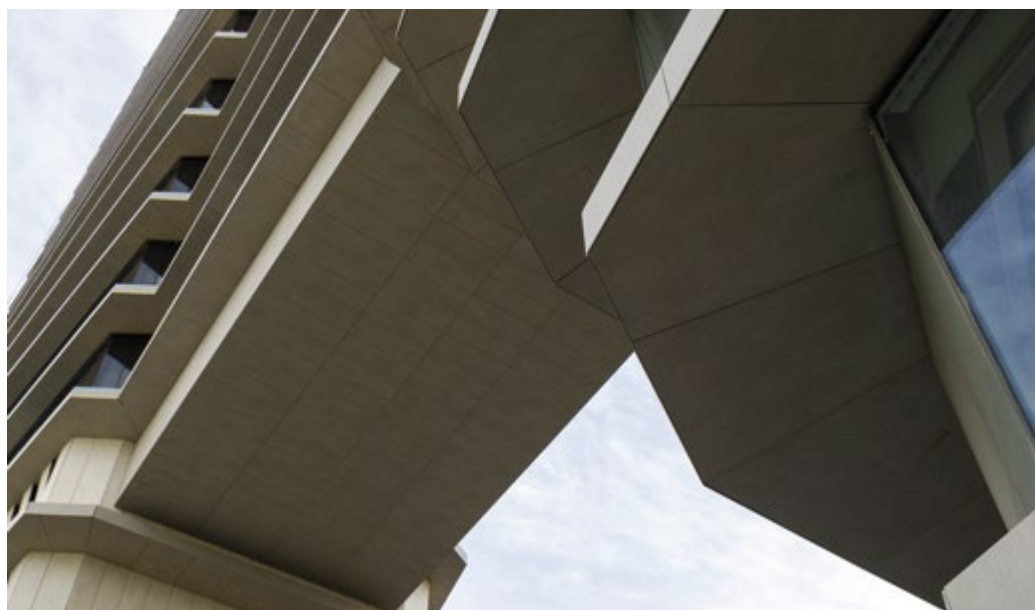
On the intermediate floors, the broken perimeter of the concrete slabs is clad with panels 12 millimetres thick and up to two metres wide which, thanks to minutely accurate cutting, define the vertexes and edges exactly to create an image of perfection.



From a functional point of view, this ambitious project turns the traditional layout of an office block on its head, locating facilities on the ground floor to free up space at the top. This way, the upper levels can be dedicated to leisure use and the offices are distributed up from the seventh floor, optimising access to natural light and views.

The technical foundations are clad using a unique ventilated facade system that alternates the orientation of intersecting Dekton® panels.

This application allows for the passage of air between the large-format (320 x 70 cm) pieces and creates a uniform frontage that gives texture and depth to the elevation. Cosentino also offers the opportunity to custom-make a personalised palette of six colours, based on the Strato model, that create a progressive colour gradation from the lower part upwards.





Inside, a huge 30-metre atrium acts as a vestibule and meeting point. The offices face outwards, through a glass facade, and inwards towards the central courtyard lit by a large light well.

Finishes have been carefully chosen to create a comfortable workplace and coherent corporate image. The possibility to produce large-format Dekton pieces for floors, walls and ceilings allows the number of joints to be reduced and the sense of continuity to be maximised.





Project details

Name: ToHa

Location: Tel Aviv, Israel

End date: 2019

Architecture: Arad Architects, Yashar Architects

Collaborators: Buro Happold Engineering, Israel David Engineering (Consultant structural engineer)

Client: Gav-Yam Amot Totseret Ha-Aretz

Cosentino materials

Application: Roof

Material: Dekton® by Cosentino

Colour: Strato

Thickness: 4 mm

Quantity: 1,800 m²

Format: 140×30 cm

Application: Flooring

Material: Dekton® by Cosentino

Colour: Soke, Sirius, Strato

Thickness: 8 and 20 mm

Quantity: 3,500 m²

Format: Various: 320×144, 140×80, 80×170 cm

Application: interior walls/facade

Material: Dekton® by Cosentino

Colour: Zenith, Sirius, Kadum, Spectra, Strato

Thickness: 8 mm

Quantity: 2,000 m²

Format: Various: 80×270, 70×300

Application: Ventilated facade

Material: Dekton® by Cosentino

Colour: Strato, Spectra

Customised colours: Totzeret1, Totzeret2, Totzeret3, Totzeret4, Totzeret5, Totzeret6

Thickness: 12 mm

Quantity: 20,000 m²

Format: various

Photography credits: Fernando Alda



CASE STUDY

Sea Towers

Barcelona, Spain

Material

17.000 m²
Dekton® Nayla

Facade system

DEKCLIP

Thickness

8 mm





CASE STUDY

Art Hotel Las Palmas

Las Palmas de Gran Canaria,
Spain

Materials

1,200 m²

Dekton[®] Aeris and Dekton[®] Eter

Facade system

DEKCLIP

Thickness

8 mm





CASE STUDY

Rafa Nadal Academy by Movistar

Manacor, Majorca, Spain

Materials

Dekton® Strato, Ventus, Zenith, Spectra, Trilium, Keon, Domoos and Customised Blue.

Facade system

DEKCLIP

Thicknesses

8, 12 and 20 mm









CASE STUDY

Armonk Professional Center

New York City, USA

Material

126 m² Dekton® Trilium

Facade system

DEKCLIP

Thickness

12 mm

CASE STUDY

Gunni & Trentino Flagship Store

Madrid, Spain

Materials

600 m² Dekton® Xgloss Halo

100 m² Dekton® Domoos

Facade system

DEKCLIP

Thickness

12 mm







CASE STUDY

Cajamar Building

Almería, Spain

Material

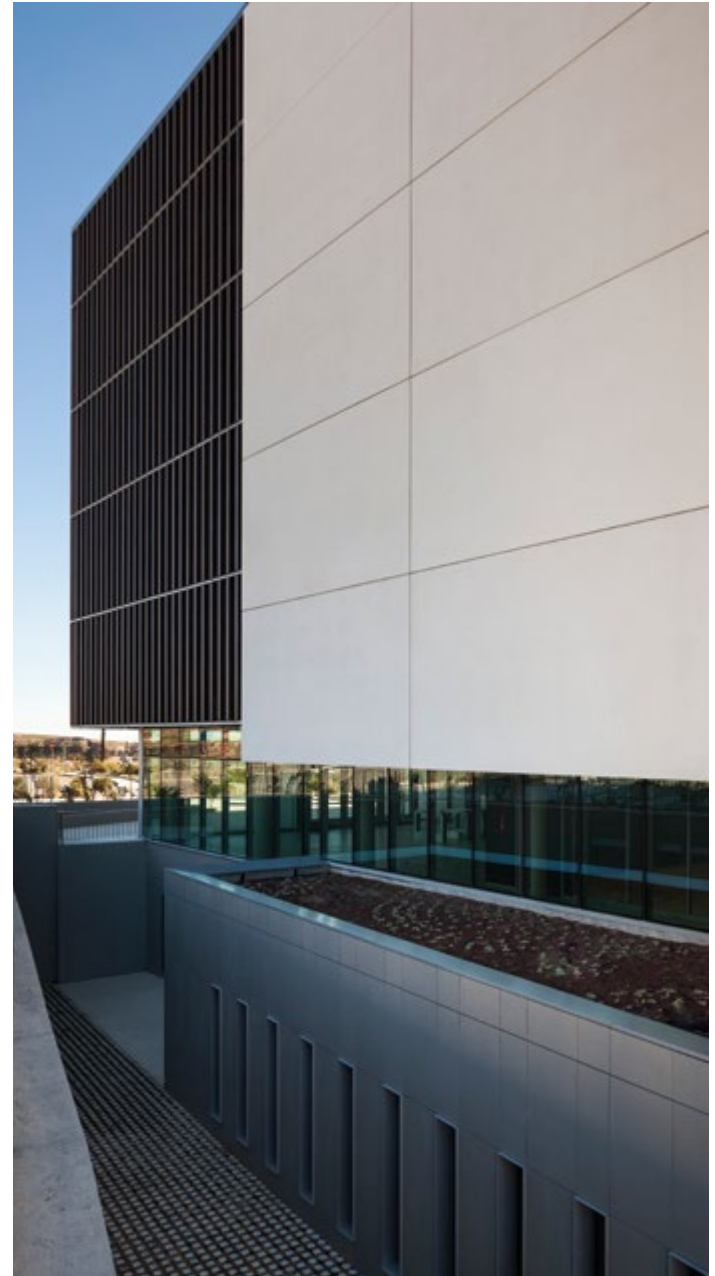
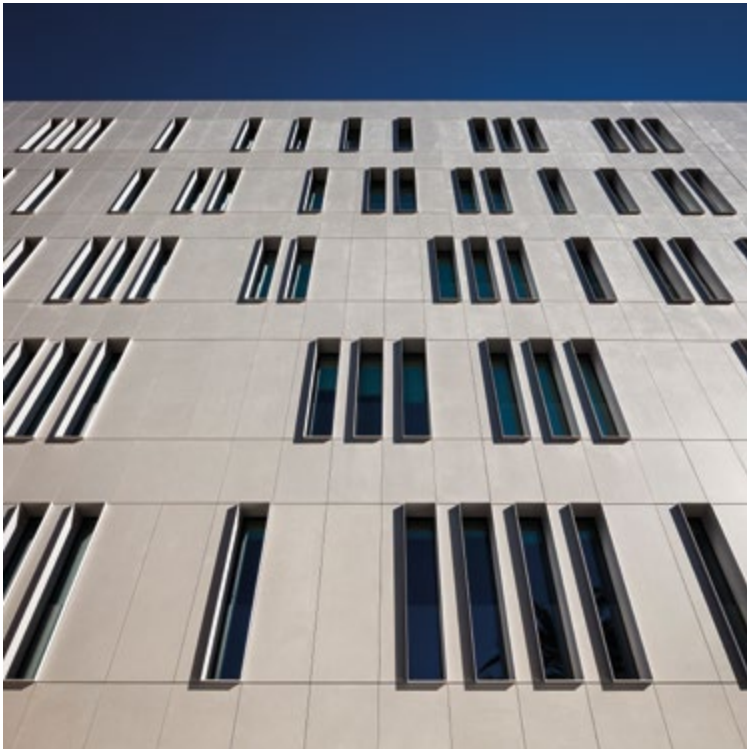
2,000 m² Dekton® Sirocco

Facade system

DEKCLIP

Thickness

12 mm



CASE STUDY

444N Orleans Building

Chicago, USA

Material

Dekton® Aura Bookmatch

Facade system

DEKCLIP

Thickness

12 mm







DK T4

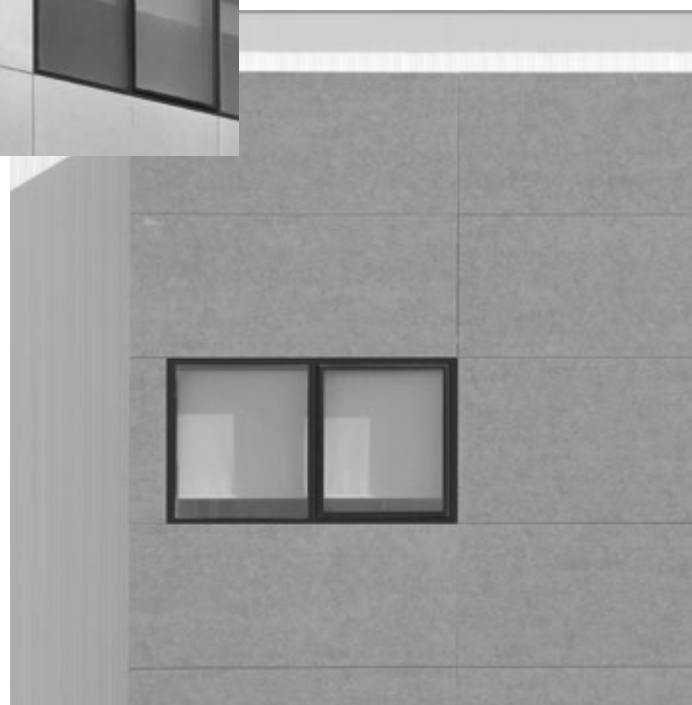
Visible Clip Fixing System

In the DKT4 system of visible fixing, the piece is shown as it is, with the fixing tabs of the upper and lower pieces visible to the eye. The clips hold both pieces and keep them in line with the plane of the facade, as well as maintaining the distances (joints) between consecutive pieces.

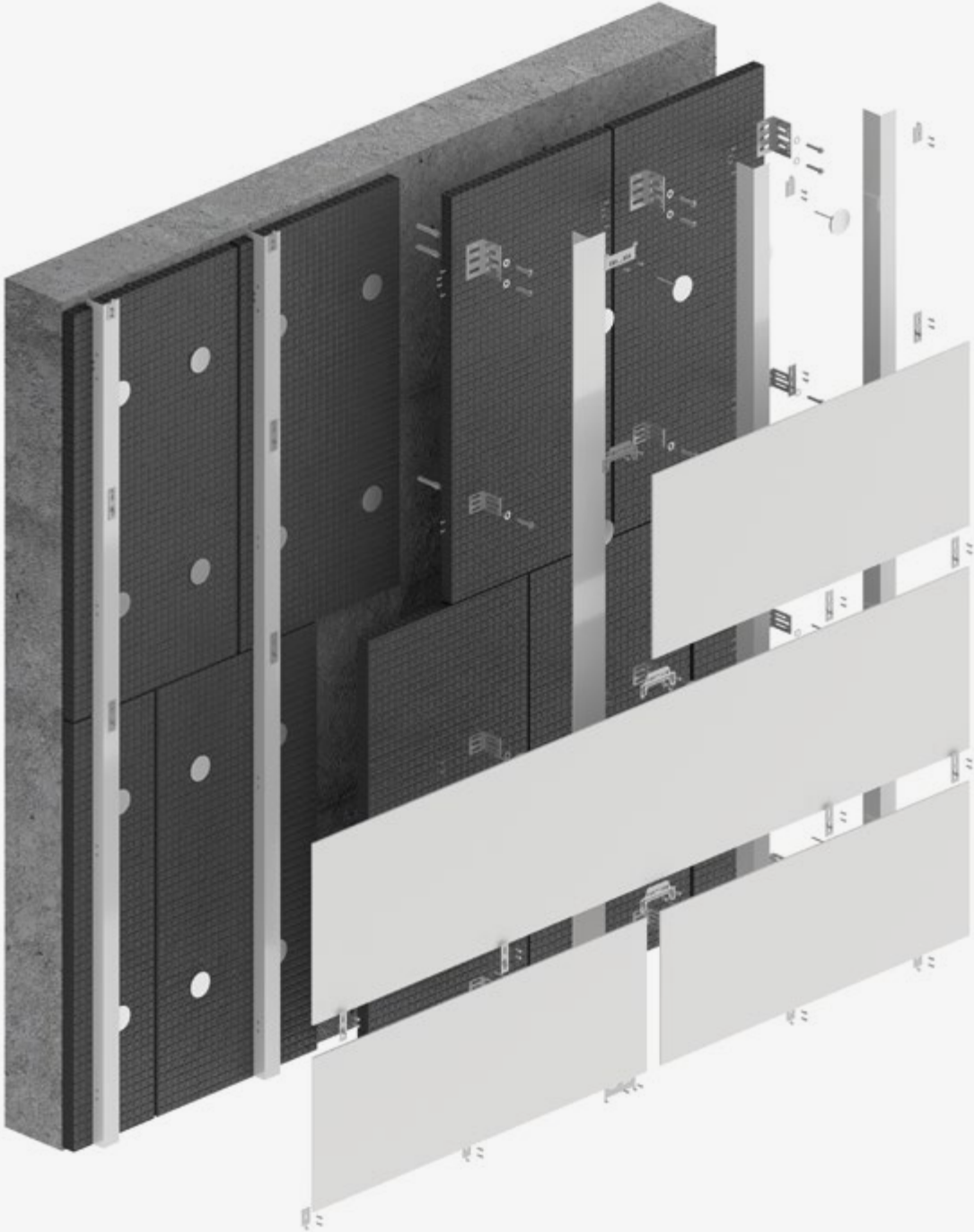
Although this type of fixing is fairly flexible in adapting to the thickness of the material, it is ideal for the smaller sizes, lighter weights and smaller thicknesses.



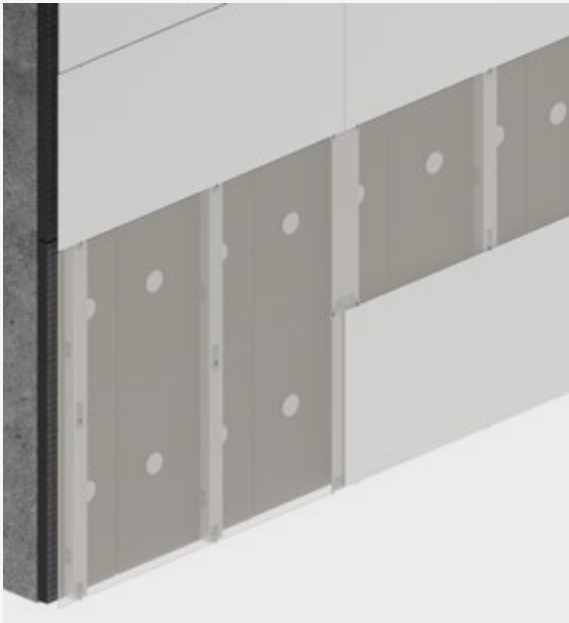
Mechanical fixing
using visible clips
that hold the pieces.



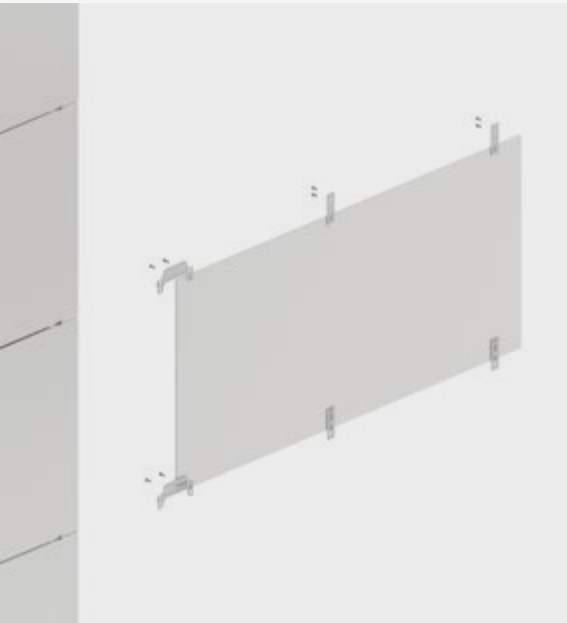
DKT4 - Diagram



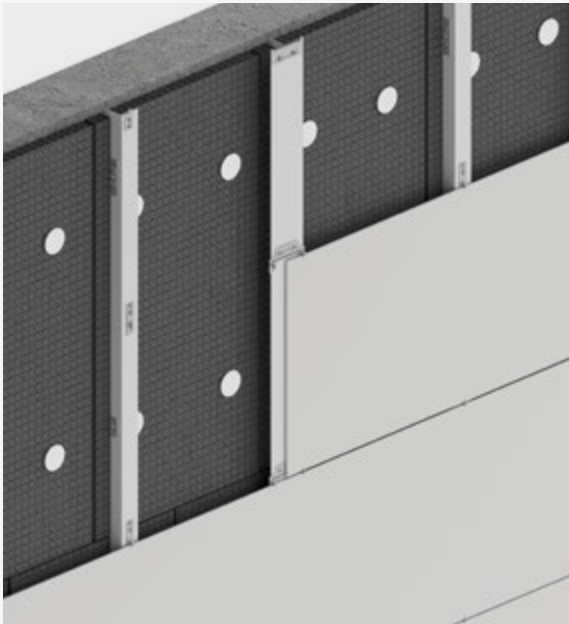
Bottom and middle clips



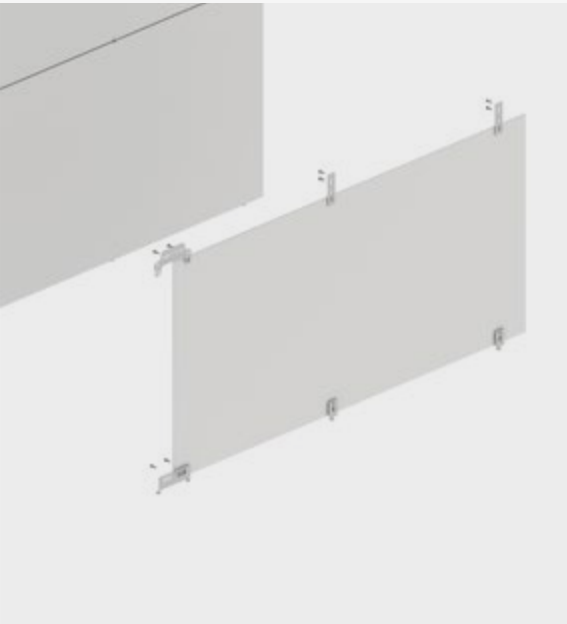
Middle clips

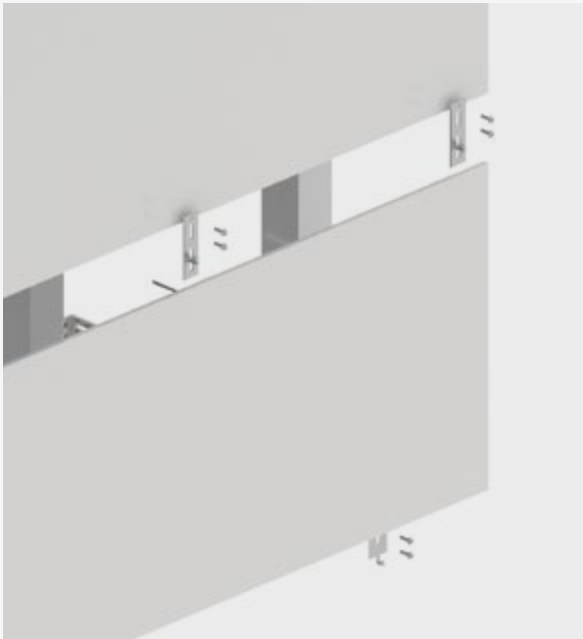
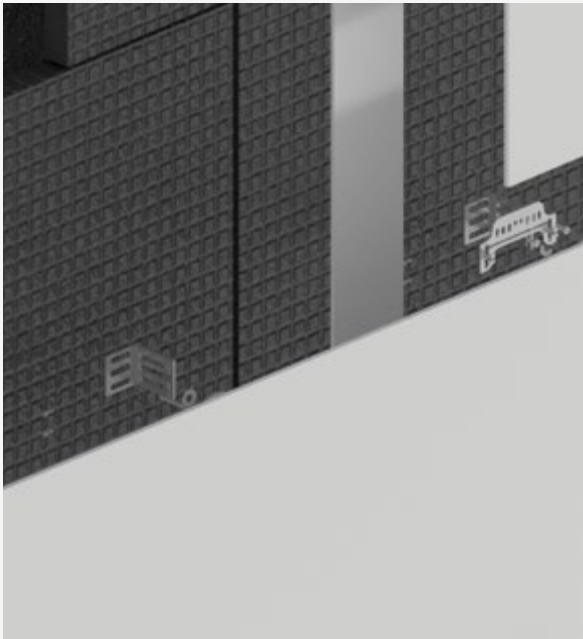
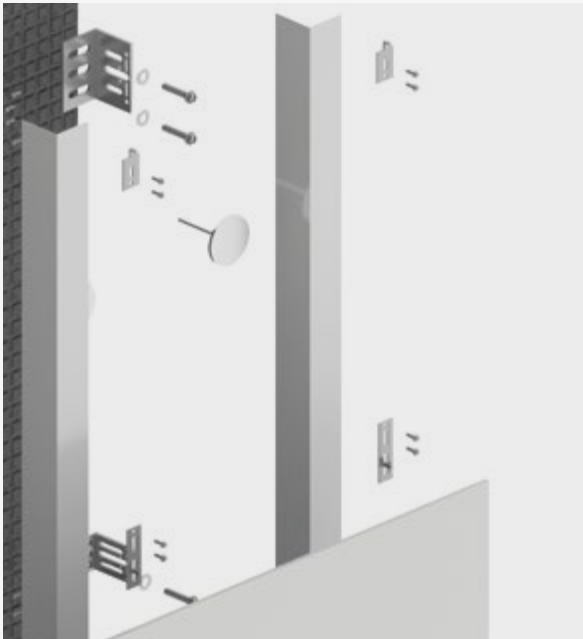
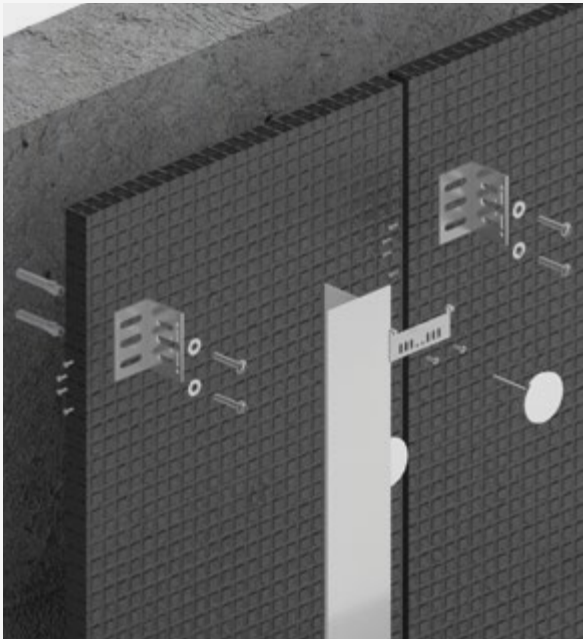


Joints



Bottom clips





DKT4 System Description

Visible system

Supporting substructure made up of; metal brackets, adjustable to correct unevenness and compatible with different types of supports, can include thermal break insulators; vertical metal profiles of different sections according to the required application; horizontal metal profiles or H-Carrier/Rail or J-Carrier/Rail type clips; visible anchoring system by means of continuous grooving in the Dekton® panel for fixing by insertion.

Installation process

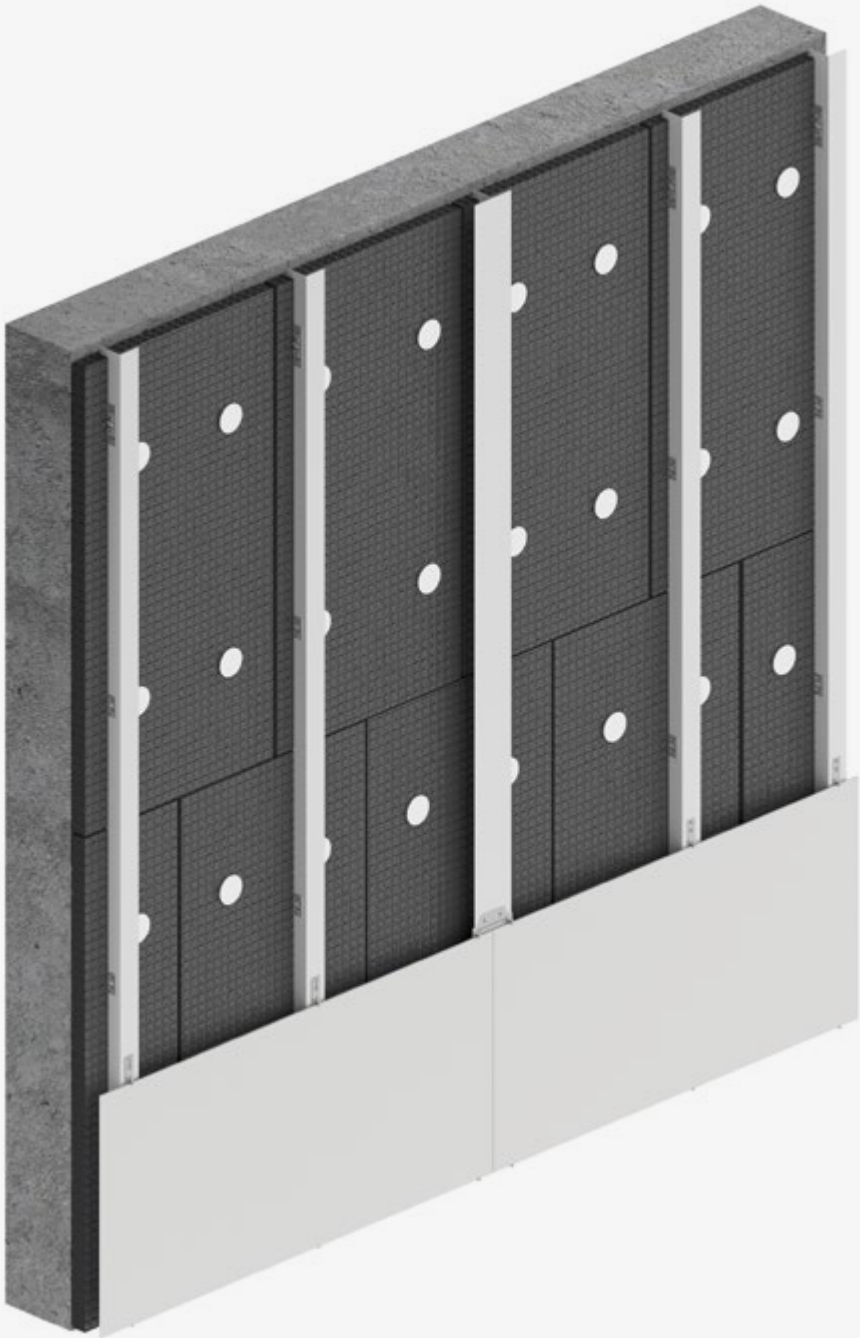
Brackets installed on the surface to be covered by means of a mechanical system or welding; vertical profiles installed on brackets with a system of regulation and fixing, by means of specific screws*; visible accessory of the H-Carrier/Rail or J-Carrier/Rail type with a system of regulation and fixing, installed by means of specific screws* on the vertical profiles; Installation of the lower edge of the Dekton® panel on a visible accessory such as the H-Carrier/Rail or J-Carrier/Rail clip; installation of the lock on the upper part, visible accessory such as the H-Carrier/Rail or J-Carrier/Rail clip.

*Specific screws according to the structural calculation of each project or indicated by the supplier of the substructure.



DKT4 Structure

DKT4 - Structure



General fixing instruction

1. Define the layout and position of the clips over the vertical substructure.
2. In some clip systems, a spring is installed into the vertical profiles before fixing the clips, in order to avoid looseness between the Dekton® piece and vertical profiles.
3. Screw the bottom clips to the vertical profiles.
4. Place the Dekton® piece with grooved edges laying on the clips, that will support the piece weight.
5. Place the intermediate clips, inserting the Dekton® pieces into the clip tabs and screw the clips to the vertical profiles.
6. Repeat the process by placing another piece over the installed clips and fixing with upper clips.
7. Finish with the top pieces by installing a top-end clip with a slotted hole, by screwing them to the vertical profile, and fixing the piece into the clip tab by adjusting its position vertically.
8. Maximum cantilever distance of horizontal rails must be defined by system supplier.

Installation sequence from one side to another and from bottom to top

Fig. 1

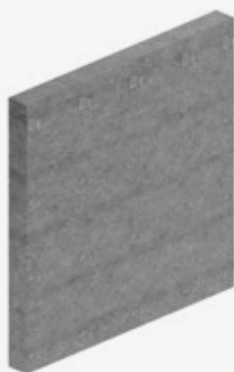


Fig. 2

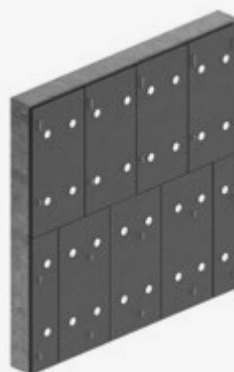


Fig. 3

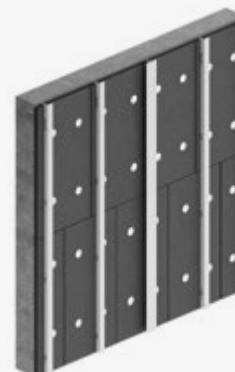


Fig. 4



Fig. 5

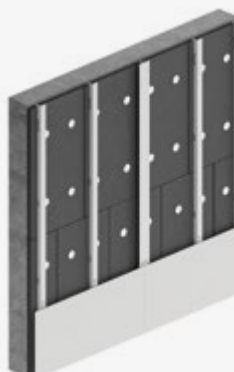
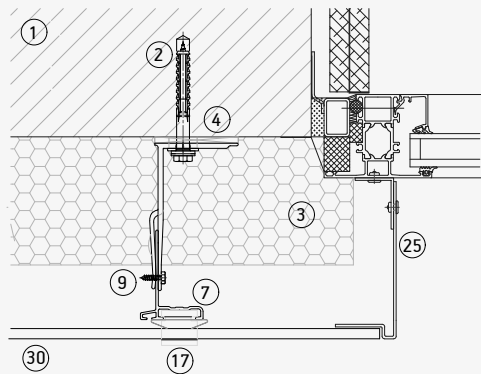


Fig. 6

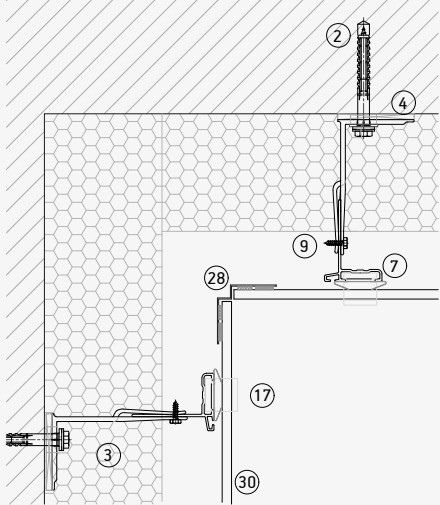


DKT4 Horizontal section

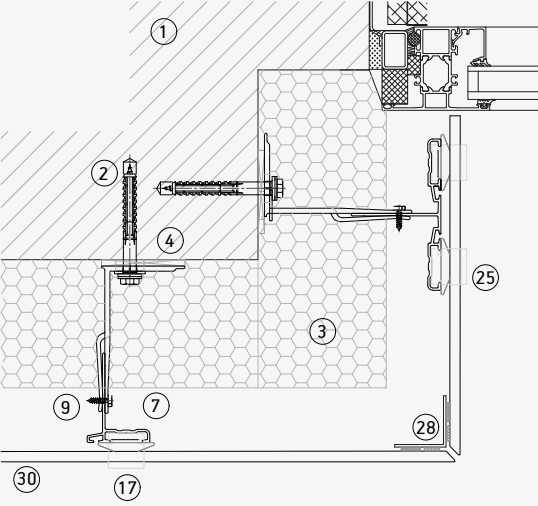
Metallic jamb



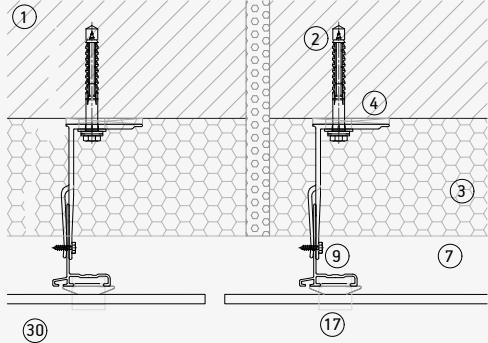
Internal Corner



Dekton jamb



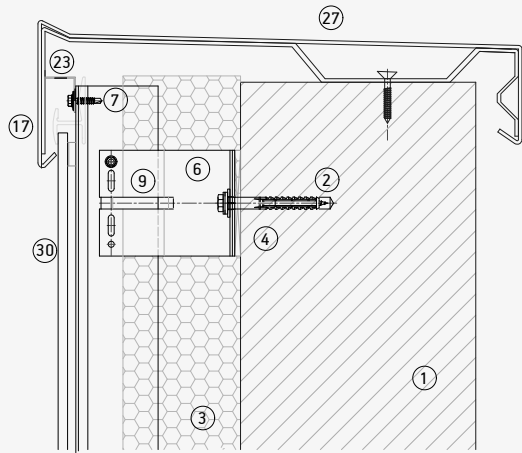
Vertical expansion joint



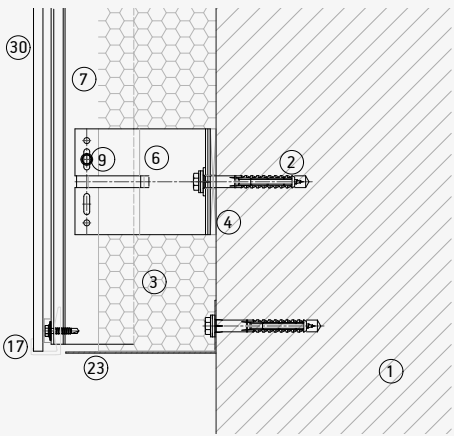
- 1. Supporting wall.
- 2. Anchor bracket.
- 3. Insulation.
- 4. Insulating layer.
- 5. Fixed bracket.
- 6. Adjustable bracket.
- 7. L profile.
- 8. T profile.
- 9. Self tapping screw.
- 10. Rivet.
- 11. Undercut anchor.
- 12. Horizontal rail.
- 13. C hanger.
- 14. Adjustable C hanger.
- 15. Bottom/top edge profile/clip.
- 16. Intermediate edge profile/clip.
- 17. Bottom/top visible clip.
- 18. Intermediate visible clip.
- 19. Interior back clip
- 20. Exterior back profile
- 21. Chemical fixing system
- 22. Security fixing
- 23. Ventilation profile
- 24. Lintel
- 25. Jamb
- 26. Window sill
- 27. Top coping
- 28. Corner profile
- 29. Bonding adhesive
- 30. Dekton

DKT4 Vertical section

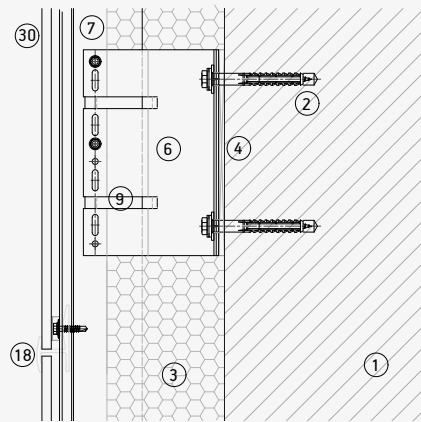
Upper detail



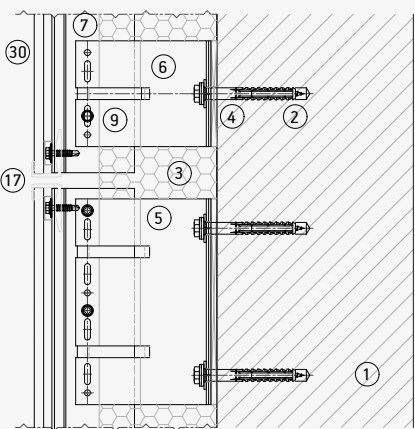
Bottom detail



Horizontal joint



Joint between profiles



- | | | | |
|------------------------|-------------------------------------|--------------------------------|----------------------|
| 1. Supporting wall. | 10. Rivet. | 17. Bottom/top visible clip. | 26. Window sill |
| 2. Anchor bracket. | 11. Undercut anchor. | 18. Intermediate visible clip. | 27. Top coping |
| 3. Insulation. | 12. Horizontal rail. | 19. Interior back clip | 28. Corner profile |
| 4. Insulating layer. | 13. C hanger. | 20. Exterior back profile | 29. Bonding adhesive |
| 5. Fixed bracket. | 14. Adjustable C hanger. | 21. Chemical fixing system | 30. Dekton |
| 6. Adjustable bracket. | 15. Bottom/top edge profile/clip. | 22. Security fixing | |
| 7. L profile. | 16. Intermediate edge profile/clip. | 23. Ventilation profile | |
| 8. T profile. | | 24. Lintel | |
| 9. Self tapping screw. | | 25. Jamb | |

DKT4 Static Calculations

Schemes and data to be defined with SDP software

Panels in horizontal or vertical layout. Maximum wind loads shown in the following configurations depend on the grid spacing and distance from drill holes to the edges.

These configurations have been calculated considering a distance of fixing to edges of 200mm. For further distances and configurations please consult with our Technical Department.

The tables and diagrams presented are based on Dekton calculation software and refer only to Dekton. They cannot be considered as definitive data for on-site installation and it is necessary for a qualified technician

to make a specific project calculation for the entire facade system including support anchors, brackets, profiles, screws and Dekton® fixing elements to the facade

How to use the reference configurations:

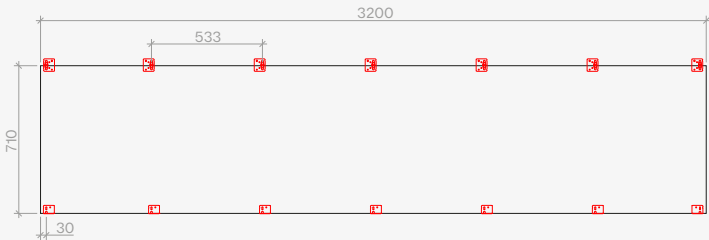
- Determine the design wind load kN/m².
- Choose the table according to the fixing system and Dekton® thickness.
- Select the closest design wind load. The wind load chosen should not be less than actual requirements.
- Select a reference configuration showing maximum spacing between fixings.

DKT4

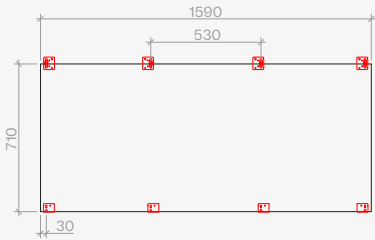
Wind load table

Configuration	Horizontal (mm)	Vertical (mm)	Anchors	Result (Pa)
C1	3.200	710	14	3.500
C2	1.590	710	8	4.000
C3	600	710	4	5.400
C4	3.200	470	14	5.300
C5	1.590	470	8	6.100
C6	600	470	4	6.157
C7	3.200	355	14	7.000
C8	1.590	355	8	8.100
C8	600	355	4	10.000

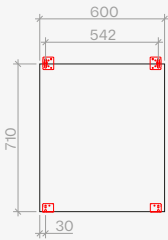
Configuration C1



Configuration C2



Configuration C3



DKT4 Layout

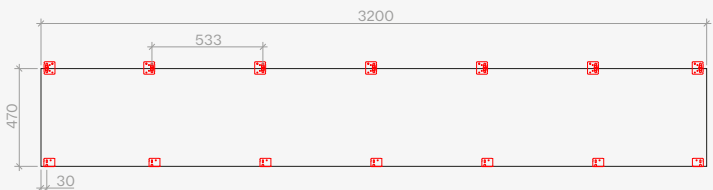
Design wind loads to be compared with reference design wind loads provided in this document should have applied wind load factors on characteristic values per applicable standards and regulations.

Design wind loads and fixing distances should be calculated per local standards, regulations and certificates applicable, with further testing if required.

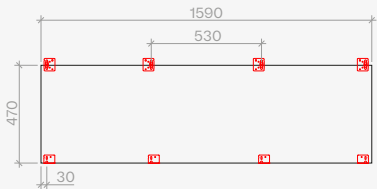
Cosentino does not provide static calculations for projects.

Cosentino will not accept any liability whatsoever for any direct or indirect damage resulting from any errors, omissions or miscalculations of the static calculations for the project.

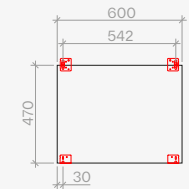
Configuration C4



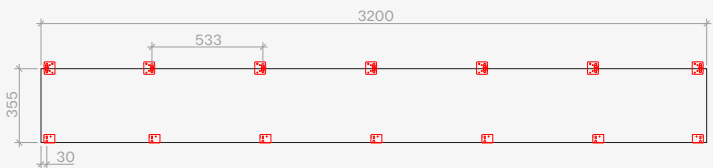
Configuration C5



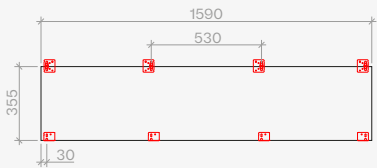
Configuration C6



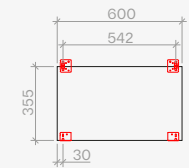
Configuration C7



Configuration C8



Configuration C9

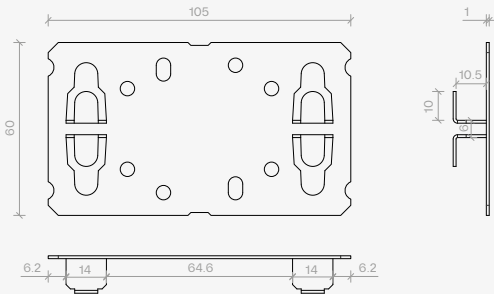


The configurations shown are valid when using the profiles and grooves indicated below.

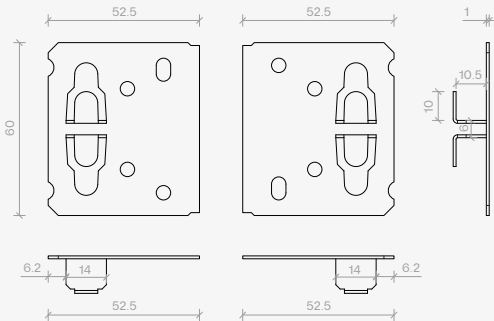
Any other groove or profile shall be validated by a project-specific test to be carried out by the Technical Management (pages 15 and 18 of the ETA).

DKT4 Visible clips

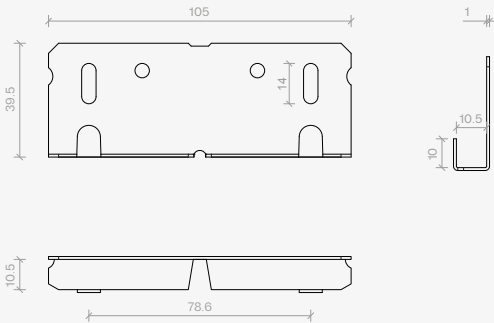
Double middle clip



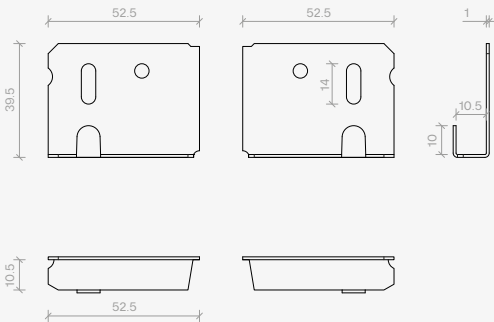
Single middle clip



Double starter/end clip



Single starter/end clip





CASE STUDY

Schaffhauserstrasse

Zurich, Switzerland

Material

550 m² Dekton® Sirius

Installation system

DKT4

Thickness

20 mm





Elan Centre, Netanya, Israel



DK R

Rivet fixing system

It is a visible mechanical fixing system using Dekton® coloured rivets. Possibility of cutting large slab formats up to full slab formats, both vertically and horizontally, mainly in thicknesses of 4 and 8 mm. To do this, the pieces must be pre-drilled in the workshop or on site with a water supply.

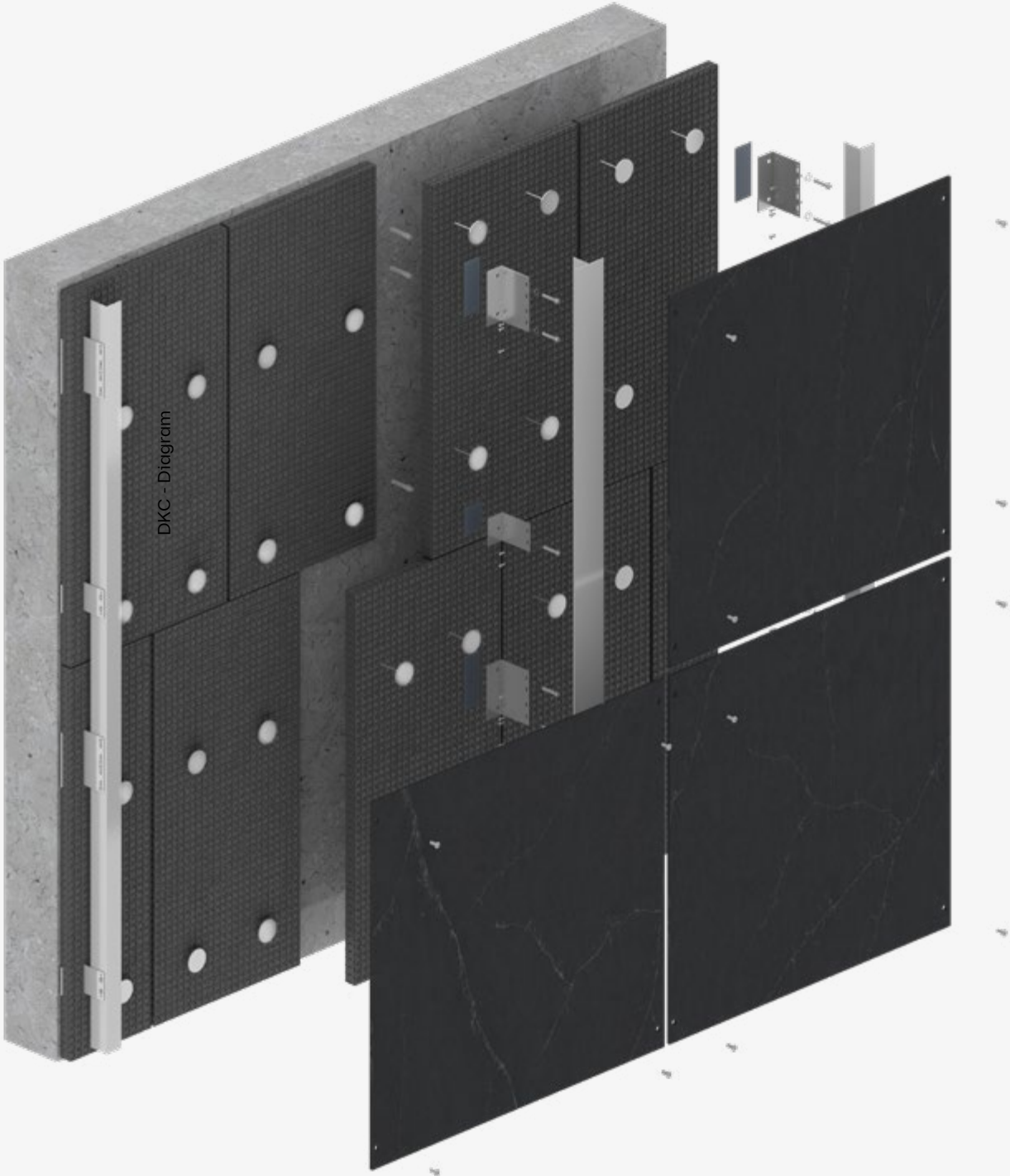
Dry drilling of 4 mm Dekton® panels is possible with the right drill bit. Dekton® coloured rivets can be supplied by Cosentino so that they blend in better with the overall appearance of the facade and are less noticeable from a distance.



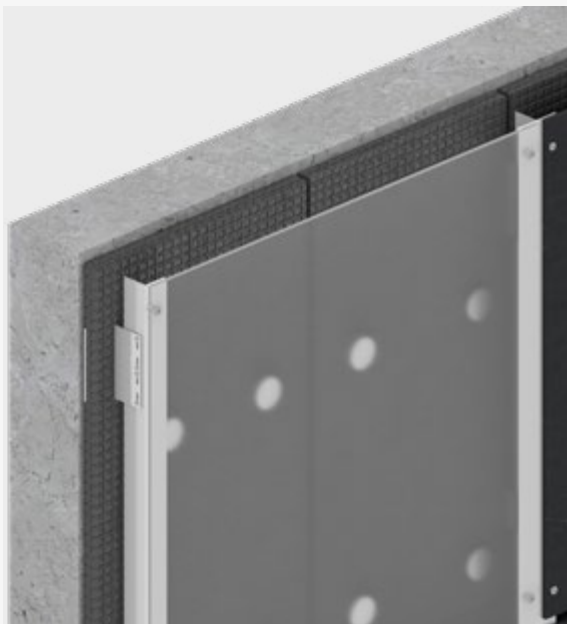
A range of accessories such as fixed point spacers, a self-centering drill bit and a rivet nose piece are required for the correct installation of the panels. All of these can be supplied by Cosentino. The idea of this system is that the rivets do not exert pressure on the piece, but that the piece hangs on the profiles and is always free to move in a way that is compatible with the expansion of the profiles.

Visible mechanical fixing with rivets

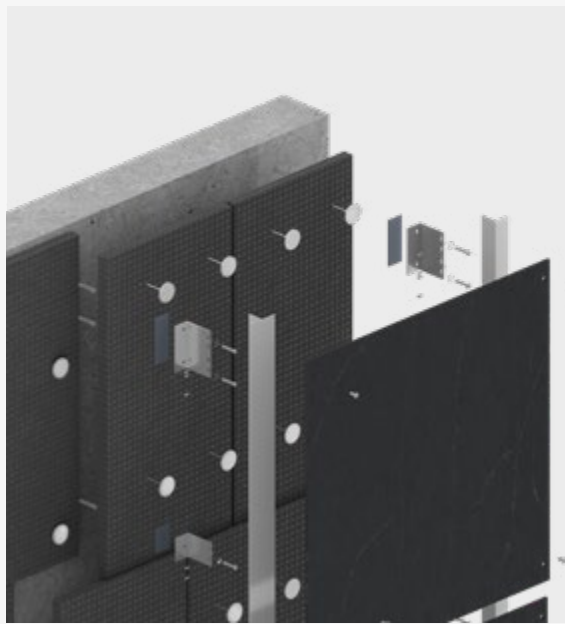




Joint



System details



Start detail



System details



DKR Structure



General fixing instruction

1. The vertical profiles are fitted after the general wall brackets have been installed. They must be perfectly level, plumb and free of tension, including the necessary joints between the profiles and the fixed and free fixing points of the brackets indicated in the installation drawings.
2. The Dekton® panels are pre-drilled with a 10 mm diameter drill bit in the directions shown in the drawings. The panels must be installed from top to bottom, using temporary horizontal support profiles for correct levelling, following the marked layout lines.
3. **Panel installation:** Once the panel is in place, the hole is drilled in the profile using the self-centering drill bit so that they are concentric. Two fixed points per piece are then placed with a rivet plus cylinder and the remaining ones without cylinder as movable points. This is achieved by using the rivet nose piece, which prevents the rivet head from exerting excessive pressure on Dekton®. The use of a pneumatic or cordless riveter is recommended for faster and more efficient rivet installation.
4. It is important to follow all the instructions in the application guide for this system to ensure proper installation of the panel and to maintain warranty coverage.

Fig. 1

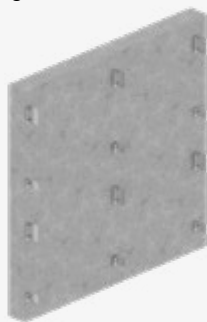


Fig. 2

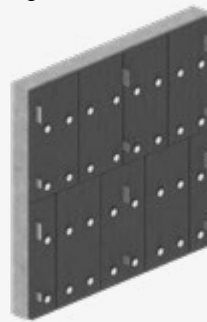


Fig. 3

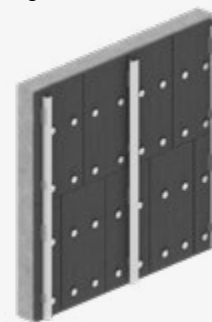


Fig. 4



Fig. 5



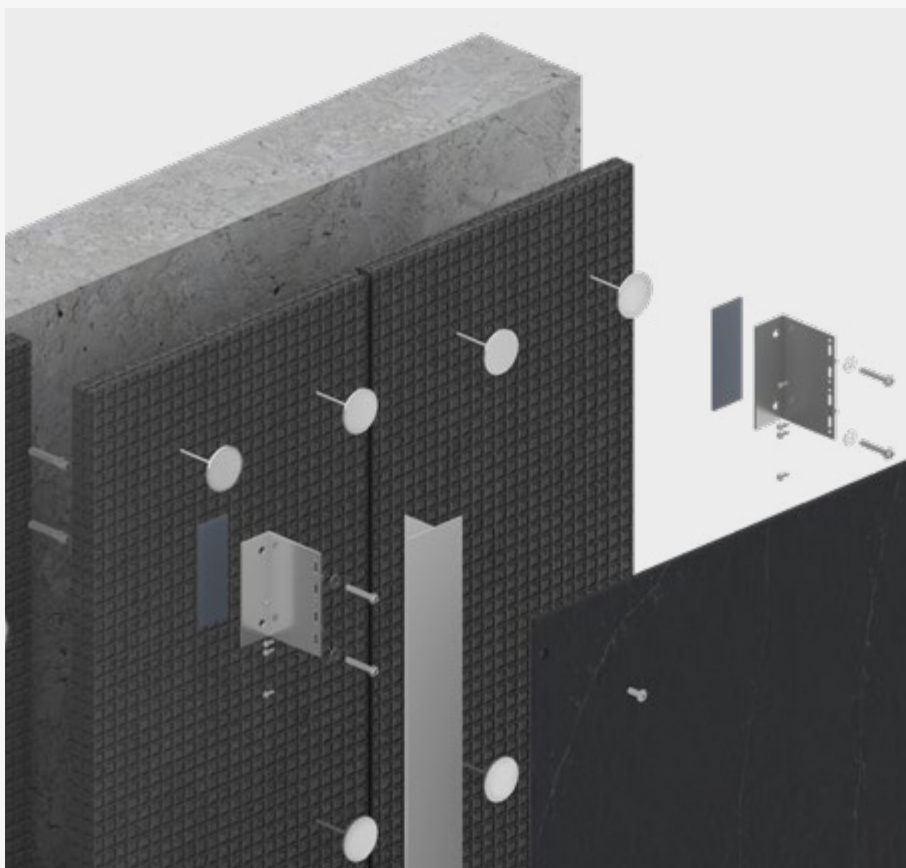
DKR System description

Hidden system

Load-bearing substructure composed of adjustable metal brackets to compensate for unevenness, compatible with different types of support and can include thermal break; vertical metal profiles of different sections. Visible spot mechanical fixing system with aluminium/stainless steel or stainless steel/stainless steel rivets painted in the same colour as the Dekton® panel, to be installed with the necessary accessories supplied by Cosentino.

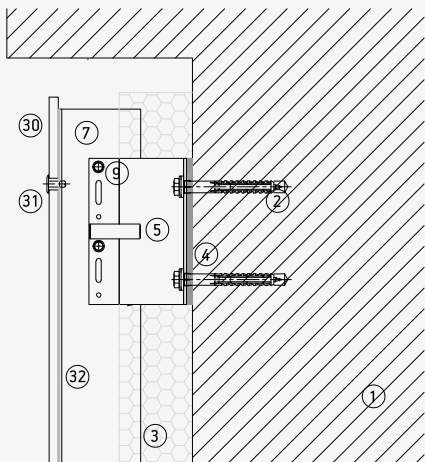
Installation process

Brackets installed on the surface to be covered by means of a mechanical system or welding; vertical profiles installed on brackets with a regulation and fixing system, by means of specific screws; riveting on pre-drilled pieces with Cosentino accessories according to the system application guide.

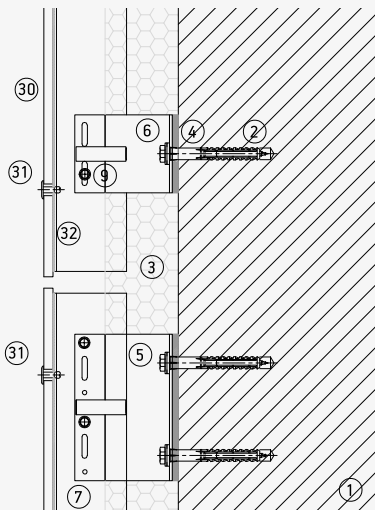


DKR vertical section

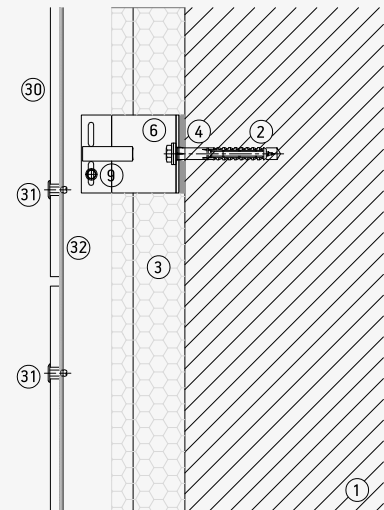
Top edge



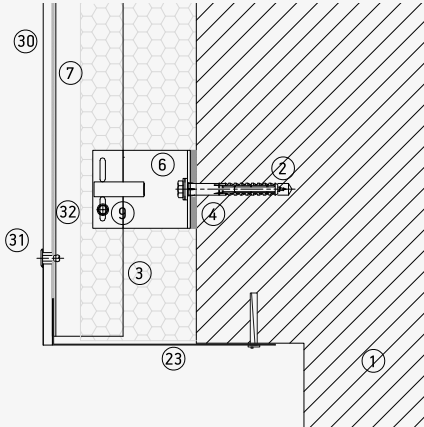
Horizontal expansion joint



Horizontal joint

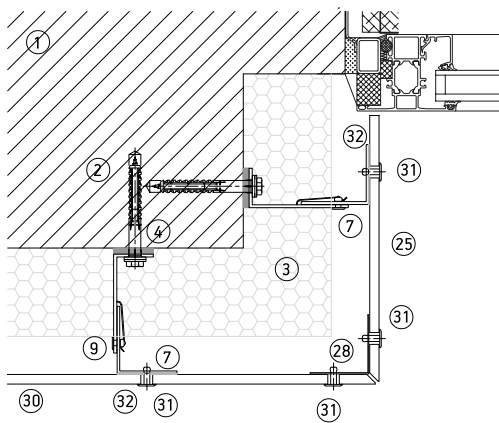


Start

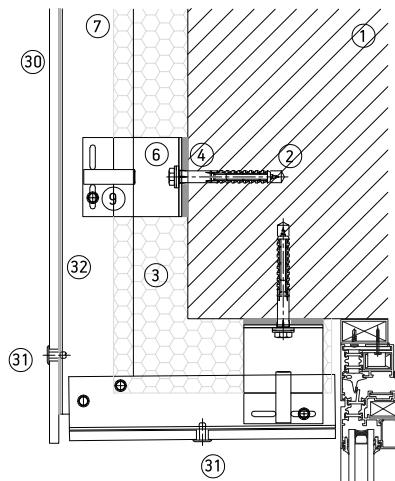


- | | | | |
|----------------------------|--|-----------------------------------|---------------------------|
| 1. Muro soporte | 10. Remache | 17. Grapa vista inferior/superior | 26. Vierteaguas |
| 2. Anclaje ménsula | 11. Anclaje oculto destalonado | 18. Grapa vista media | 27. Remate superior |
| 3. Aislamiento | 12. Perfil horizontal | 19. Grapa interior trasera | 28. Perfil de esquina |
| 4. Base aislante | 13. Gancho C | 20. Perfil exterior trasero | 29. Sistema adhesivo |
| 5. Escuadra punto fijo | 14. Gancho C regulable | 21. Sistema anclaje químico | 30. Dekton |
| 6. Escuadra punto móvil | 15. Perfil/Grapa borde inferior/superior | 22. Fijación de seguridad | 31. Dekton® rivet. |
| 7. Perfil L | 16. Perfil/Grapa borde medio | 23. Perfil de ventilación | 32. FOAM strip (optional) |
| 8. Perfil T | | 24. Dintel | |
| 9. Tornillo autotaladrante | | 25. Jamba | |

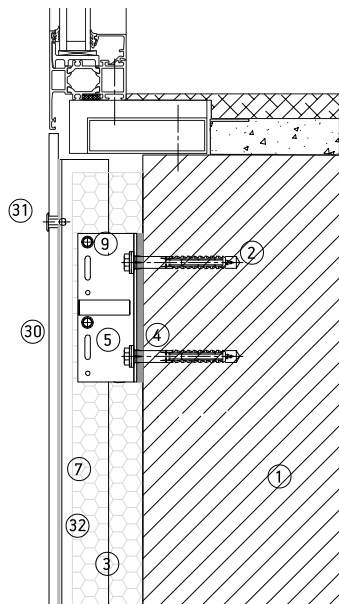
Dekton® jamb



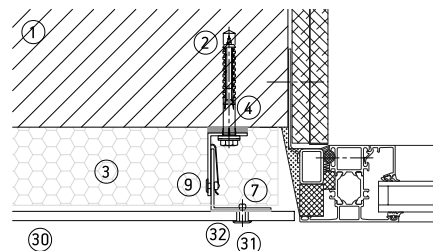
Dekton® lintel



Window start



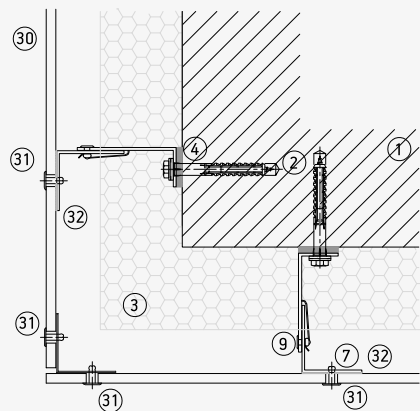
Window side



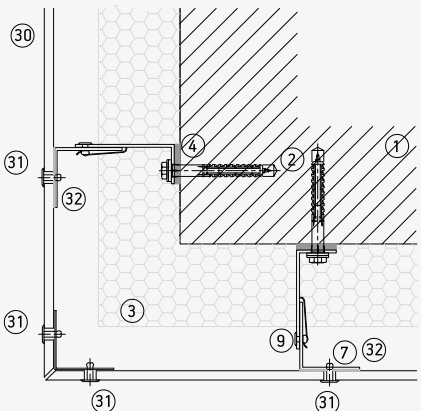
- | | | | |
|----------------------------|--|-----------------------------------|---------------------------|
| 1. Muro soporte | 10. Remache | 17. Grapa vista inferior/superior | 26. Vierteaguas |
| 2. Anclaje ménsula | 11. Anclaje oculto destalonado | 18. Grapa vista media | 27. Remate superior |
| 3. Aislamiento | 12. Perfil horizontal | 19. Grapa interior trasera | 28. Perfil de esquina |
| 4. Base aislante | 13. Gancho C | 20. Perfil exterior trasero | 29. Sistema adhesivo |
| 5. Escuadra punto fijo | 14. Gancho C regulable | 21. Sistema anclaje químico | 30. Dekton |
| 6. Escuadra punto móvil | 15. Perfil/Grapa borde inferior/superior | 22. Fijación de seguridad | 31. Dekton® rivet. |
| 7. Perfil L | 16. Perfil/Grapa borde medio | 23. Perfil de ventilación | 32. FOAM strip (optional) |
| 8. Perfil T | | 24. Dintel | |
| 9. Tornillo autotaladrante | | 25. Jamba | |

DKR horizontal section

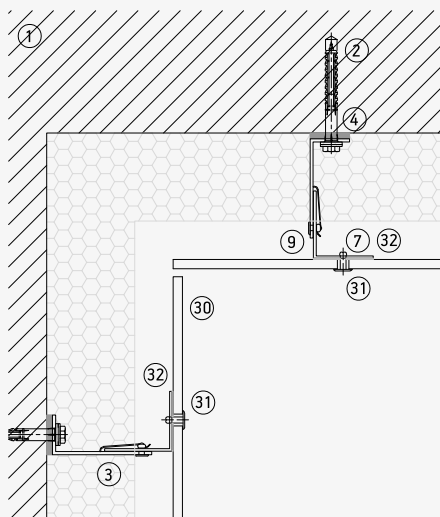
Exterior corner



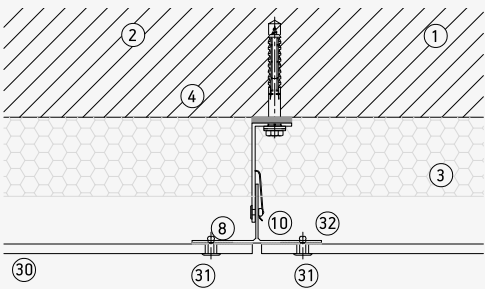
Mitred exterior corner



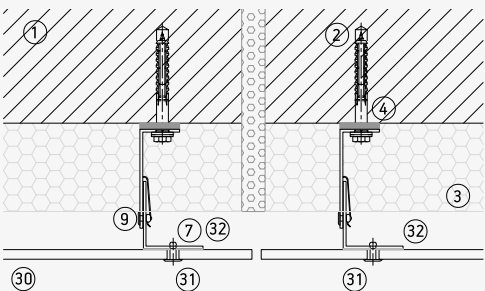
Interior corner



Vertical joint



Vertical expansion joint



- 1. Muro soporte
- 2. Anclaje ménsula
- 3. Aislamiento
- 4. Base aislante
- 5. Escuadra punto fijo
- 6. Escuadra punto móvil
- 7. Perfil L
- 8. Perfil T
- 9. Tornillo autotaladrante

- 10. Remache
- 11. Anclaje oculto destalonado
- 12. Perfil horizontal
- 13. Gancho C
- 14. Gancho C regulable
- 15. Perfil/Grapa borde inferior/superior
- 16. Perfil/Grapa borde medio

- 17. Grapa vista inferior/superior
- 18. Grapa vista media
- 19. Grapa interior trasera
- 20. Perfil exterior trasero
- 21. Sistema anclaje químico
- 22. Fijación de seguridad
- 23. Perfil de ventilación
- 24. Dintel
- 25. Jamba

- 26. Vierteaguas
- 27. Remate superior
- 28. Perfil de esquina
- 29. Sistema adhesivo
- 30. Dekton
- 31. Dekton® rivet.
- 32. FOAM strip (optional)

CASE STUDY

Elan Centre

Netanya, Israel

Materials

2,200 m²

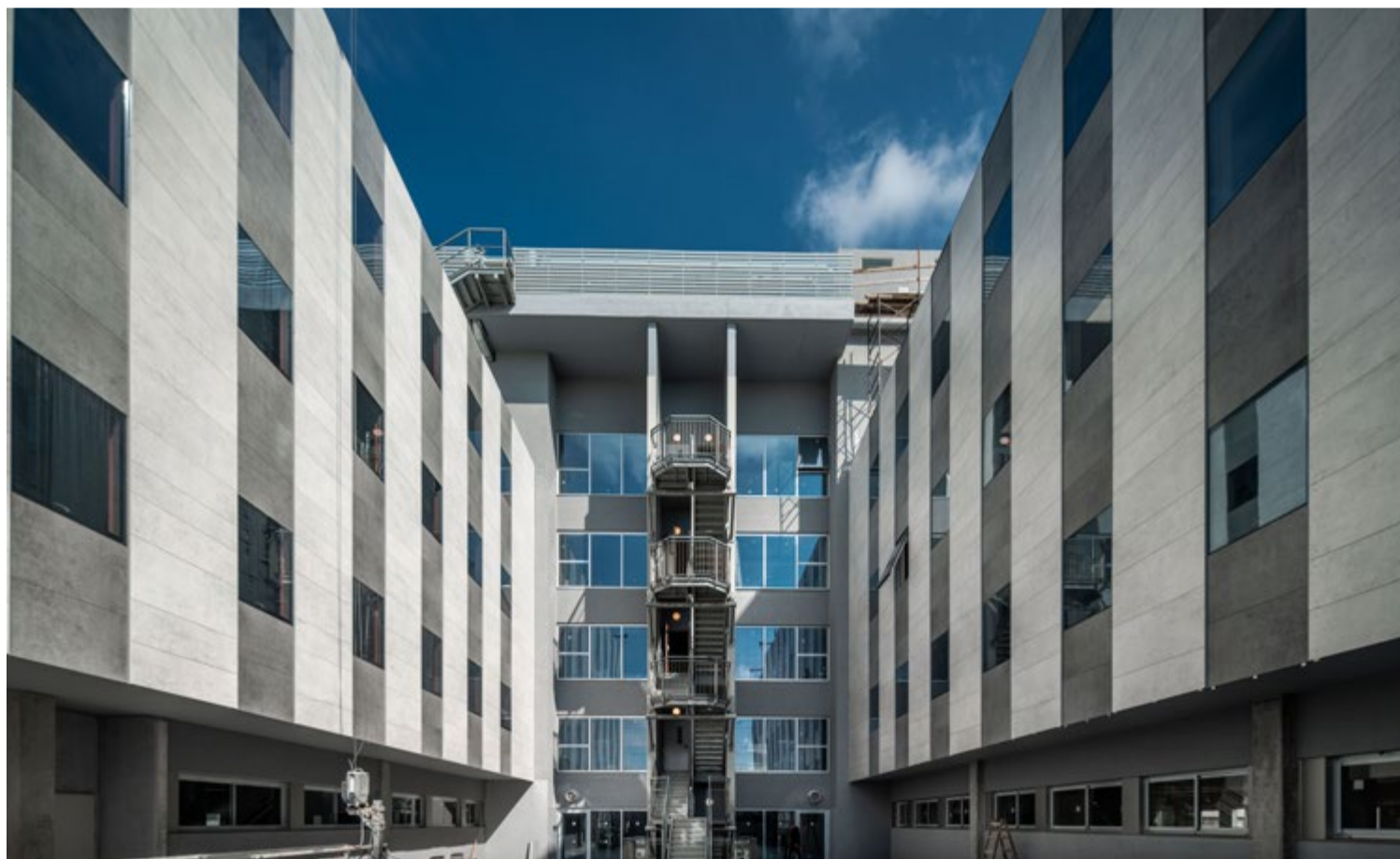
Dekton® Kreta / Dekton® Lunar

Facade system

DKCW and DKR

Thickness

8 mm





TYPES OF FIXING



DKR - Case study



CASE STUDY

Hadar Project

Tel Aviv, Israel

Materials

Dekton® Moone 4,500 m²

Dekton® Strato 1,500 m²

Facade system

DKR

Thickness

8 mm



Leonardo Building, Johannesburg, South Africa





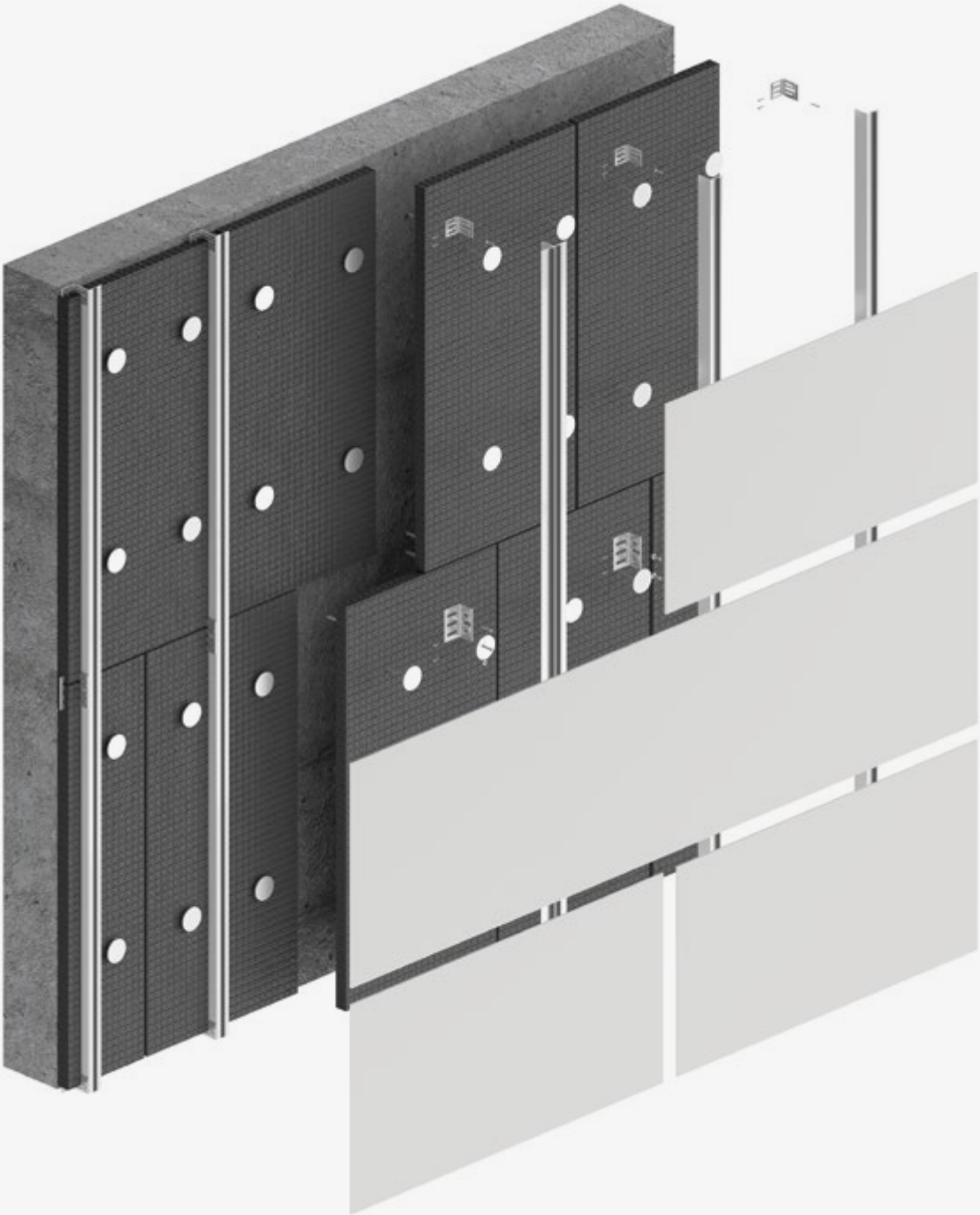
Chemical Anchor System

DKC is a totally chemical fixing system, which allows parts to be glued directly to the supporting substructure with structural adhesives, avoiding any machining of the part. Starting from a profile, two strips of double-sided tape are placed in the center while they are added to the perimeter of said profile.

During fixing, the double-sided tape secures the piece while the adhesive is curing. You can work with a wide range of formats and even design pre-assembled elements in the factory. This system allows a wide range of thicknesses, with 8mm pieces being the most demanded in renovation works and for changes of image.



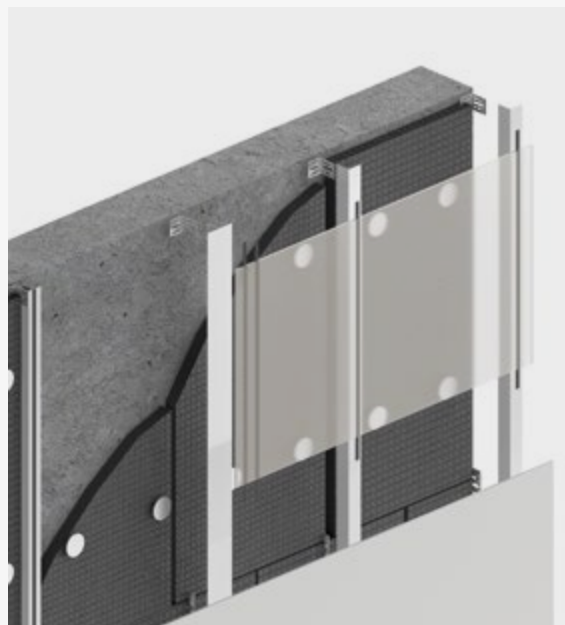
Fixing with
chemical
anchoring
on profiles.



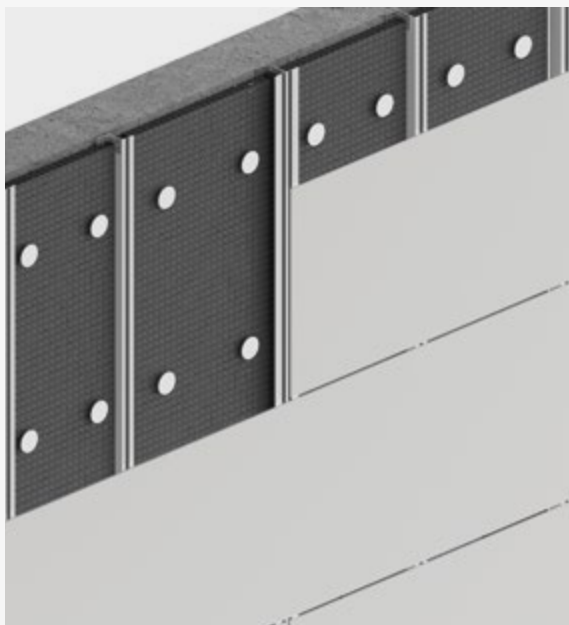
Substructure



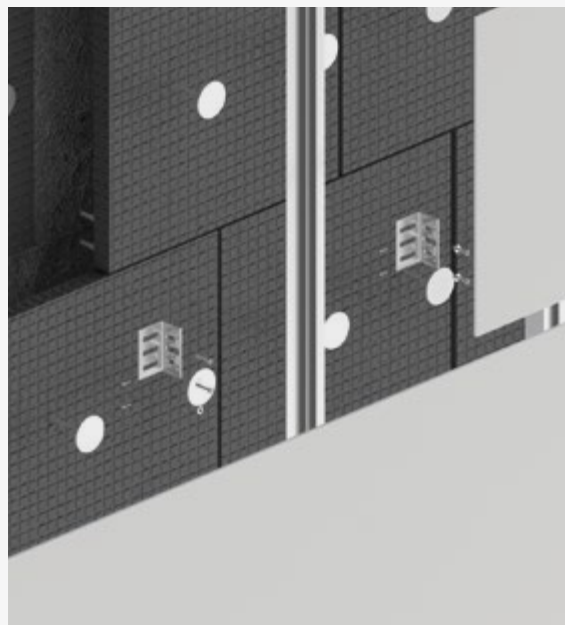
Chemcial anchor system



Joint

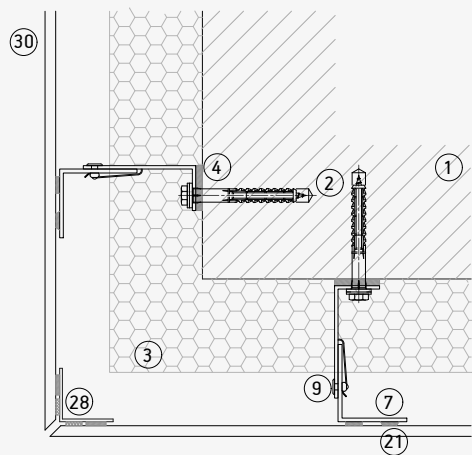


System detail

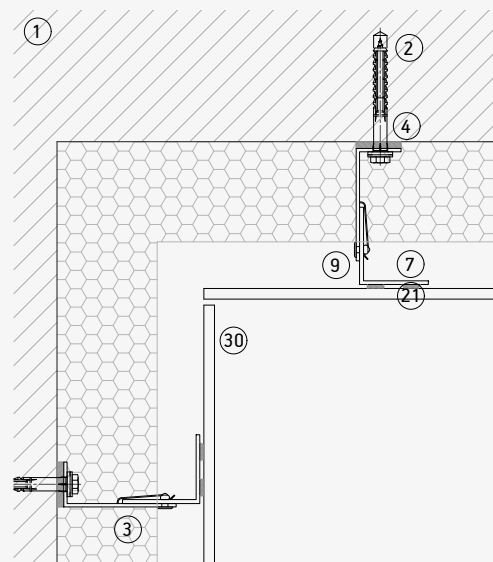


DKC Horizontal section

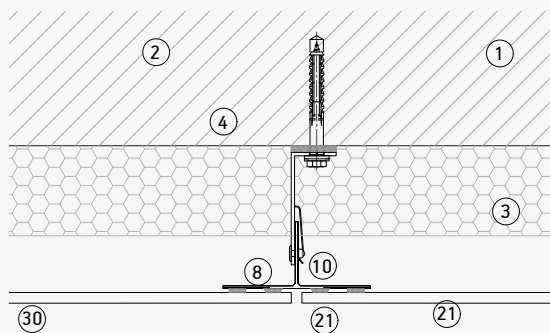
Mitered external corner



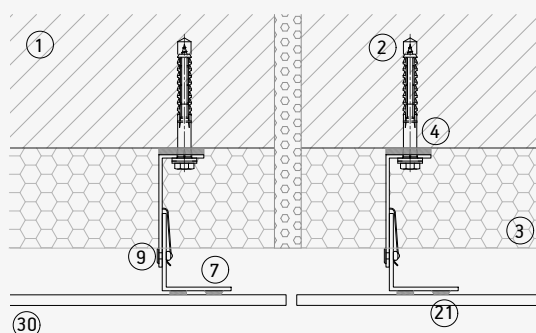
Internal Corner



Vertical joint



Vertical expansion joint



1. Supporting wall.
2. Anchor bracket.
3. Insulation.
4. Insulating layer.
5. Fixed bracket.
6. Adjustable bracket.
7. L profile.
8. T profile.
9. Self tapping screw.

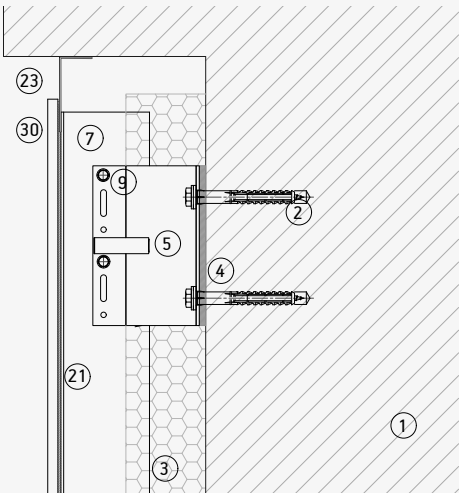
10. Rivet.
11. Undercut anchor.
12. Horizontal rail.
13. C hanger.
14. Adjustable C hanger.
15. Bottom/top edge profile/clip.
16. Intermediate edge profile/clip.

17. Bottom/top visible clip.
18. Intermediate visible clip.
19. Interior back clip
20. Exterior back profile
21. Chemical fixing system
22. Security fixing
23. Ventilation profile
24. Lintel
25. Jamb

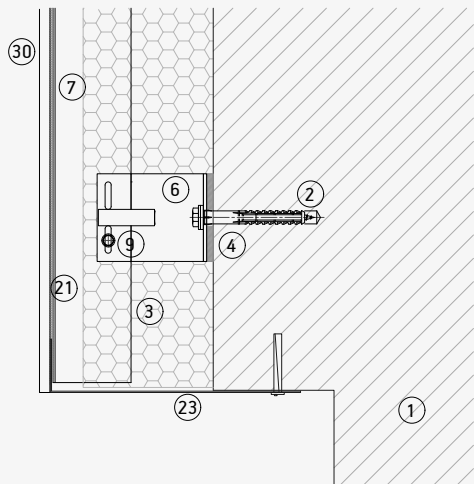
26. Window sill
27. Top coping
28. Corner profile
29. Bonding adhesive
30. Dekton

DKC Vertical section

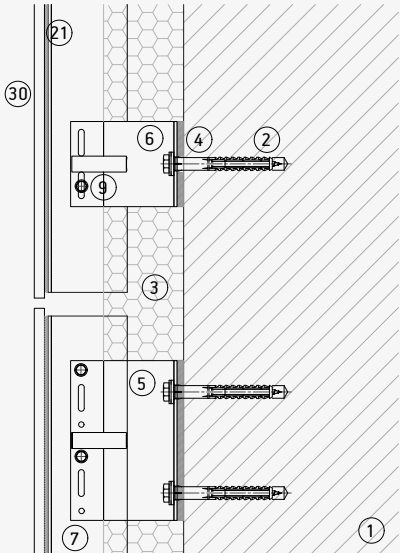
Upper detail



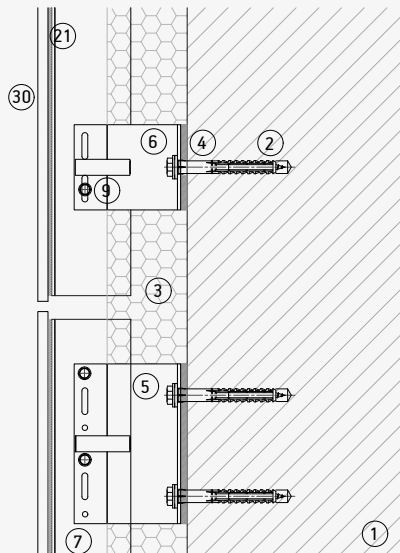
Bottom detail



Horizontal joint



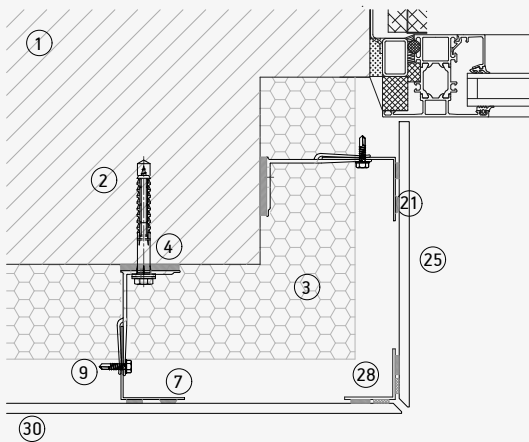
Joint between profiles



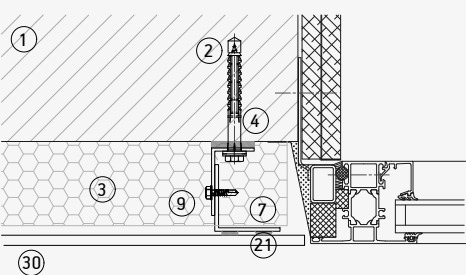
- | | | | |
|------------------------|-------------------------------------|--------------------------------|----------------------|
| 1. Supporting wall. | 10. Rivet. | 17. Bottom/top visible clip. | 26. Window sill |
| 2. Anchor bracket. | 11. Undercut anchor. | 18. Intermediate visible clip. | 27. Top coping |
| 3. Insulation. | 12. Horizontal rail. | 19. Interior back clip | 28. Corner profile |
| 4. Insulating layer. | 13. C hanger. | 20. Exterior back profile | 29. Bonding adhesive |
| 5. Fixed bracket. | 14. Adjustable C hanger. | 21. Chemical fixing system | 30. Dekton |
| 6. Adjustable bracket. | 15. Bottom/top edge profile/clip. | 22. Security fixing | |
| 7. L profile. | 16. Intermediate edge profile/clip. | 23. Ventilation profile | |
| 8. T profile. | | 24. Lintel | |
| 9. Self tapping screw. | | 25. Jamb | |

DKC Sections

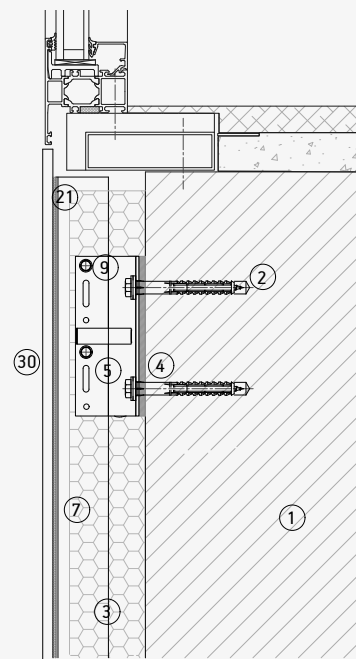
Dekton jamb



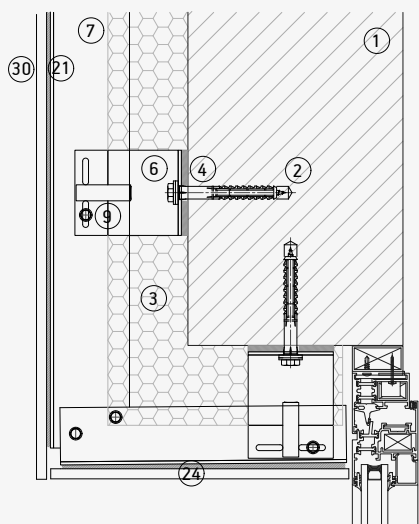
Window section without jambs



Window without sill



Dekton lintel



1. Supporting wall.
2. Anchor bracket.
3. Insulation.
4. Insulating layer.
5. Fixed bracket.
6. Adjustable bracket.
7. L profile.
8. T profile.
9. Self tapping screw.
10. Rivet.
11. Undercut anchor.
12. Horizontal rail.
13. C hanger.
14. Adjustable C hanger.
15. Bottom/top edge profile/clip.
16. Intermediate edge profile/clip.
17. Bottom/top visible clip.
18. Intermediate visible clip.
19. Interior back clip
20. Exterior back profile
21. Chemical fixing system
22. Security fixing
23. Ventilation profile
24. Lintel
25. Jamb
26. Window sill
27. Top coping
28. Corner profile
29. Bonding adhesive
30. Dekton

DKC System Description

Hidden system

Supporting substructure made up of; metal brackets, adjustable for the correction of unevenness compatible with different types of supports, can include thermal break insulator; vertical metal profiles of different sections; hidden system of chemical fixing by means of adhesive to the back of the Dekton Panel, according to the manufacturer's recommendations for its application.

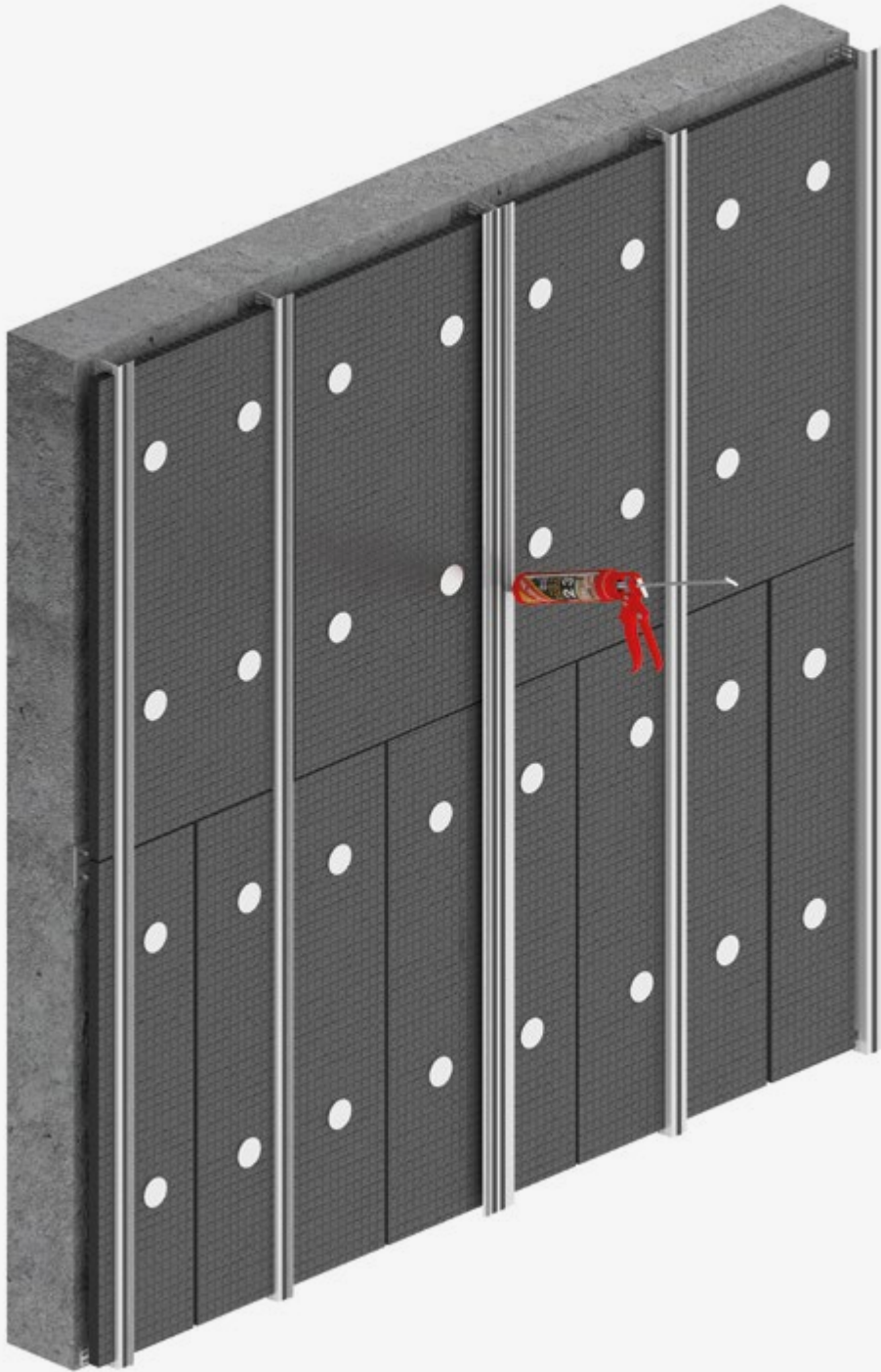
Installation process

Brackets installed on the surface to be covered by means of a mechanical system or welding; vertical profiles installed on brackets with a regulation and fixing system, by means of specific screws*; possible installation of accessories according to the requirements of the manufacturer of the chemical system and subsequent installation of the adhesive to the vertical profile as indicated; installation of the panel to the chemical system by means of support from the back of the Dekton panel.

*Specific screws according to the structural calculation of each project or indicated by the supplier of the substructure.



DKC Structure



General fixing instructions

The vertical profiles should be placed following general subframe installation, in a single vertical plane.

- A predetermined horizontal datum is marked on the support frame; the first row determines the uniformity of the gaps and panel alignment throughout the facade installation.

Carrier rail preparation:

- Treat the bonding surfaces per adhesive provider's recommendations, applying a uniform layer of adhesion promoter over the vertical profiles surface if needed and allowing it to dry per the instructions given.

Dekton Panel preparation (non-porous material):

- Clean the bonding surface ensuring it is dry and grease free.
- Apply adhesion promoter if needed per supplier's instructions.
- Apply the adhesion promoter uniformly per supplier's instructions.

Adhesive application:

- Place the double-sided adhesive tape on the vertical profiles to provide temporary support to Dekton® pieces while adhesive is curing and ensure the consistency of the adhesive applied.
- Apply the continuous, uniform lines of adhesive along the vertical profiles, approximately 10 mm away from the adhesive tape, panel by panel.

The use of a pneumatic or battery powered applicator is recommended for easier and continuous application.

Panel installation:

- The initial panel is positioned on the bottom edge and aligned. Press the panel against the adhesive, and correct bedding of adhesive (it is advisable to place a temporary L-profile support at the bottom, especially for large format panels).
- Consecutive Dekton® panels are placed in a similar way, using temporary packers to achieve uniform joints between panels. The gaps should be calculated to allow thermal movement of pieces and profiles.

Installation sequence from left to right and from top to bottom

Fig. 1

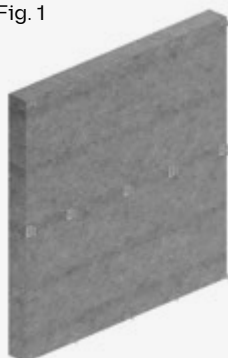


Fig. 2

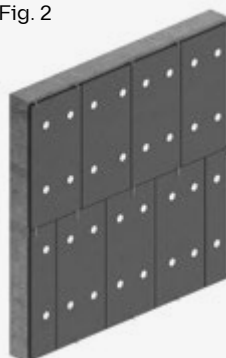


Fig. 3



Fig. 4



Fig. 5



Fig. 6



DKC Static Calculations

Panel in horizontal or vertical layout. Maximum wind loads shown in the following configurations depend on the grid spacing and distance from drill holes to the edges.

These configurations have been calculated considering a distance of fixing to edges of 200 mm. For further

distances and configurations please consult our Technical Department.

These configurations are based on a Dekton calculation software® and refer only to Dekton®. They cannot be considered as definitive data for on-site installation and require a competent technician to perform a project-specific calculation for the entire front-end system including support anchors, brackets, profiling, hardware and Dekton® fixings to the front.

How to use the reference configurations:

- Determine the design wind load in kN/m².
- Choose the table according to the fixing system and Dekton thickness.
- Select the closest design wind load. The wind load chosen should not be less than actual requirements.
- Select a reference configuration showing maximum spacing between fixings.

DKC

Dekton 4 mm

Full slab configuration				
Design wind load kN/m²	Horizontal	Spacing between horiz. profiles (mm)	Vertical	Spacing between vert. profiles (mm)
0.5	H2	800	V1	720
2	H3	540	-	-
2.5	H5	460	V2	480
4	-	-	V3	360

Dekton 8 mm

Full slab configuration				
Design wind load kN/m²	Horizontal	Spacing between horiz. profiles (mm)	Vertical	Spacing between vert. prfiles (mm)
2	H1	1070	-	
3	H2	800	-	
3.5	-		V1	720
5	H4	640	-	-
11	-		V2	480

Design wind loads to be compared with reference design wind loads provided in this document should have applied wind load factors on characteristic values per applicable standards and regulations.

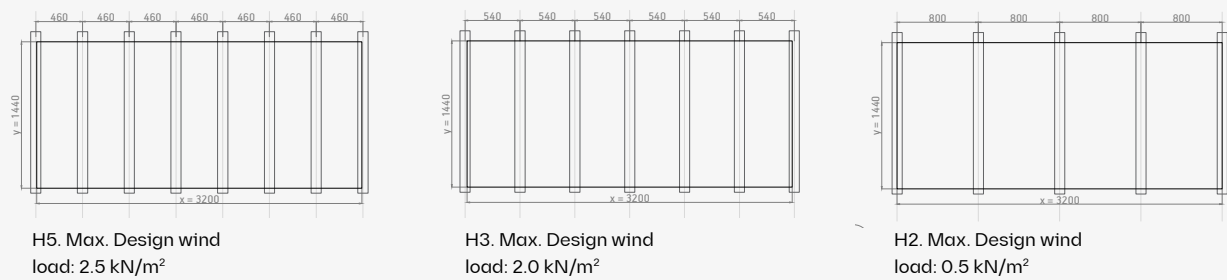
Design wind loads and fixing distances should be calculated per local standards, regulations and certificates applicable, with further testing if required.

Cosentino does not provide static calculations for projects.

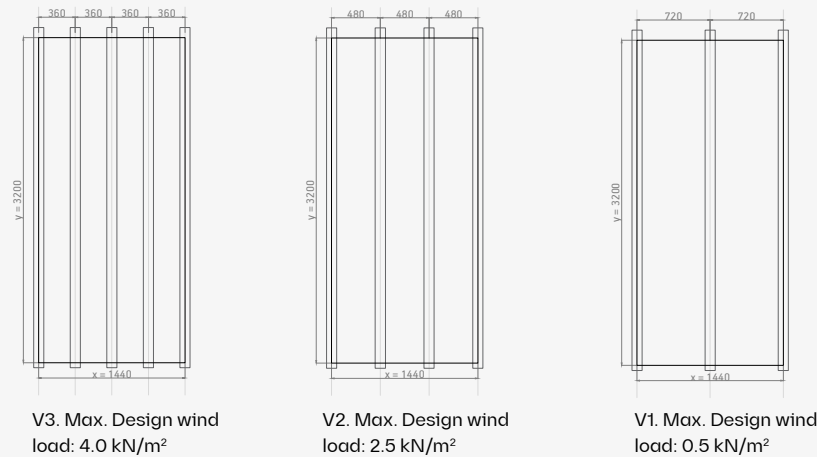
Cosentino will not accept any liability whatsoever for any direct or indirect damage resulting from any errors, omissions or miscalculations of the static calculations for the project.

DKC. Layout

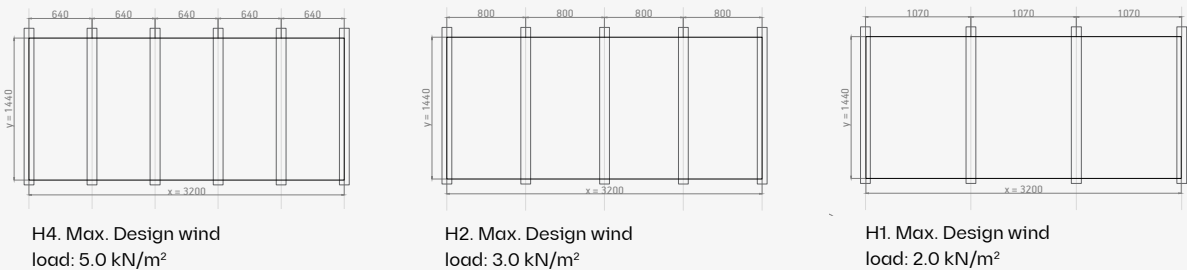
4 mm
HORIZONTAL CONFIGURATION



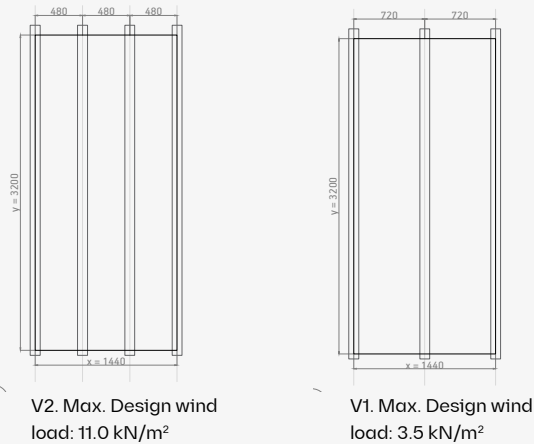
VERTICAL CONFIGURATION



8 mm
HORIZONTAL CONFIGURATION



VERTICAL CONFIGURATION



Soltec configurations

Design recommendations and recommended wind loads

The dimensions of the perpendicular substructure depend on the facade construction. The distances between the profiles and their width are determined by the load they must support both by suction and by the weight of the Dekton® slab itself.

The distances specified in this document are for information purposes only and shall be validated by the system provider.

The recommendations and wind loads shown in this manual are based on tests carried out in external laboratories using a 320 x 144 cm slab with a double line of adhesive on each of the vertical profiles.

Wind load

Thickness (mm)	Orientation	Max. distance profiles (mm)	Test result (Pa)	Safety factor	Result (Pa)
8	Vertical	722	7,000	1.5	4,666
4	Horizontal	640	1,800	1.5	1,200

Configuraciones Sika®

Design recommendations and recommended wind loads

The design and dimensions of the substructure depend on the construction conditions and the system used. The distances between the profiles of the substructure and their width are determined by the load they must support both by suction and by the weight of the Dekton® slab itself. The distances specified in this document are for information purposes only and shall be validated by the system provider. Each project requires specific design detailing. The substructure must be designed by others in accordance with all relevant standards and appropriate design and manufacturing consideration.

Project-specific calculations and drawings must be issued by a qualified and competent person. Sika® is unable to provide or approve designs other than the specific interface between the cladding panels and the vertical substructure profile incorporating the SikaTack® Panel adhesive system.

The recommendations and wind loads given in this manual are based on the calculations performed by Sika®.

Wind load (Dekton® 8 mm)

Thickness (mm)	Orientation	Max. distance profiles (mm)	Test result (Pa)	Safety factor	Result (Pa)	Result (Pa)
		2 lines per profile	1 line per profile			
8	Vertical*	360	No procede	5.000	1.5	3.333
8	Vertical*	720	360	2.400	1.5	1.600
8	Horizontal	457	No procede	5.000	1.5	3.333
8	Horizontal	800	457	2.400	1.5	1.600

Wind load (Dekton® 4 mm)

Thickness (mm)	Orientation	Max. distance profiles (mm)	Test result (Pa)	Safety factor	Result (Pa)	Result (Pa)
		2 lines per profile	1 line per profile			
4	Vertical*	720	360	2.400	1.5	1.600
4	Vertical*	720	480	1.800	1.5	1.200
4	Horizontal	800	457	2.400	1.5	1.600
4	Horizontal	800	640	1.800	1.5	1.200

* Sika® limits the maximum slab length in a vertical position to 280 cm. For slabs over 280 cm high, please contact Sika® for validation.

The recommendations and wind loads given in this manual are based on adhesive strength calculations performed by Sika® and on the strength of the slab.

Cosentino recommends checking the local regulations in force to ensure that the appropriate reduction factors are being applied for each project. In the absence of applicable regulations, Cosentino recommends applying a minimum safety factor of 1.5, as indicated in the wind load tables.



CASE STUDY

Villa Haifa

Haifa, Israel

Material

300 m² Dekton® Domoos

Facade system

DKC

Thickness

8 mm





CASE STUDY

Leonardo Building

Johannesburg, South Africa

Material

20,000 m² Dekton® Gada

Facade system

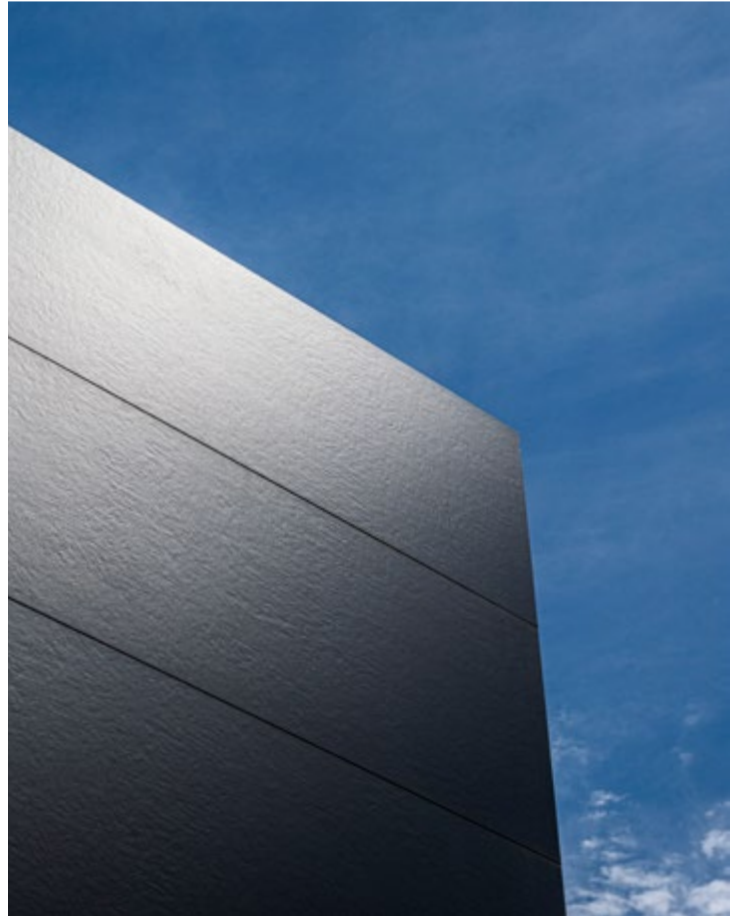
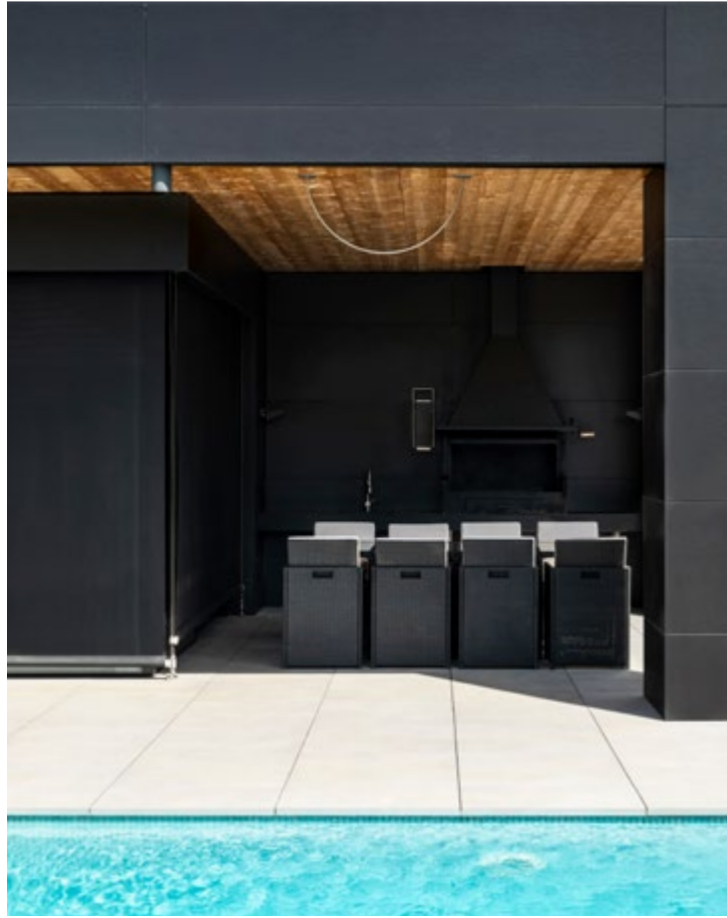
DKC

Thickness

8 mm







CASE STUDY

Villa Sant Gregori

Girona, Spain

Material

400 m² Dekton® Sirius

Facade system

DKB

Thickness

8 mm





CASE STUDY

TR House

Barcelona, Spain

Material

350 m² Dekton® Blanc Concrete

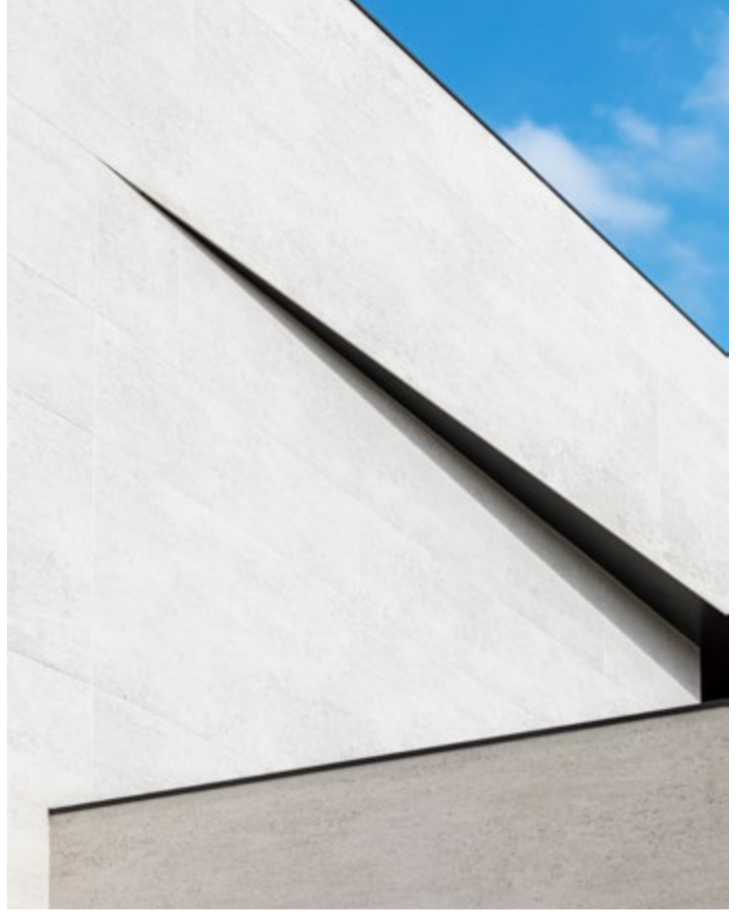
Facade system

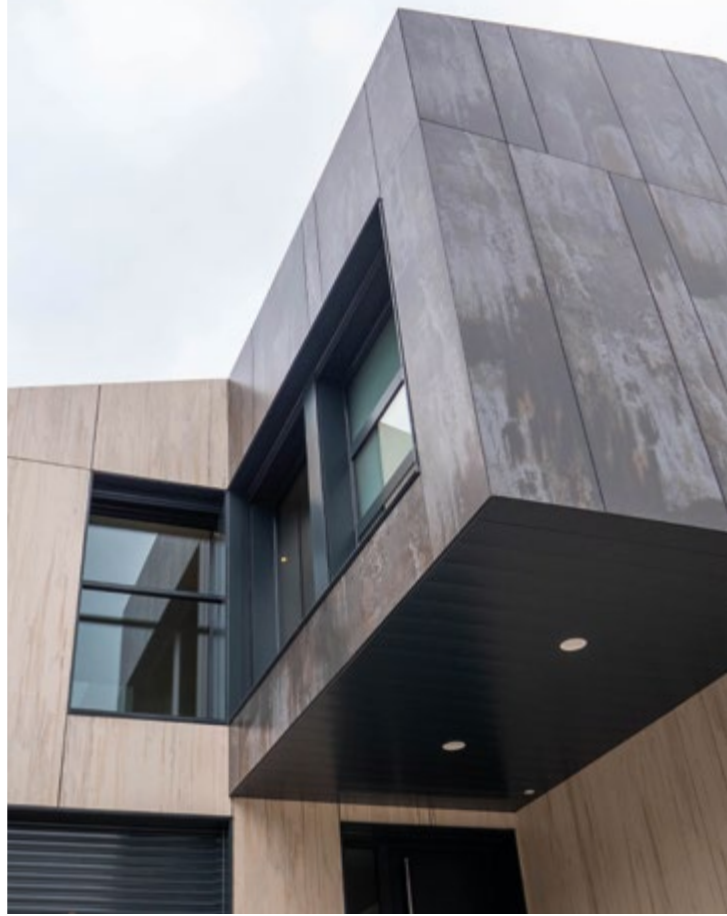
DKC

Thickness

8 mm







CASE STUDY

Family home in Álava

Álava, Spain

Materials

600 m² Dekton® Trilium

120 m² Dekton® Makay

Facade system

DKC

Thicknesses

4 and 8 mm







CASE STUDY

Gardens Valdenoja development

Santander, Spain

Material

1,000 m² Dekton® Kreta

Facade system

DKC

Thickness

4 mm





CASE STUDY

Rosh Hanikra

Rosh Hanikra, Israel

Materials

400 m²
Dekton® Kelya
Dekton® Soke

Facade system

DKC

Thickness

8 mm









Moles Building, Girona, Spain.



DK B**Direct
Adhesion**

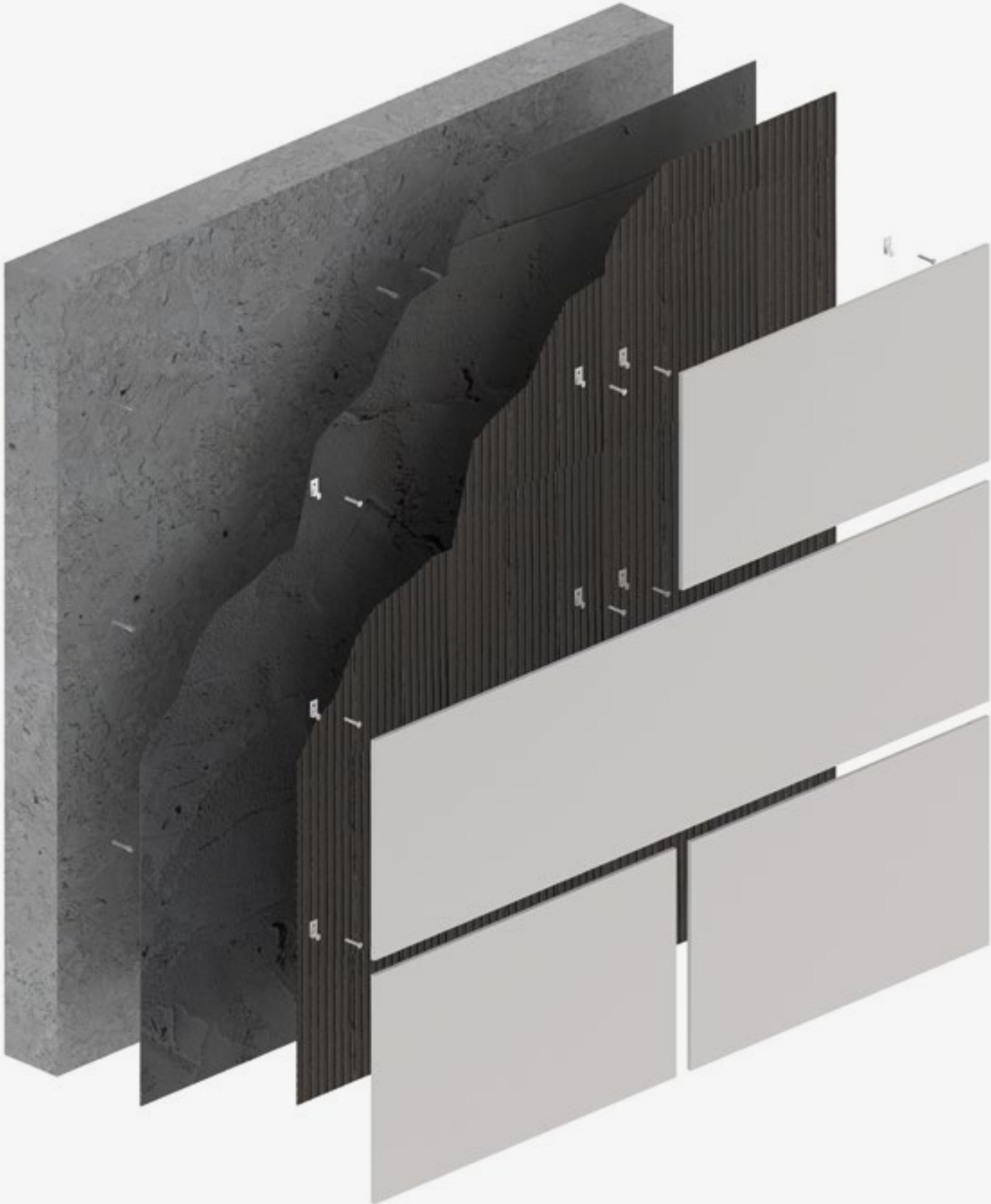
The DKB system is a glued facade system, without format limitations and where 8mm thickness is commonly used. Each piece is applied directly to the cladding, thanks to a layer of improved cement based adhesive applied according to the technique of double gluing on the support and back of the piece, leaving horizontal

and vertical joints of at least 3mm. Generally, the use of hidden security clips is always recommended (and is compulsory in some places according to local standards), slotting the edge of the piece or making a regular groove on the back, and always following the local regulations applicable to each project.



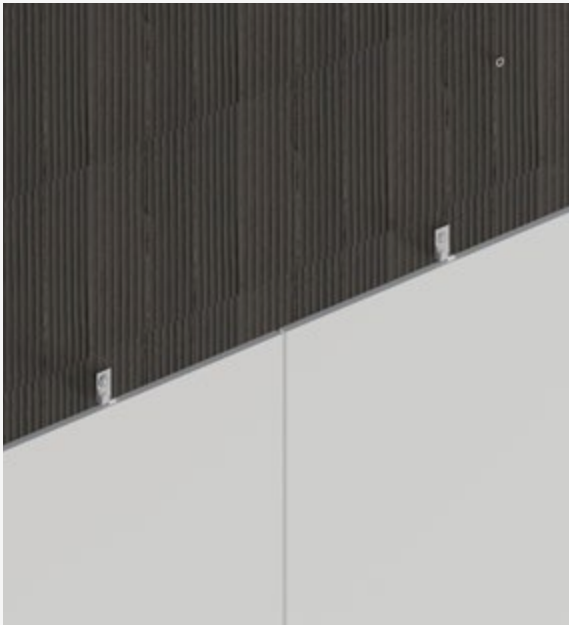
Fixing with cement-
based adhesive





DKB - Diagram

Joint



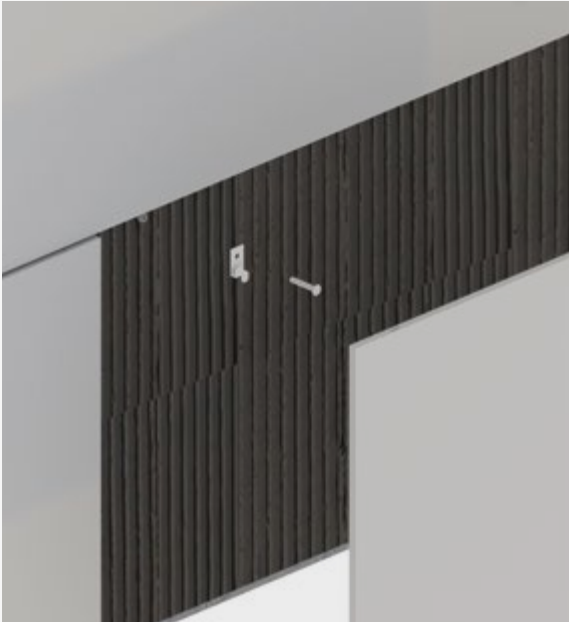
Detail of system layers



Bottom



System detail



DKB Structure



General fixing instructions

1. Clean, prepare and level the supporting wall.
2. Apply the adhesive to both the supporting wall and the Dekton® pieces with toothed trowel.
3. Place the Dekton® pieces.
4. Meeting of the placement joints.
5. Filling joints with grout.
6. Removal and cleaning of excess material.
7. Final cleaning of the facade.

Fig. 1



Fig. 2



Fig. 3



Fig. 4



Fig. 5



Fig. 6



Fig. 7



Fig. 8



DKB System Description

Dekton® ultra-compact surface by COSENTINO, colour to be defined by the Project Management*, mineral composition, thickness 4, 8 or 12 mm. The surface is made up of 25,000 tons of pressed material (>450 kg/cm) and sintered at a temperature of around 1,200 °C, with a useful size of 3200 x 1440 mm and a smooth back (slightly textured, without ribs). Reaction to fire Class A1 [according to EN 13501], unaffected by UV radiation [ΔE < 1 tested in a Xenon chamber at 5000h], with thermal conductivity < 0.5 W/m- °C [according to EN12664], specific heat < 700 J/Kg- °C [measured with DSC], surface resistivity < 65 TΩ/m [at 1000

V] and must have these mechanical-functional characteristics according to EN 10545: Bending strength > 45 N/mm. Density > 2,500 Kg/m³. Porosity < 0.05 %. Linear expansion < 10-6 °C-1. Can be used in outdoor environments, even aggressive ones (petrol, diesel, various solvents) and cleaned with water or other pressurised products, using commercial cleaning products or specific chemical agents (e.g. sulphuric acid, bleach, hydrogen peroxide, acetone, caustic soda) in the case of persistent stains. Applied as a cladding for facades, mixed with cement based adhesive in a thin layer with double gluing and mechanical safety fixings to the substrate. Type

C2TES2 adhesive for Dekton® without mesh and type R2 adhesive (according to UNE EN 12004) for Dekton® with mesh, with improved adhesion, reduced slip, extended open time and very formable. 3-5 mm wide placement joints, grouted with cement mortar with high resistance to abrasion and reduced absorption type CG2AW (according to UNE EN 13888). Expansion joints every 16 m² or 4 linear metres, perimeter joints and expansion joints following structural expansion joints of the building. Upper end of the facade with a special piece for water drips, with the facade meeting resolved with a perimeter joint.

Size, thickness and finishes

Full slab format	320 x 144 cm
Thickness (cm)	0.4 ⁽¹⁾ – 0.8 – 1.2
Finishes	Smooth, Textured or Polished

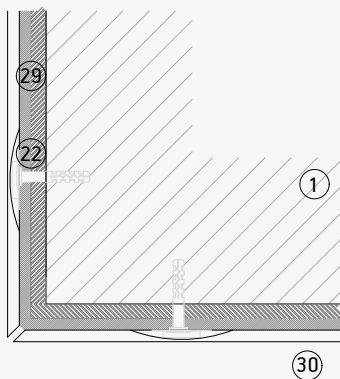
(1) The 4mm. thickness incorporates 300 g/m² glass fibre mesh with epoxy resin and is called Dekton® Protek.

Recommended size of slabs in this system to minimize waste

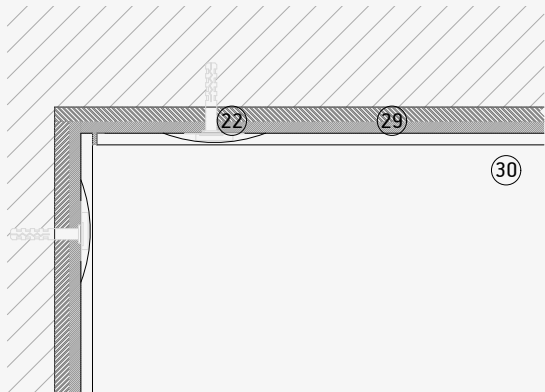
Formats (cm)	Formats (inches)	Nº of pieces
71 x 71	28" x 28"	8
71 x 106	28" x 42"	6
71 x 142	28" x 56"	4
71 x 159	28" x 63"	4
71 x 320	28" x 126"	2
106 x 142	42" x 56"	3
142 x 142	56" x 56"	2
142 x 159	56" x 63"	2

DKB Horizontal section

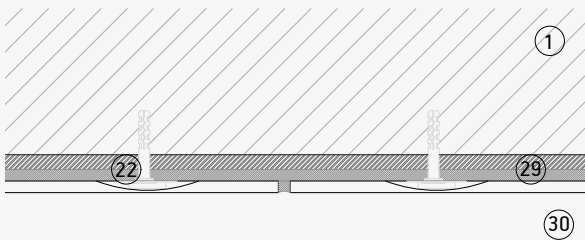
External corner bevelled



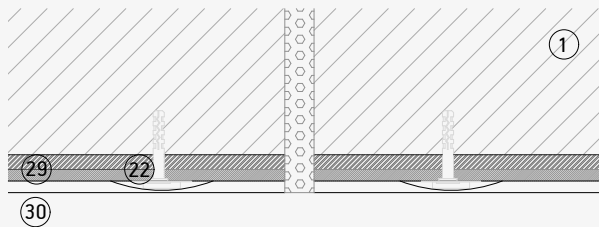
Internal Corner



Vertical joint



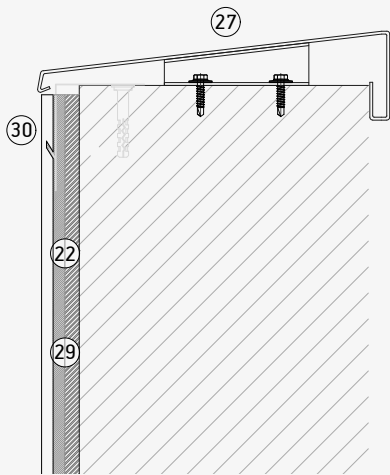
Vertical expansion joint



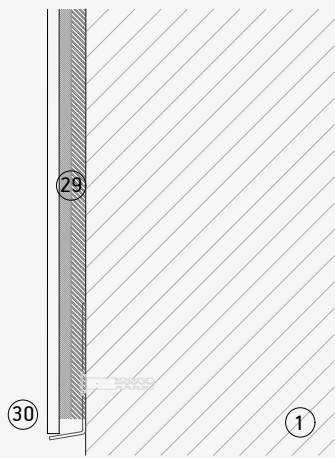
- | | | | |
|------------------------|-------------------------------------|--------------------------------|----------------------|
| 1. Supporting wall. | 10. Rivet. | 17. Bottom/top visible clip. | 26. Window sill |
| 2. Anchor bracket. | 11. Undercut anchor. | 18. Intermediate visible clip. | 27. Top coping |
| 3. Insulation. | 12. Horizontal rail. | 19. Interior back clip | 28. Corner profile |
| 4. Insulating layer. | 13. C hanger. | 20. Exterior back profile | 29. Bonding adhesive |
| 5. Fixed bracket. | 14. Adjustable C hanger. | 21. Chemical fixing system | 30. Dekton |
| 6. Adjustable bracket. | 15. Bottom/top edge profile/clip. | 22. Security fixing | |
| 7. L profile. | 16. Intermediate edge profile/clip. | 23. Ventilation profile | |
| 8. T profile. | | 24. Lintel | |
| 9. Self tapping screw. | | 25. Jamb | |

DKB Vertical section

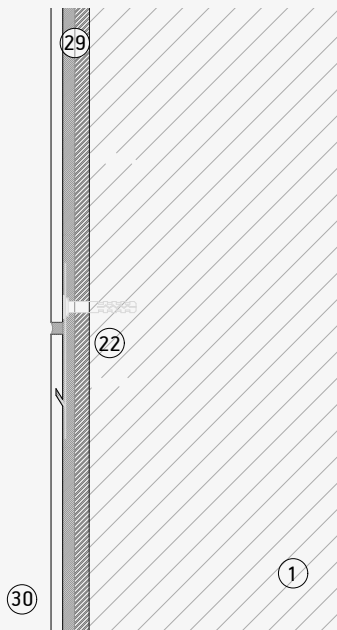
Upper detail



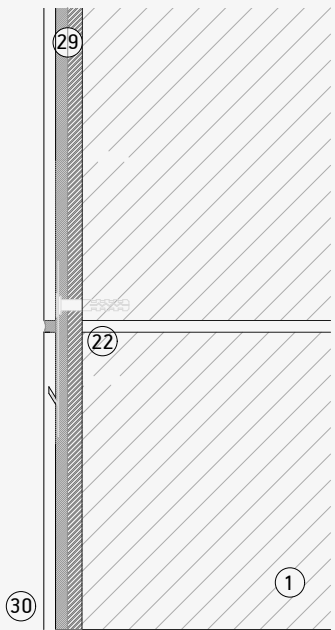
Bottom detail



Horizontal joint



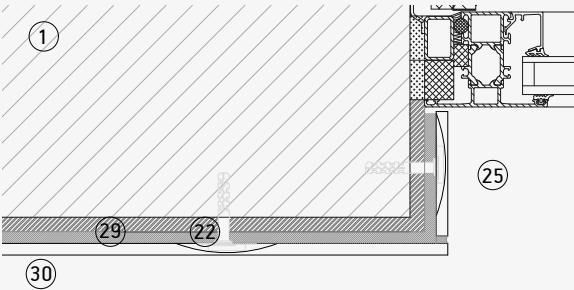
Horizontal profiles joint



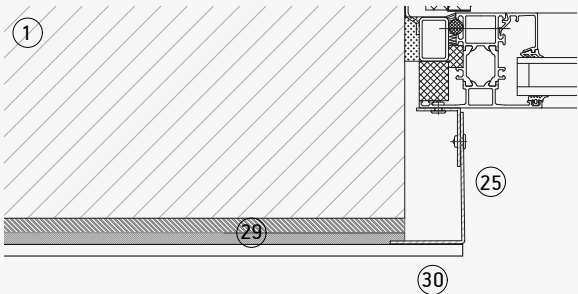
- 1. Supporting wall.
- 2. Anchor bracket.
- 3. Insulation.
- 4. Insulating layer.
- 5. Fixed bracket.
- 6. Adjustable bracket.
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- 8. T profile.
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- 17. Bottom/top visible clip.
- 18. Intermediate visible clip.
- 19. Interior back clip
- 20. Exterior back profile
- 21. Chemical fixing system
- 22. Security fixing
- 23. Ventilation profile
- 24. Lintel
- 25. Jamb
- 26. Window sill
- 27. Top coping
- 28. Corner profile
- 29. Bonding adhesive
- 30. Dekton

DKB Vertical section

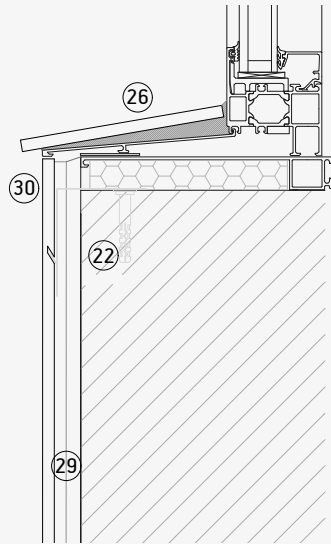
Dekton jamb



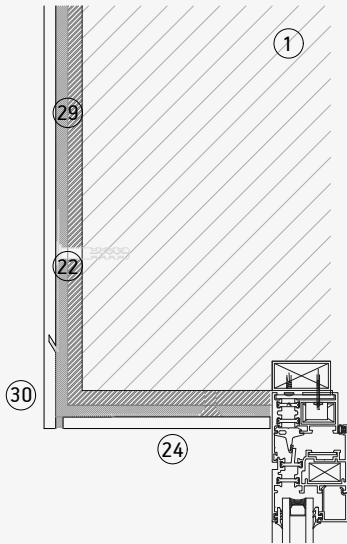
Metallic jamb



Dekton window sill



Dekton lintel



- | | | | |
|------------------------|-------------------------------------|--------------------------------|----------------------|
| 1. Supporting wall. | 10. Rivet. | 17. Bottom/top visible clip. | 26. Window sill |
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| 7. L profile. | 16. Intermediate edge profile/clip. | 23. Ventilation profile | |
| 8. T profile. | | 24. Lintel | |
| 9. Self tapping screw. | | 25. Jamb | |



CASE STUDY

La Gramoia

Girona, Spain

Materials

700 m²

Dekton® Lunar

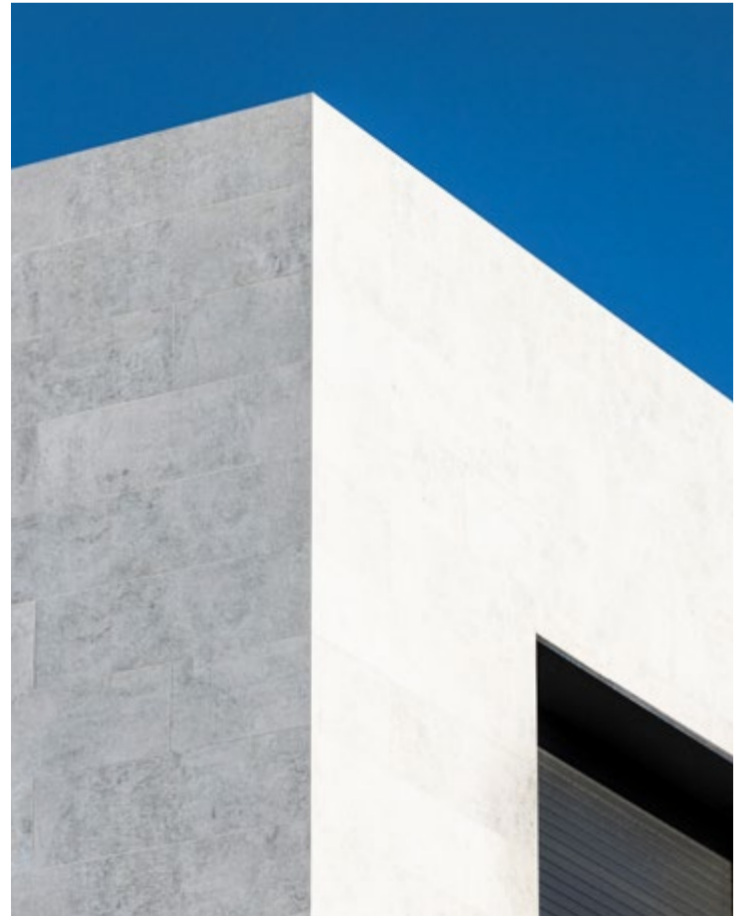
Dekton® Bromo

Facade system

DKB

Thickness

8 mm







CASE STUDY

BallyCotton

Cork, Ireland

Material

Dekton® Kira

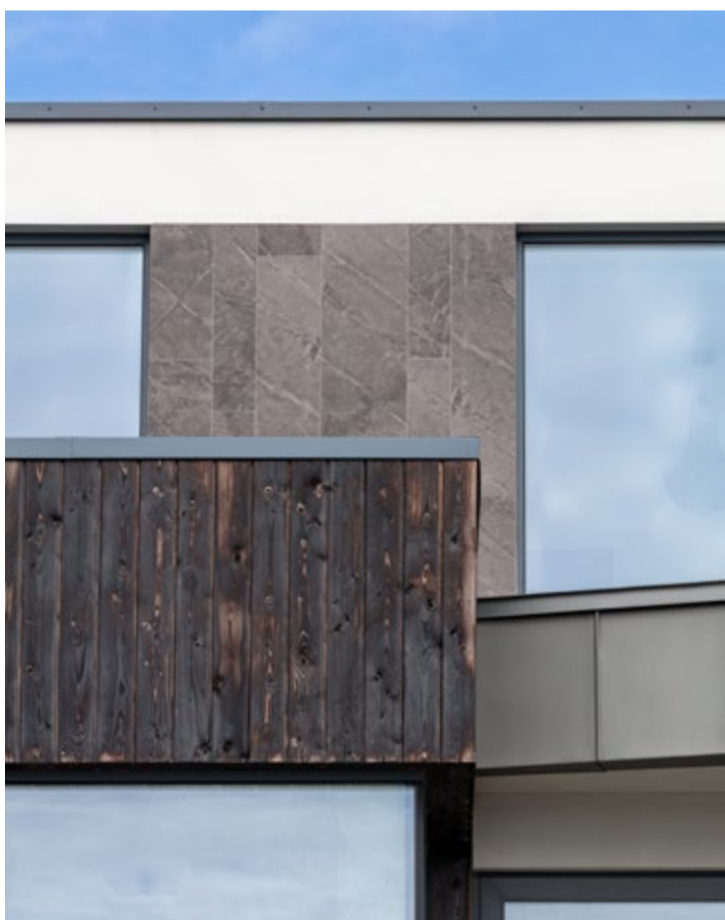
Facade system

DKB

Thickness

12 mm







DK S

ETICS/EIFS System

In our fast-moving world, homes undergo multiple refurbishments for aesthetic and decorative reasons as well as to create warmer indoor environments. The DKS system is an External Thermal Insulation Composite System (ETICS)

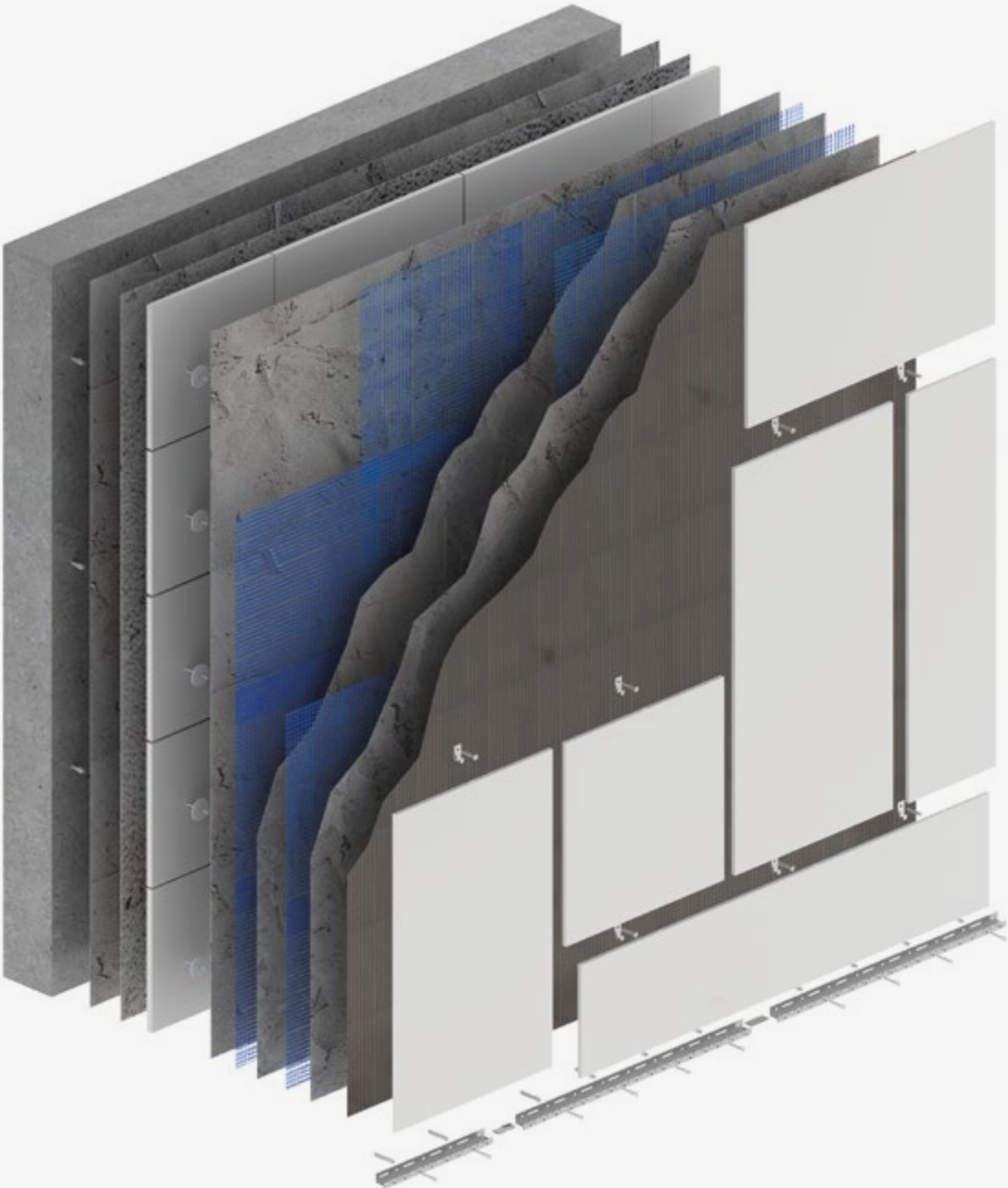
clad on the outside with Dekton®. On an ETICS that is ready to be finished with cladding, Dekton is applied using a suitable cement based adhesive.



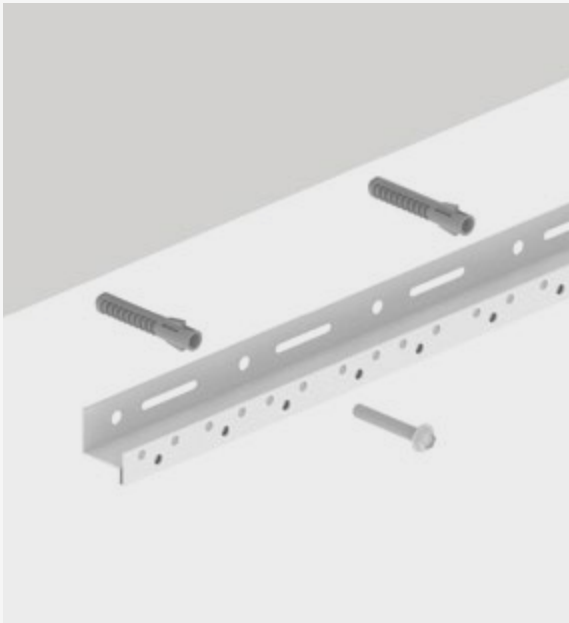
Because the pieces are adhered to the finished reinforced layer of the insulation system, there is a limit to the weight and format, which must be indicated by the ETICS supplier. The product and application instructions of the ETICS supplier must be followed to fully guarantee the application.

Fixing pieces of an external thermal insulation (ETICS) project of high energy-efficiency.

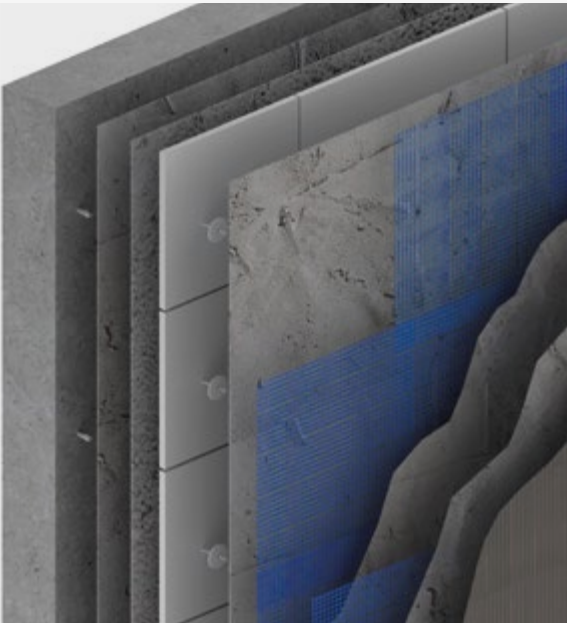




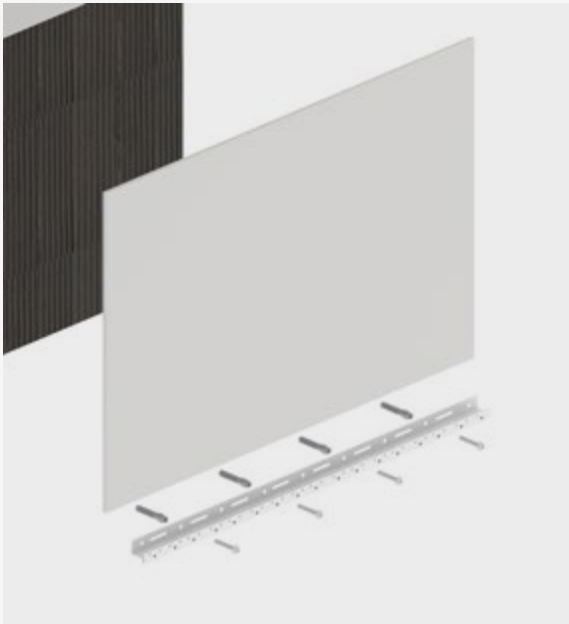
Starting profile



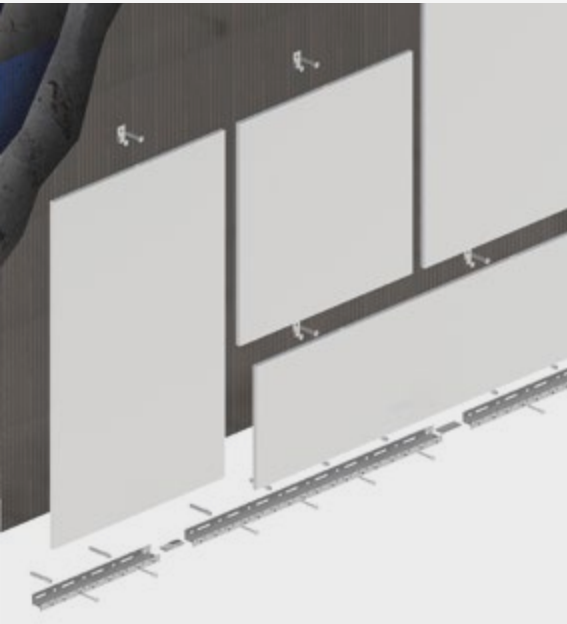
System Detail



Bottom Slab

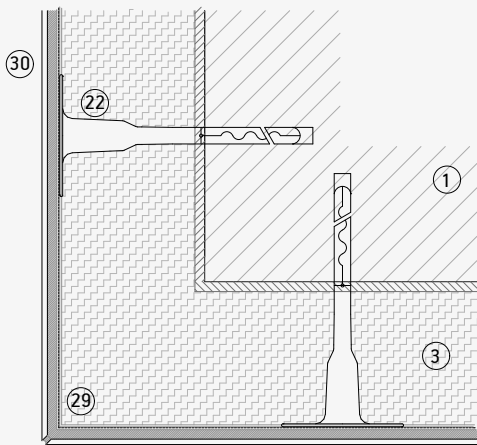


System detail

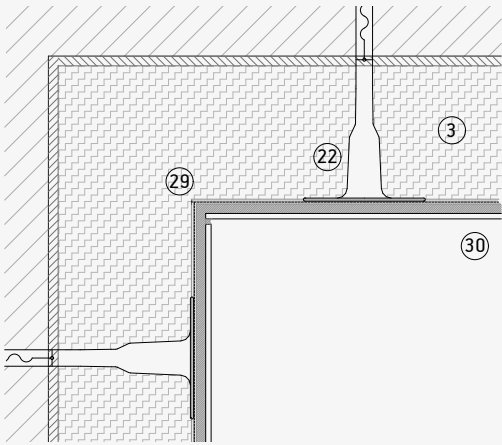


DKS Horizontal section

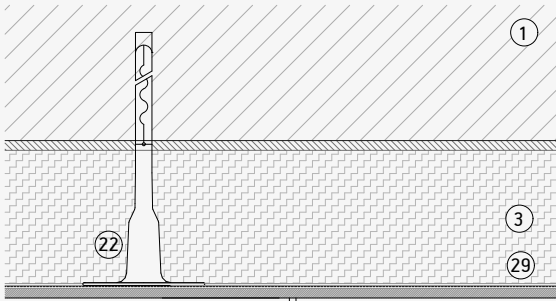
External corner



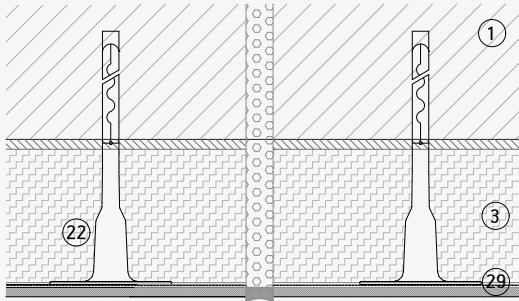
Internal Corner



Vertical joint



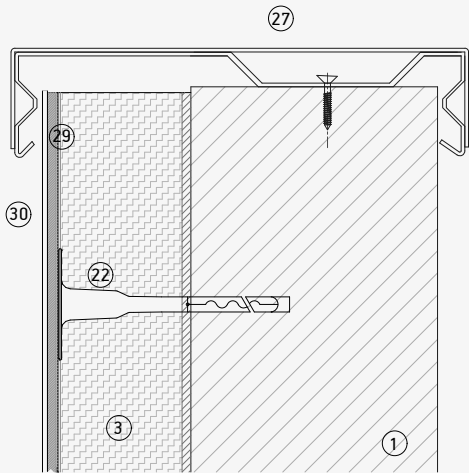
Vertical expansion joint



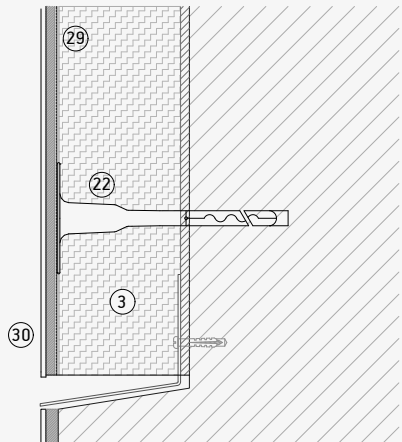
- 1. Supporting wall.
- 2. Anchor bracket.
- 3. Insulation.
- 4. Insulating layer.
- 5. Fixed bracket.
- 6. Adjustable bracket.
- 7. L profile.
- 8. T profile.
- 9. Self tapping screw.
- 10. Rivet.
- 11. Undercut anchor.
- 12. Horizontal rail.
- 13. C hanger.
- 14. Adjustable C hanger.
- 15. Bottom/top edge profile/clip.
- 16. Intermediate edge profile/clip.
- 17. Bottom/top visible clip.
- 18. Intermediate visible clip.
- 19. Interior back clip
- 20. Exterior back profile
- 21. Chemical fixing system
- 22. Security fixing
- 23. Ventilation profile
- 24. Lintel
- 25. Jamb
- 26. Window sill
- 27. Top coping
- 28. Corner profile
- 29. Bonding adhesive
- 30. Dekton

DKS Vertical section

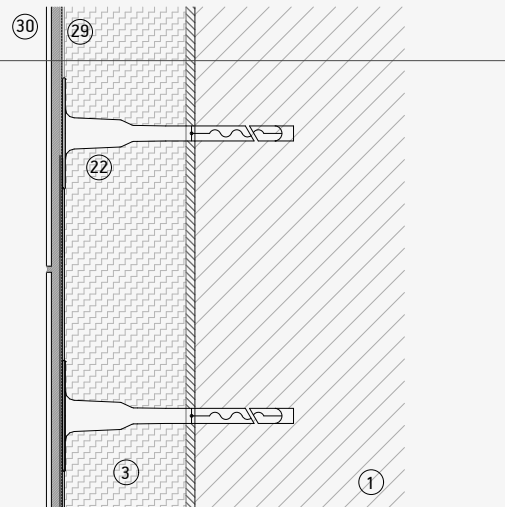
Upper detail



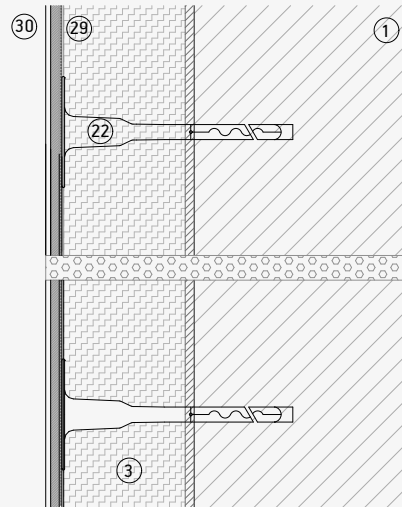
Bottom detail



Horizontal joint



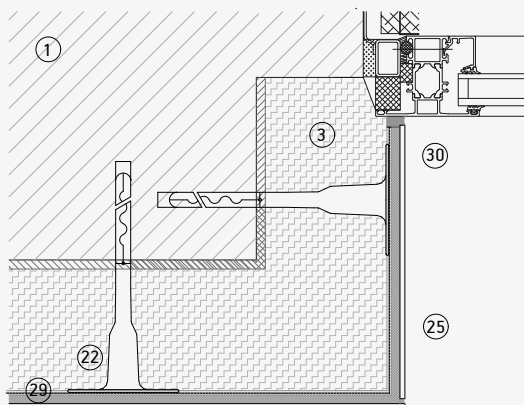
Horizontal profiles joint



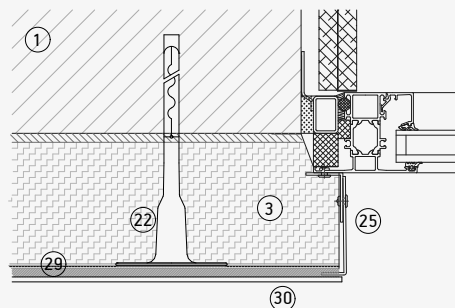
- | | | | |
|------------------------|-------------------------------------|--------------------------------|----------------------|
| 1. Supporting wall. | 10. Rivet. | 17. Bottom/top visible clip. | 26. Window sill |
| 2. Anchor bracket. | 11. Undercut anchor. | 18. Intermediate visible clip. | 27. Top coping |
| 3. Insulation. | 12. Horizontal rail. | 19. Interior back clip | 28. Corner profile |
| 4. Insulating layer. | 13. C hanger. | 20. Exterior back profile | 29. Bonding adhesive |
| 5. Fixed bracket. | 14. Adjustable C hanger. | 21. Chemical fixing system | 30. Dekton |
| 6. Adjustable bracket. | 15. Bottom/top edge profile/clip. | 22. Security fixing | |
| 7. L profile. | 16. Intermediate edge profile/clip. | 23. Ventilation profile | |
| 8. T profile. | | 24. Lintel | |
| 9. Self tapping screw. | | 25. Jamb | |

DKS Vertical section

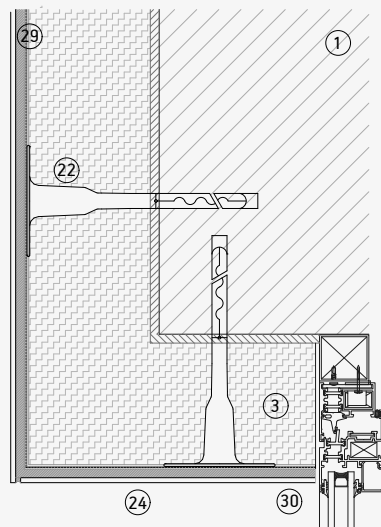
Dekton jamb



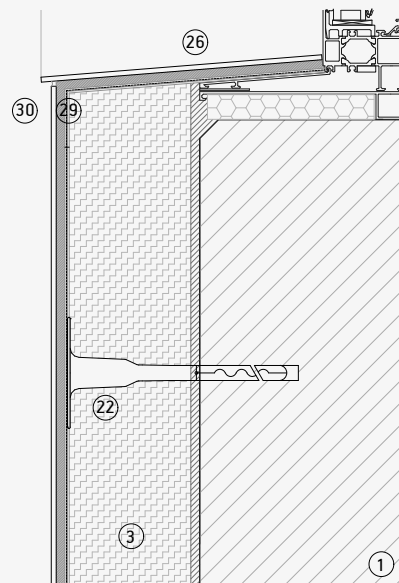
Metallic jamb



Dekton lintel



Dekton window sill



- 1. Supporting wall.
- 2. Anchor bracket.

- 3. Insulation.
- 4. Insulating layer.
- 5. Fixed bracket.
- 6. Adjustable bracket.
- 7. L profile.
- 8. T profile.

- 9. Self tapping screw.
- 10. Rivet.
- 11. Undercut anchor.
- 12. Horizontal rail.
- 13. C hanger.
- 14. Adjustable C hanger.
- 15. Bottom/top edge profile/clip.
- 16. Intermediate

- edge profile/clip.
- 17. Bottom/top visible clip.
- 18. Intermediate visible clip.
- 19. Interior back clip
- 20. Exterior back profile
- 21. Chemical fixing system
- 22. Security fixing
- 23. Ventilation profile
- 24. Lintel

- 25. Jamb
- 26. Window sill
- 27. Top coping
- 28. Corner profile
- 29. Bonding adhesive
- 30. Dekton

DKS System Description

Dekton® ultra-compact surface by Cosentino, Colour to be defined by the Project Management*. Mineral composition formed by pressing 25,000 Tons (>450 kg/cm) and subsequent sintering at temperatures around 1,200 °C, with a maximum size of 320 x 144 cm, thickness 4 mm without mesh or 8 mm with mesh, incorporating fibreglass mesh 300 g/m² with epoxy resin; reaction to fire Class A1 or A2 s1 d0 [according to EN 13501], unaffected by UV radiation [$\Delta E < 1$ tested in a Xenon chamber at 5000h], with thermal conductivity $< 0.5 \text{ W/m} \cdot ^\circ\text{C}$ [according to EN12664], specific heat $< 700 \text{ J/Kg} \cdot ^\circ\text{C}$ [measured with DSC], surface resistivity $< 65 \text{ T}\Omega/\text{m}$ [at 1000 V] and must have these mechanical-functional characteristics according to EN 10545: Bending strength $> 55 \text{ N/mm}$. Density $> 2,500 \text{ Kg/m}^3$. Porosity $< 0.05 \%$. Linear expansion $< 10 \cdot 10^{-6} \text{ } ^\circ\text{C}^{-1}$. Can be used in outdoor environments, even aggressive ones (petrol, diesel, various solvents) and cleaned with

water or other pressurised products, using commercial cleaning products or specific chemical agents (e.g. sulphuric acid, bleach, hydrogen peroxide, acetone, caustic soda) in the case of persistent stains.

Applied as an external thermal insulation system (ETICS) coating, fire classification according to EN:13501 B-S1-d0, consisting of Aluminium Starter Profile. Gluing of EPS/XPS or Mineral Wool (MW). The sheets will be bonded with adhesive mortar, guaranteeing at all times 100% contact with the surface of the sheet. The pieces are mechanically anchored by nylon plugs with a steel screw and thermally insulated head. The layout and number of fixings will depend on the exposure of the building and its height, with a minimum of 4-5 pcs/m². Placement of corner profiles on edges as reinforcement, as well as in openings, fixed with mortar. Placement of water drip protection in areas of window openings. Installation of the frame

profile at the point where the insulation system meets the metalwork. Fitting of a proportional part of the reinforcing mesh in the corner of windows and doors.

The surface of the panels will be covered with a structural gluing reinforced with glass fibre mesh and anti-alkaline treatment and coated with mortar highly malleable and mechanical strength, mixed with glass fibre and rated R2 according to EN 1503-3. Application of Dekton® in a maximum format, to be defined according to the supplier of the ETICS/EIFS system, with resin based adhesive type R2 for Dekton® with mesh and cement based adhesive type C2S2 for Dekton without mesh.

Including, if indicated by the project's Operational Director, visible mechanical safety fixings screwed to the reinforced structural plaster.

Application Limits

Application limits of Dekton® on ETICS/EIFS System:

- Insulation type: EPS, XPS or mineral wool
- Maximum Dekton Slim Protek: Format limitation specified by the supplier of the ETICS system.
- Rendering System:
 1. Finishing and reinforcing mortar.
 2. Glass fibre net: 125 gr/m²
 3. Mechanical metal fixing anchors (optional).
 4. Adhesive mortar (C2 E S2 or R2T EN 12004)
 5. Joint Mortar: CG2 EN 13888.
- Maximum building height: 20 m (6-7 floors)
- Reflection index of tiles: $> 20\%$.
- Maximum weight: Dekton + adhesive $< 25 \text{ kg/m}^2$

DKS Structure



General fixing instructions

1. Preparation of supporting wall.
2. Positioning of the starting profile.
3. Cutting and preparation of the insulation.
4. Placing the insulation on the wall.
5. Sanding of the entire surface.
6. Positioning of the fixings on the insulation panels.
7. Positioning of the rest of the profiles.
8. Resolution of the singular points.
9. Application of the mortar base and placement of the fibreglass mesh in the regularisation layer.
10. Positioning of the fixings on the fibreglass mesh.
11. Planning of the placement and expansion joints.
12. Placement of the Dekton® pieces.
13. Meeting of the placement joints.
14. Filling the expansion joints.
15. Removal and cleaning of excess material.
16. Final cleaning of the facade.

Fig. 1



Fig. 2



Fig. 3



Fig. 4



Fig. 5



Fig. 6



Fig. 7



Fig. 8



Fig. 9



Elan Centre. Netanya, Israel



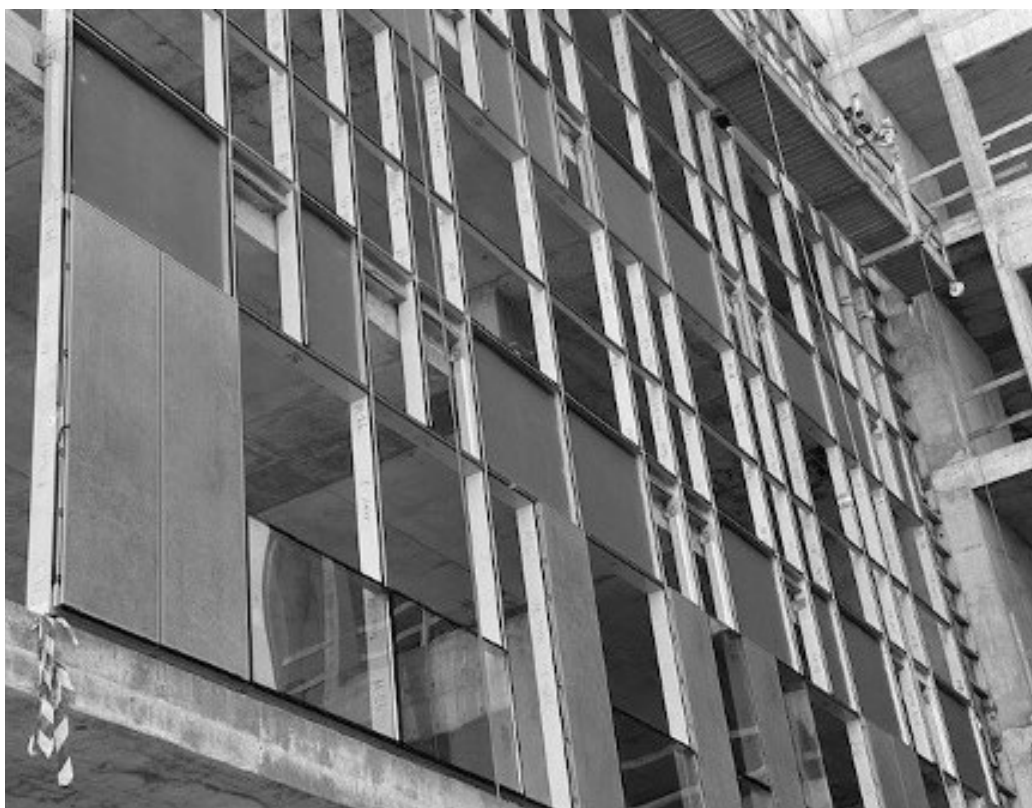


Wall curtain system

A curtain wall is a non-loadbearing exterior wall cladding system consisting of linear elements that are connected to each other and anchored to the main structure of the building.

It can be divided into structural and infill elements (fixed or movable). The structural elements usually

follow a grid pattern with vertical elements or mullions fixed to the building structure to support their own weight, the forces transmitted to them by the horizontal elements or transoms, and the loads acting on the facade such as wind (suction and pressure), seismic and impact loads. The infill elements are divided into

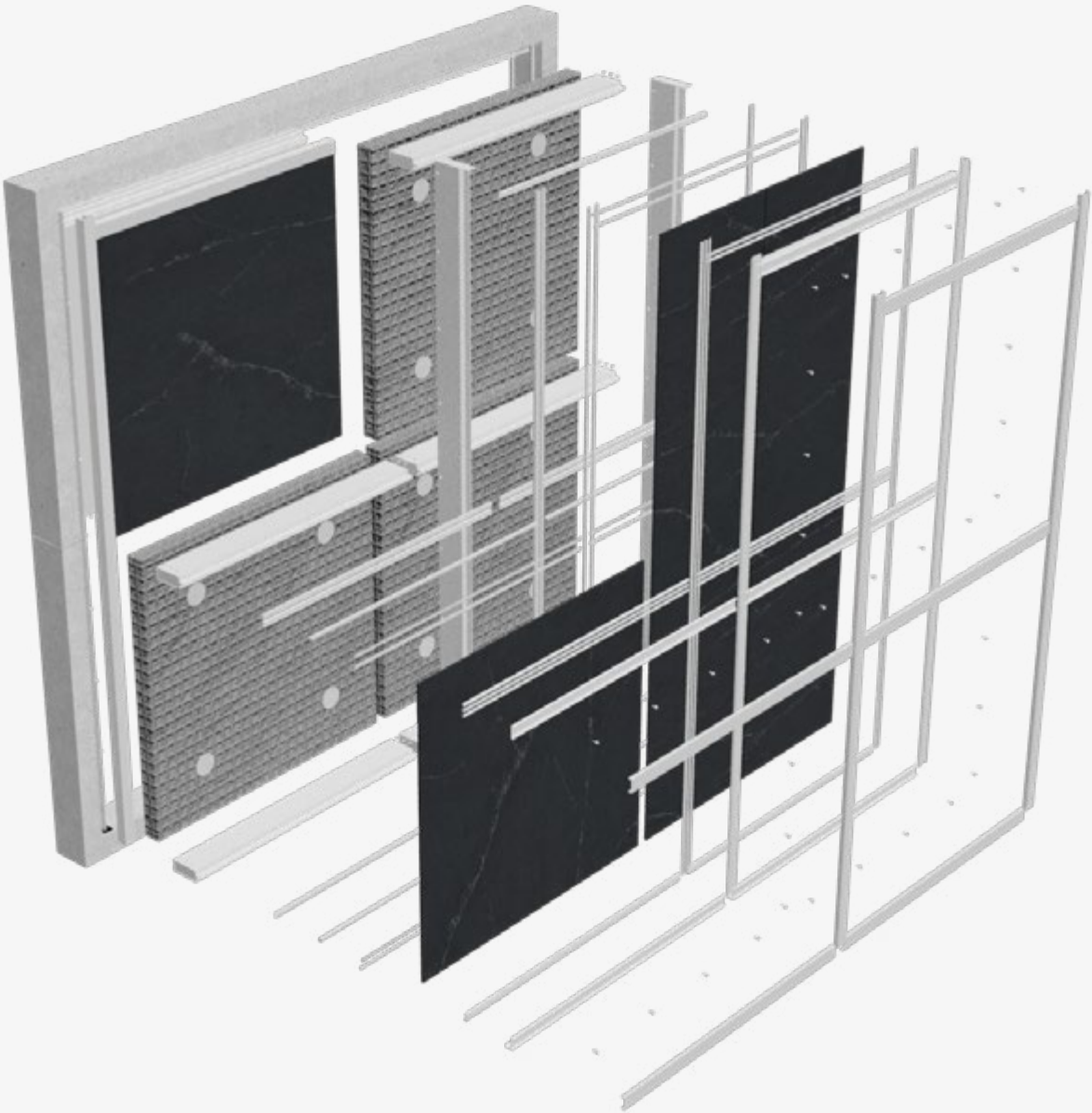


transparent or translucent and opaque, including Dekton®, which can be fixed to mullions and transoms using different systems depending on the type of structure and project requirements.

The curtain walling systems can be divided into two main types: the STICK type, with a framework of profiles with opaque and transparent areas that are transported, assembled and installed individually on site, and the UNITISED type, where all the elements are pre-assembled in the workshop and then transported and installed on site.

Depending on how they are fixed, there are two types of infill elements: those fixed with structural silicone for glazing (SSG) and those fixed with a press and cap system.

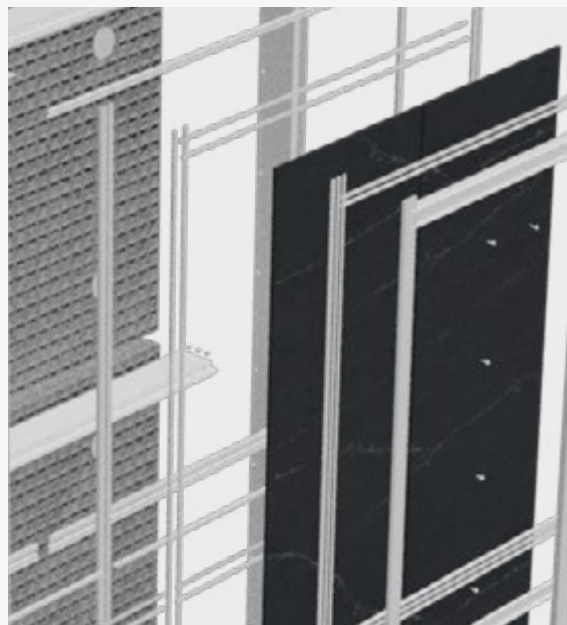




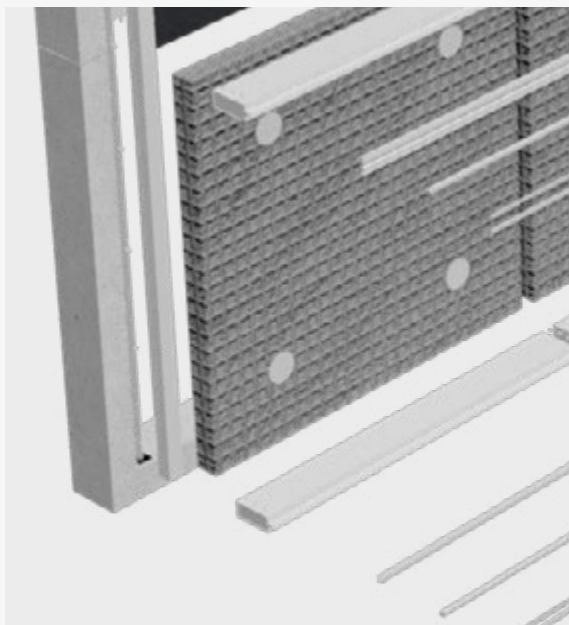
Detailed view of the system



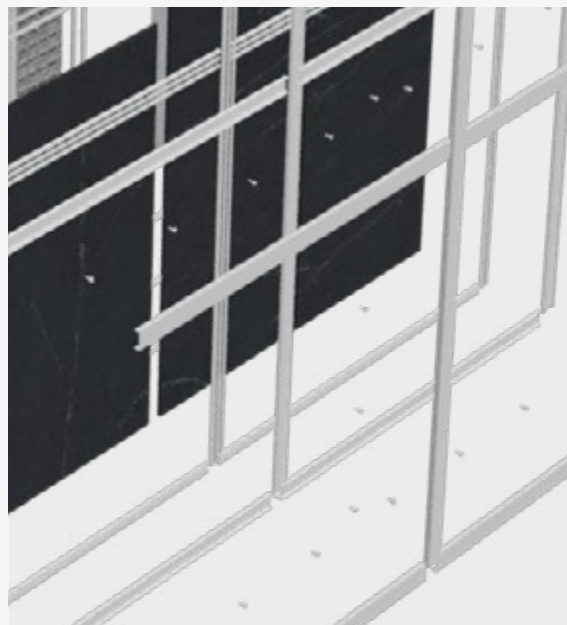
Detailed view of system layers



Start



Detailed view of system layers



DKCW System description

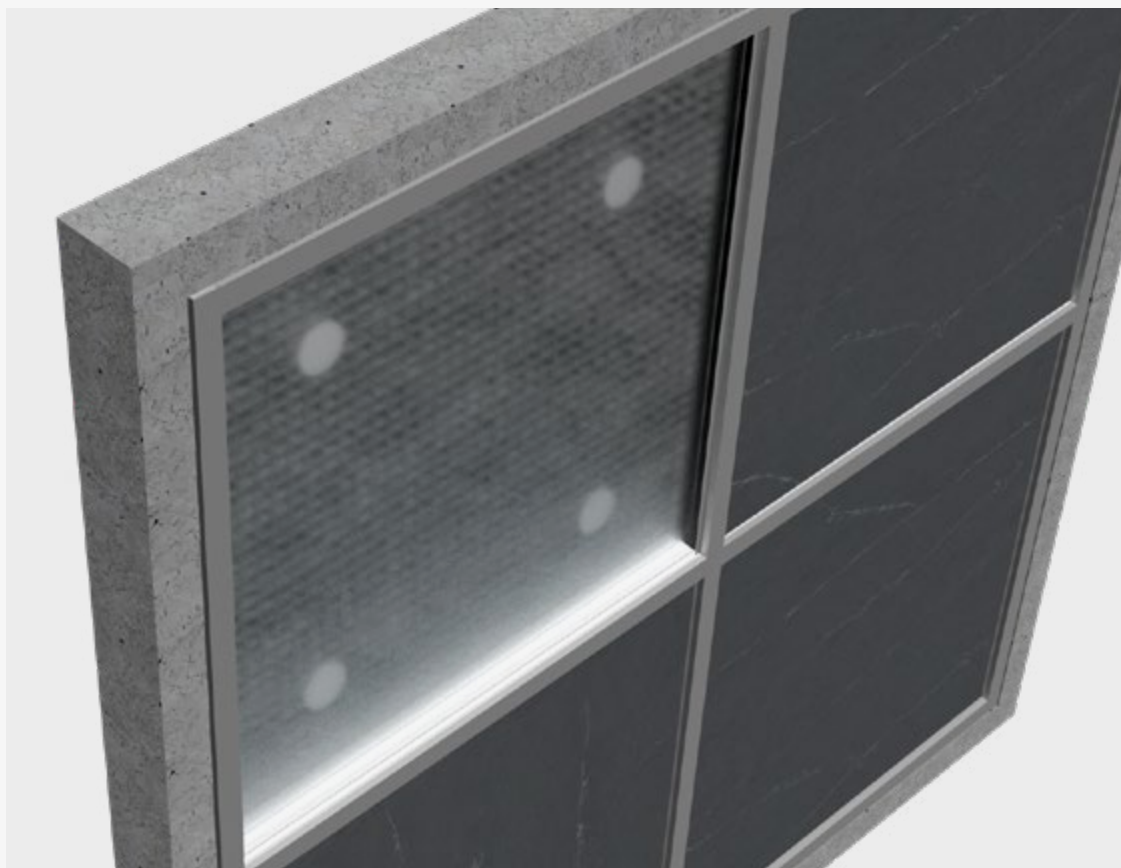
Curtain wall system

Load-bearing substructure composed of:

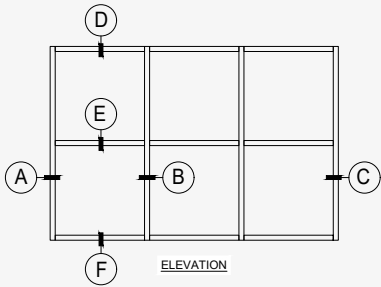
- Adjustable vertical mullions for fixing the slab edge and compensating for unevenness, compatible with different types of support and can include thermal break.
- Horizontal profiles or transoms fixed to the mullions with the fixing elements supplied by the curtain wall structure manufacturer.
- Perimeter fixing of Dekton® in opaque areas using a structural adhesive system with safety plates.
- Middle fixings according to the design and calculation of the system.

Installation process

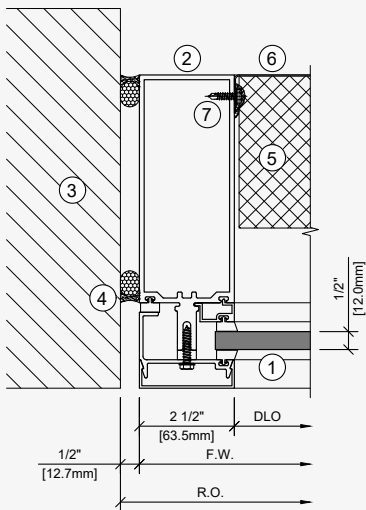
Brackets installed on the surface to be covered by means of a mechanical system or welding; vertical mullions installed on brackets with a regulation and fixing system, by means of specific screws; horizontal transoms fixed to the mullions by means of fixing elements. Installation of Dekton® in opaque areas according to the system specified in the project designed and calculated by the industrial supplier of the curtain wall.



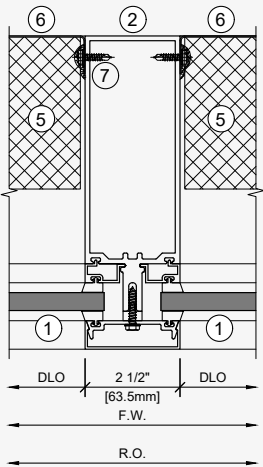
DKCW Traditional
Stick system with caps



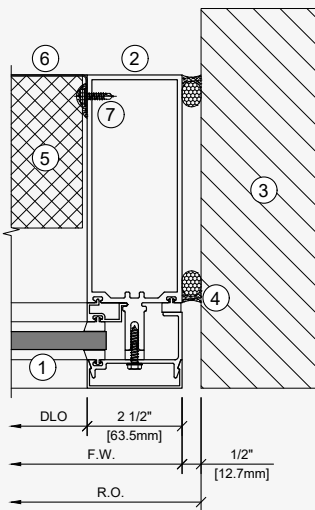
Jamb detail



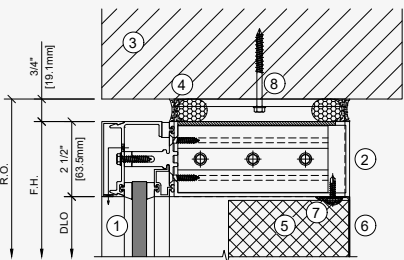
Vertical joint



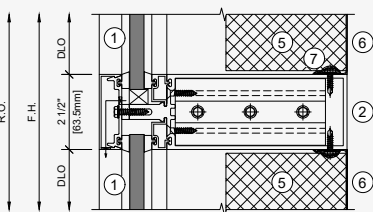
Jamb detail



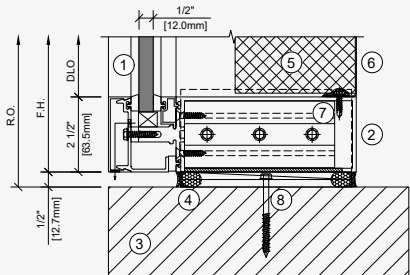
Top edge



Horizontal joint



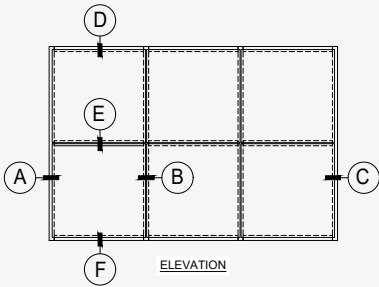
Start



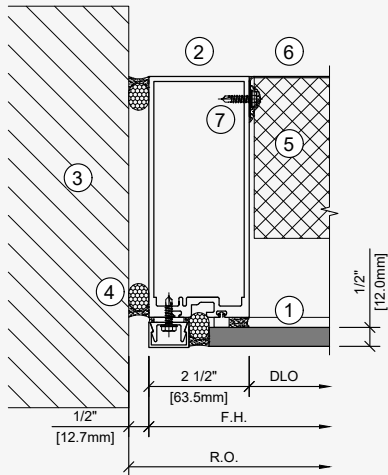
- | | |
|-------------------------|------------------------|
| 1. Dekton® | 5. Insulator pad |
| 2. Curtain wall system. | 6. Rear panel |
| 3. Supporting wall | 7. Rear panel fixings |
| 4. Primary seal | 8. Curtain wall anchor |

DKCW Traditional SSG

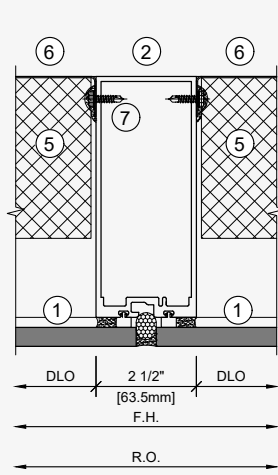
Stick system with structural silicone for glazing



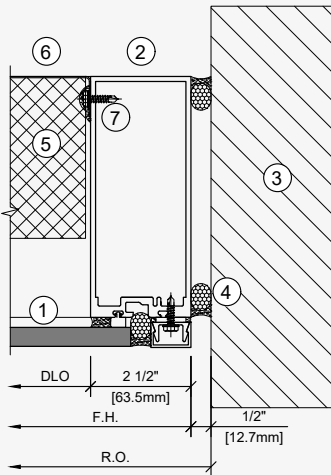
Jamb detail



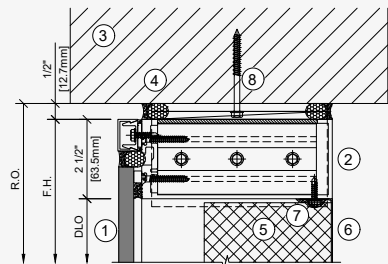
Vertical joint



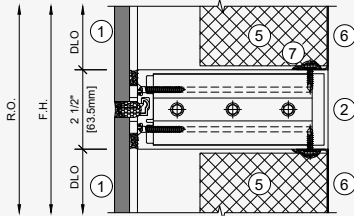
Jamb detail



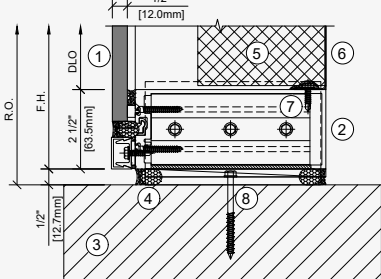
Top edge



Horizontal joint



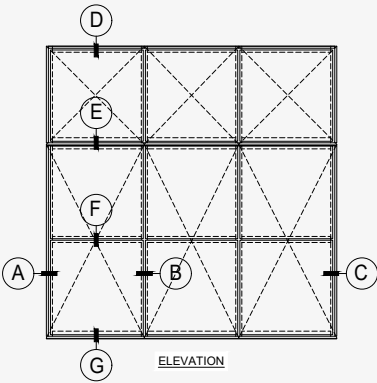
Start



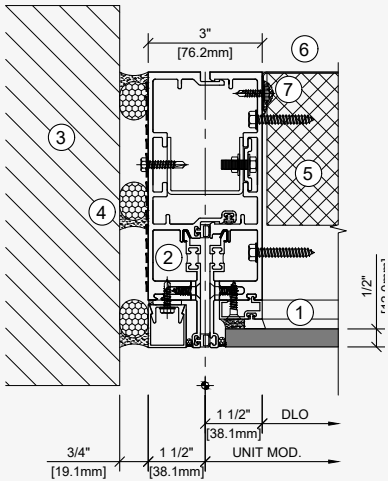
1. Dekton®
 2. Curtain wall system.
 3. Supporting wall
 4. Primary seal
5. Insulator pad
 6. Rear panel
 7. Rear panel fixings
 8. Curtain wall anchor

DKCW Traditional SSG

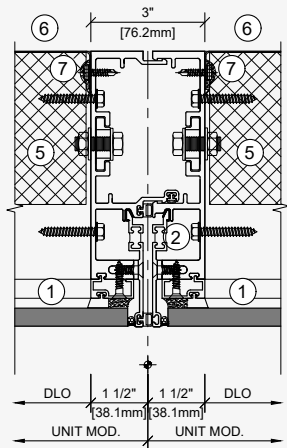
Stick system with structural silicone for glazing



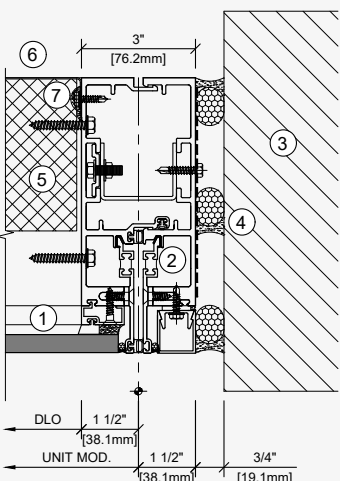
Jamb detail



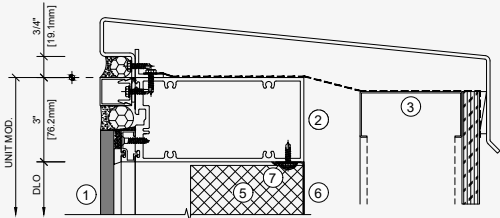
Vertical joint



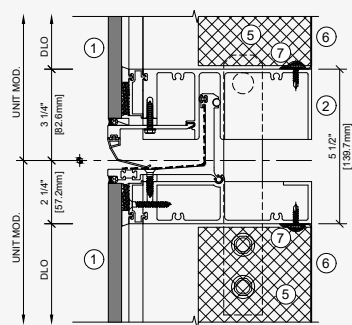
Jamb detail



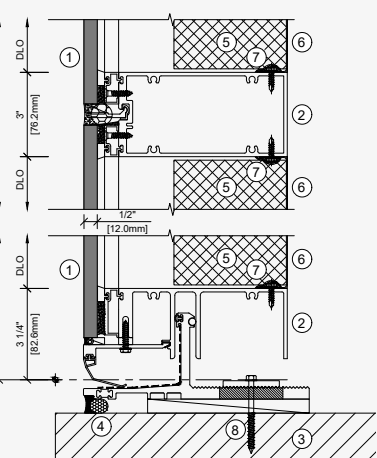
Top edge



Horizontal joint



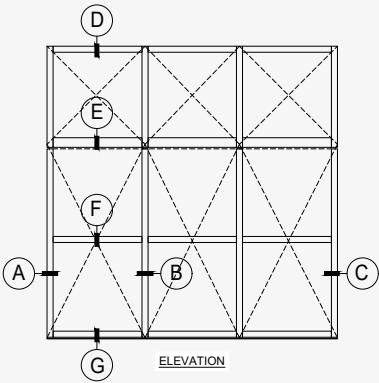
Start



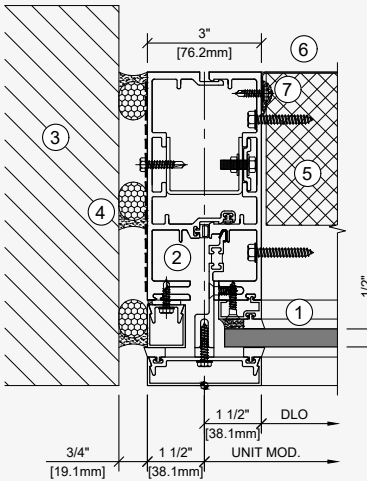
- 1. Dekton®
- 2. Curtain wall system.
- 3. Supporting wall
- 4. Primary seal
- 5. Insulator pad
- 6. Rear panel
- 7. Rear panel fixings
- 8. Curtain wall anchor

DKCW Unitised system

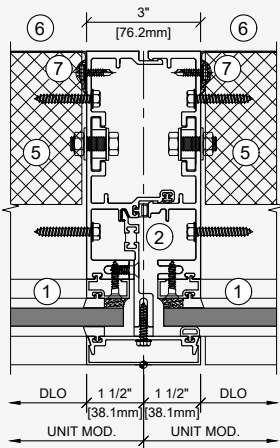
With structural silicone and caps.



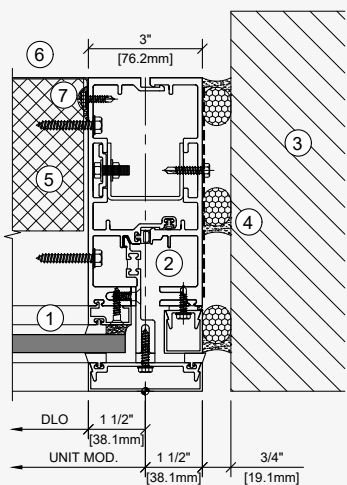
Jamb detail



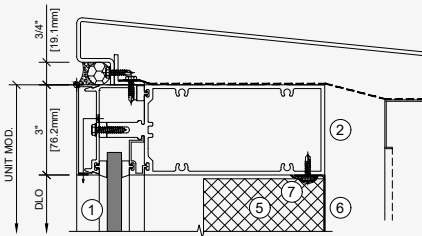
Vertical joint



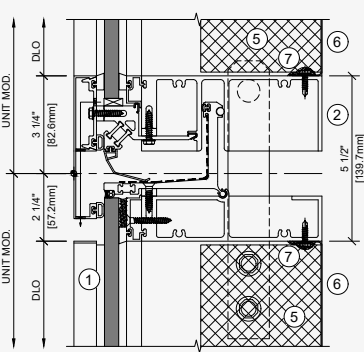
Jamb detail



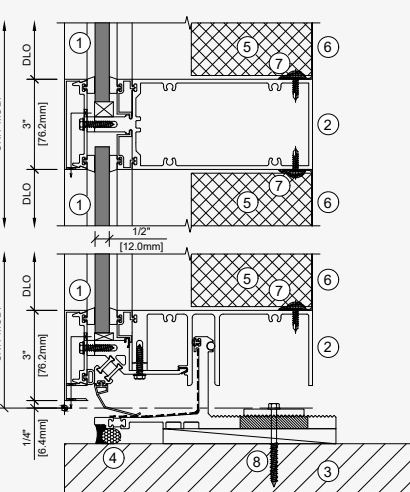
Top edge



Horizontal joint



Start



- 1. Dekton®
- 2. Curtain wall system.
- 3. Supporting wall
- 4. Primary seal
- 5. Insulator pad
- 6. Rear panel
- 7. Rear panel fixings
- 8. Curtain wall anchor



CASE STUDY

Elan Centre

Netanya, Israel

Materials

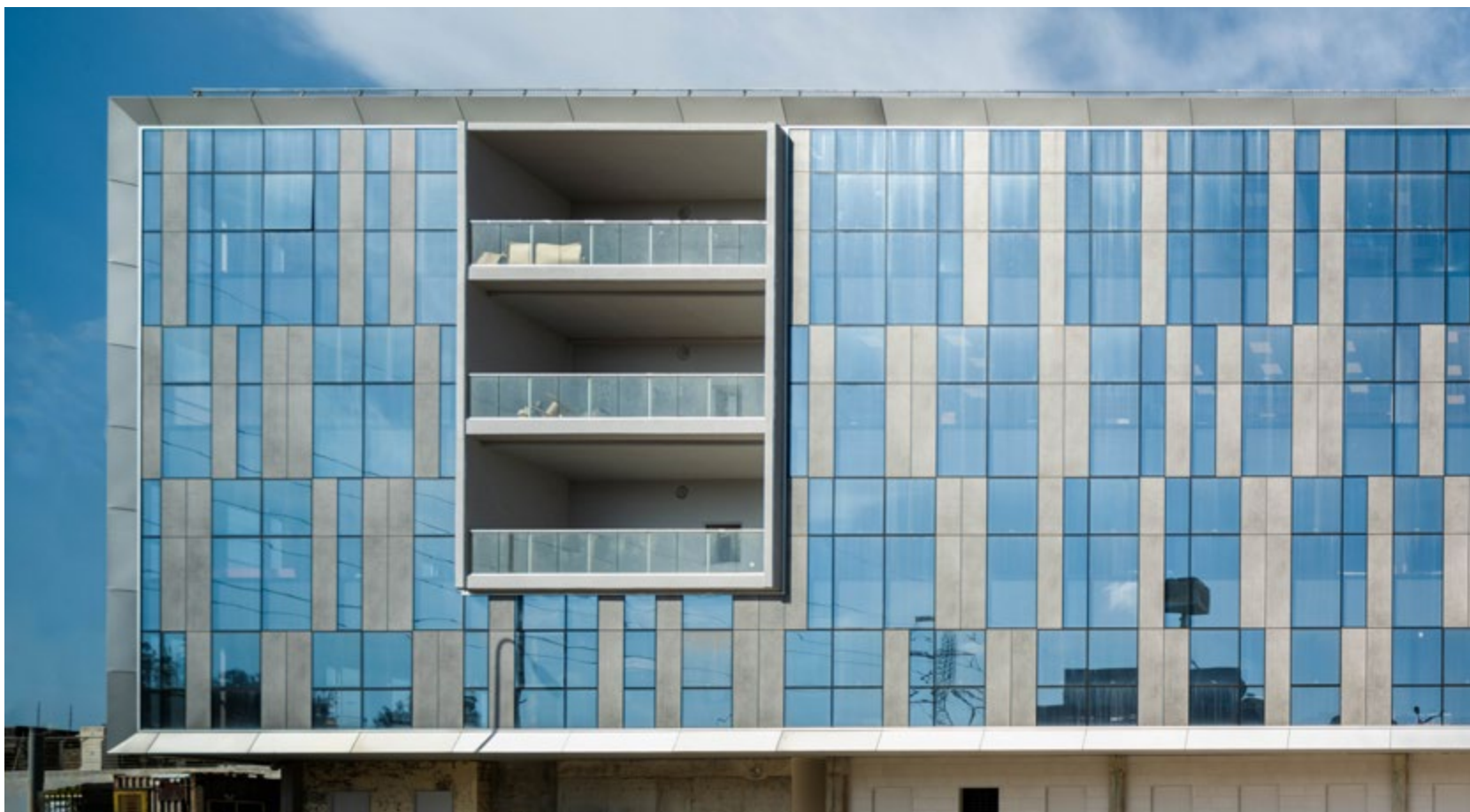
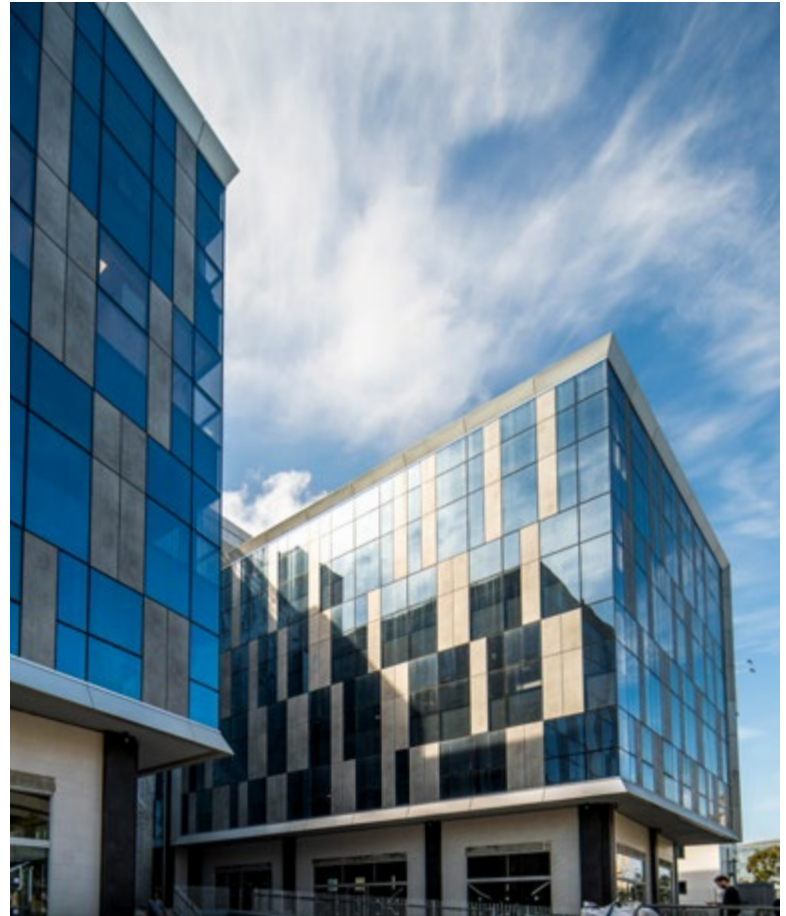
2,200 m²
Dekton® Kreta
Dekton® Lunar

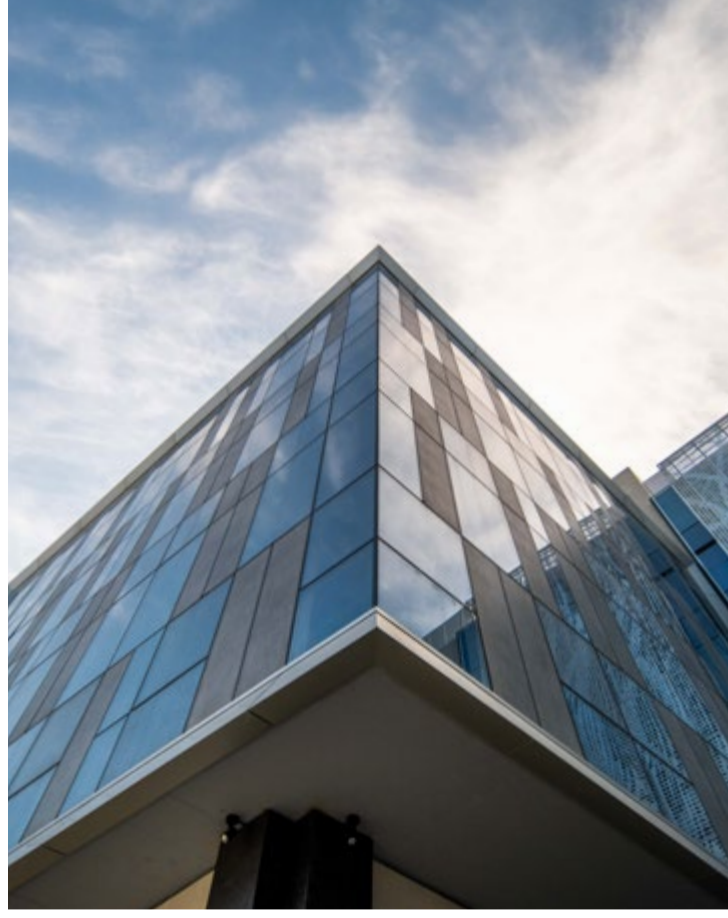
Facade system

DKCW and DKR

Thickness

8 mm







CASE STUDY

Golf Project

Tel Aviv, Israel

Material

4,500 m² Dekton[®] Aeris

Facade system

DKCW

Thickness

8 mm



Processing & Installation

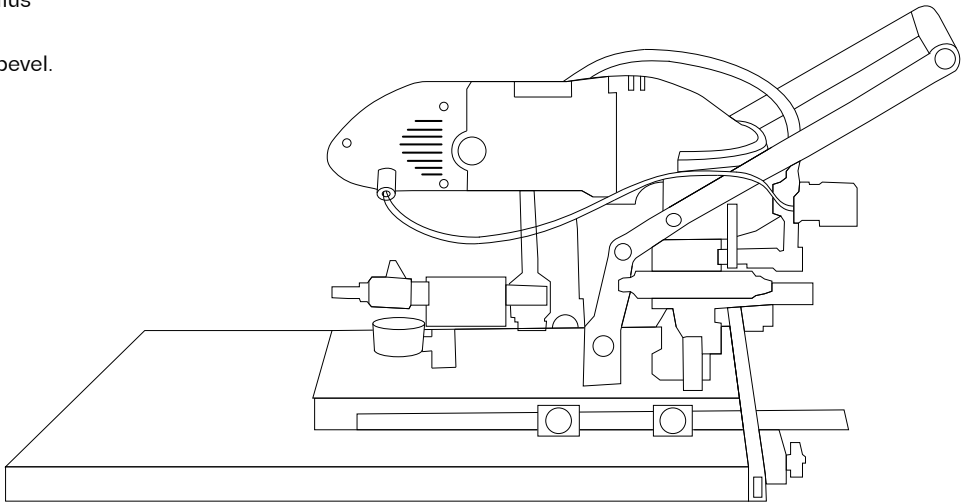
05

272	Shape Alterations
280	Cutting and Machining
282	Movement of Materials on Site
287	Adhesion
289	Processing
290	Cleaning and Maintenance
292	Contact Details



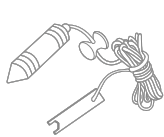
Shape Alterations

Although Cosentino can supply pieces to bespoke measurements, it is possible to cut them on site to deal with design changes, corners, pillars, etc.
For pieces with internal corners a radius of at least 10mm should be used.
Pieces will always include a minimal bevel.



Generic Tools

Measuring tools



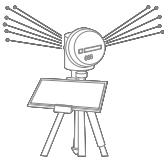
M01 Leveling system



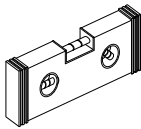
M02 Tape measure



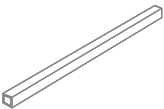
M04 Digital tape measure



M05 Laser measuring tool



M06 Spirit level



M07 Metal ruler



M03 Tape measure

Disc cutter

Ceramic blade 115mm & 125mm Rubi, Italdiamant, ADW, KGS

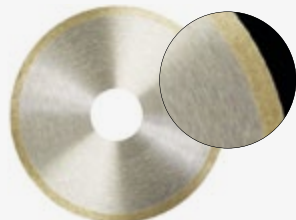
ADW Epic
Available in 115, 125 & 180 mm



Cut speed

Quality

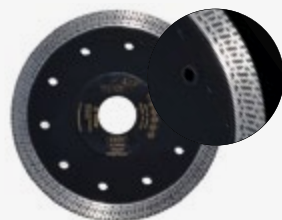
Italdiamant Continous RIM
Available in 125 mm



Cut speed

Quality

KGS Red K835
Available in 115 & 125 mm



Cut speed

Quality

Recommended parameters

Diameter of the blade (mm)	115	125	180
Rotation speed* (rpm)	11,000-12,000	11,000-12,000	11,000-12,000

* The cut speed should be adjusted according to the type of machine and the thickness of the material.
A thicker piece will require a reduced speed.

Requirements my machine should meet



Cooling water flow focused
on the cutting area



Well-leveled
support base



Support for the larger
part of the slab



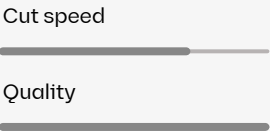
Sharpen the diamond
before every job



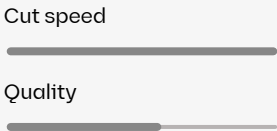
Blade depth 3 to 5 mm
on the cutting bed

Cutting bits

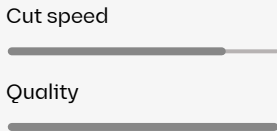
Italdiamond EVOGRES
Available in one size



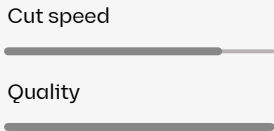
ADW
Available in one size



Dongsin M1
Available in one size



ADI Milling tool
Available in one size



Recommended parameters

Thickness of the slab	8 mm	12 mm	20 mm
Cut speed (mm)	200	190	180
Speed at the exit (mm/min)	70	70	70
Rotation speed (rpm)	4,500	4,500	4,500
Rotation speed milling tool (rpm)	60,000-75,000	60,000-75,000	60,000-75,000

Requirements my machine should meet

- 

Cooling water flow focused on the cutting area
- 

Well-leveled support base
- 

Sharpen the diamond before every job
- 

Support for the larger part of the slab

Specific Tools

Circular saw for wet or dry blade cutting

Rubi TC-125

- Precise cutting guide.
- Double dust reduction system: suction or wet system.
- Height-adjustable cutting head (plunge effect), hinged from 90° to 45°.



Montolit Moto Flash Line dry cutter

- Precise cutting guide.
- Single dust reduction system: suction.



Raimondi Power Raizor

- Precise cutting guide.
- Double dust reduction system: suction or wet system.
- Adjustable cutting head for diverse cutting angles (45°, 90°, 180°).



Makita SP6000

- Precise cutting guide.
- Single dust reduction system: suction.
- Height-adjustable cutting head (plunge effect), hinged from 90° to 45°.



Score and snap
cutting technology

Rubi Slim cutter

- Guided straight cut.
- Progressive separation of the material, reducing the risk of breakage.



Montolit system for cutting

- Guided straight cut.
- Progressive separation of the material, reducing the risk of breakage.



Raimondi Raizor

- Guided straight cut.
- Progressive separation of the material, reducing the risk of breakage.



Drilling

Rubi DRYGRES diamond
drill bits kit



DRYGRES 4DRILL
diamond drill bits



Fixings Alterations

Portable machinery

Fischer Mobile Drilling
Equipment BSN 100.
DKT1



Fischer Mobile Drilling
Equipment BSN 100.
DKT1



Keil portable drill.
DKT1



Maincer HFV ventilated
facades tool.
DKT2 & DKT3



Raimondi Rai-Cut.
DKB



Handling Tools

RUBI - Slab Trans Heavy Duty

- 6 vacuum suction cups Ø20 cm
- Maximum piece size 320x180 cm
- Maximum load up to 140 kg



RAIMONDI - Easy move MK III with vacuum suction cups

- 6 vacuum suction cups Ø15 cm
- Maximum piece size 320x180 cm
- Maximum weight 260 kg



Cutting and Machining

At the Cosentino Factory all slabs can be cut and machined following project drawings and delivered to site in the desired order.

Please consult with the Project Service Unit department for special project requirements.

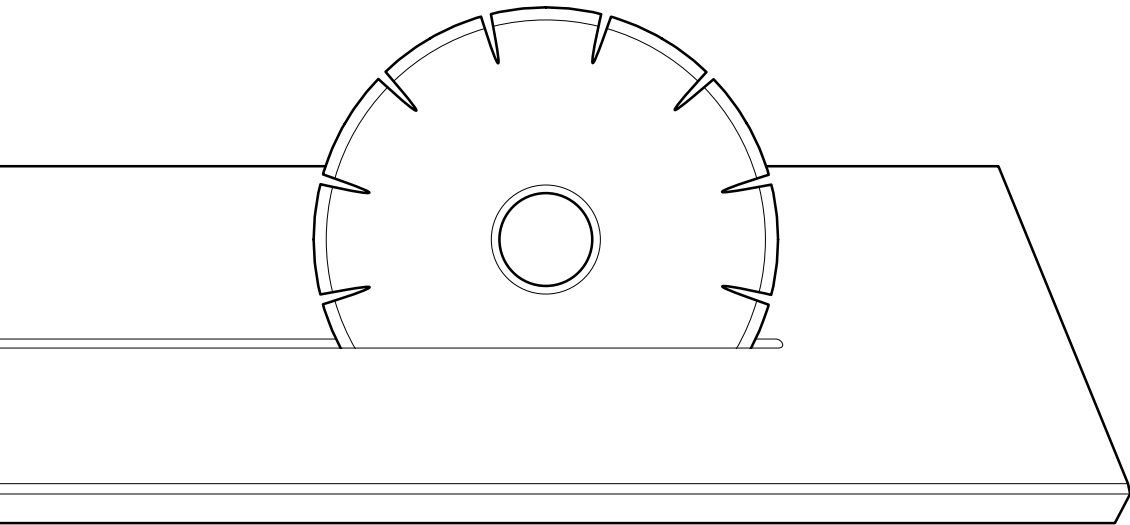
Undercut drill holes can be machined in the pieces following strict quality control according to the anchor manufacturer. The holes will be drilled according to the design of the facade, cut plane, and static calculations provided, or the calculations recommended by the Technical department.

Holes and grooves can be made following the project data and static calculations provided.

Please consult with our Technical Department for Cut to Size tolerances.

Anchors and hangers also can be installed to panels if ordered.

Undercut anchors (DKT1 System), screws, hooks and other materials can be provided by Cosentino if required. These anchors are supplied by a third party, so lead times and pricing may vary.

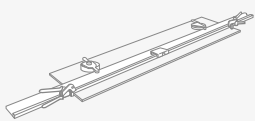


Quick guide to correct elaboration

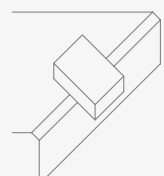
Cutting tools



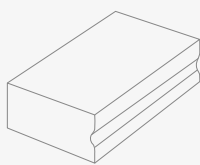
On-site correction
of measurements



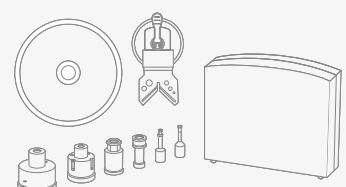
Dry cutting



Microbevel 1mm



Polishing wedge



Certified blades and drill bits

Cutting on site

On-site cutting is possible using dry cutting machines.
We recommend the use of polishing
blocks to micro-bevel the pieces.

1st Holes

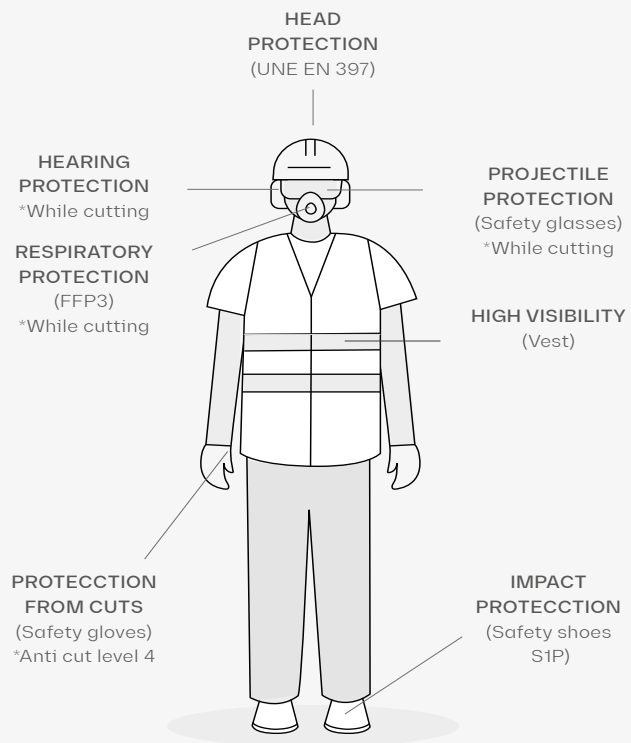


2nd Cuts



Movement of Materials on Site

Recommendations to be considered when moving Cosentino pieces:



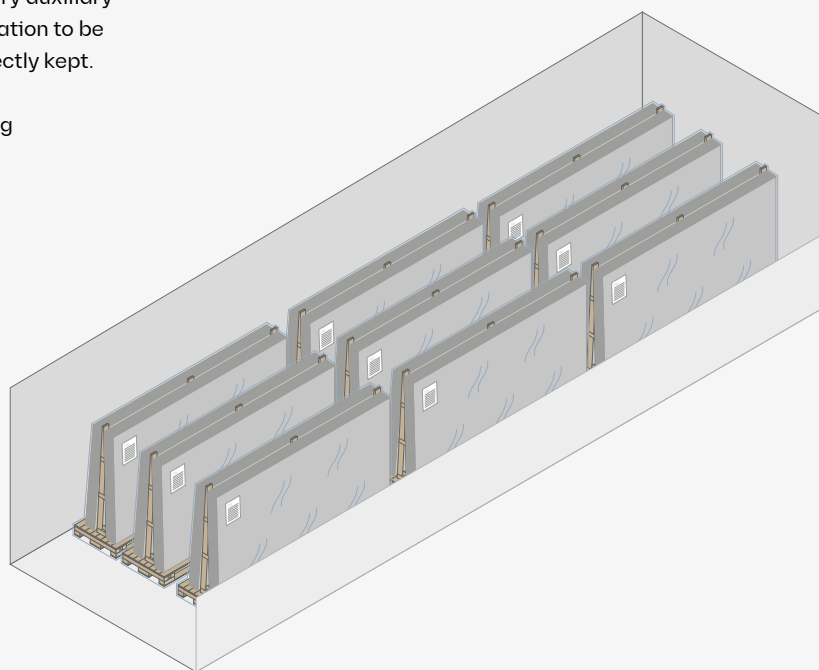
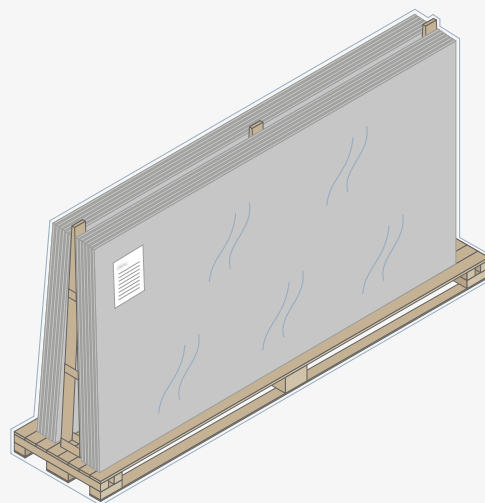
Additional PPE

Use of gloves and sleeves to ensure arm protection.



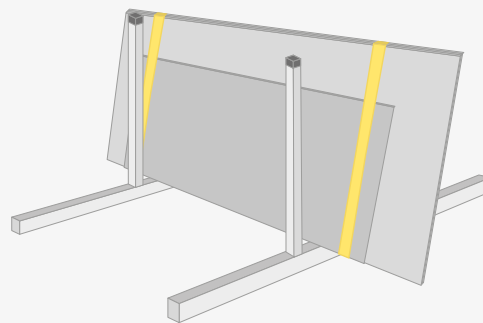
Receipt of material

- A good communication flow is recommended regarding incoming material logistics. There must be proper coordination between supplier, carrier and recipient of the goods. It is imperative to obtain delivery information showing the quantity, the date of arrival and the specifics of the material to be received in order to optimise the time on site of the different work teams.
- Always pay attention to the loading and unloading instructions found on the pallet wrapping. Unloading the pallet from the wrong position can significantly affect the integrity of the product.
- The incoming goods must be checked on site immediately after unloading. The points to be checked are the condition of the pallet, the number of packages and pieces, and the integrity of the pieces or slabs. In the case of an incident during the receipt of the material, a photographic report will be drawn up and Cosentino's project manager will be contacted immediately. Furthermore, whenever possible, the incident should be recorded on the delivery note.
- Knowing how and when the material will be received will facilitate the correct management of the unloading at the workplace, allowing the necessary auxiliary equipment to be prepared, storage location to be reserved and delivery notes to be correctly kept.
- It is recommended to check the packing list included in each package.



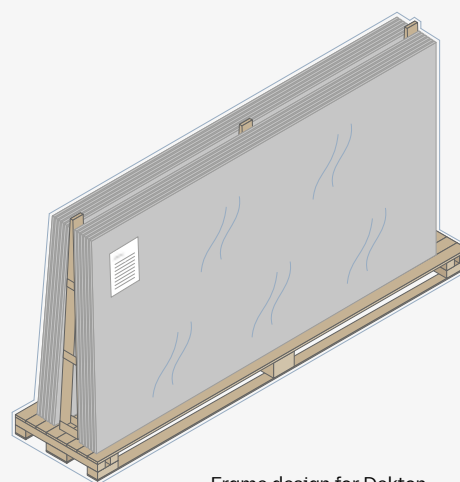
Storage

Assignment of the storage area arranged for the unloading and storage of Cosentino material. The area must be clean, level and delimited in a way that allows an efficient organization of the material. The area must be situated away from the transit area on site, in order to ensure the integrity of the product.



Different kinds of packaging according to project.

Recommended storage of the panels:
in a dry place, protected from rain.



Frame design for Dekton

Package handling

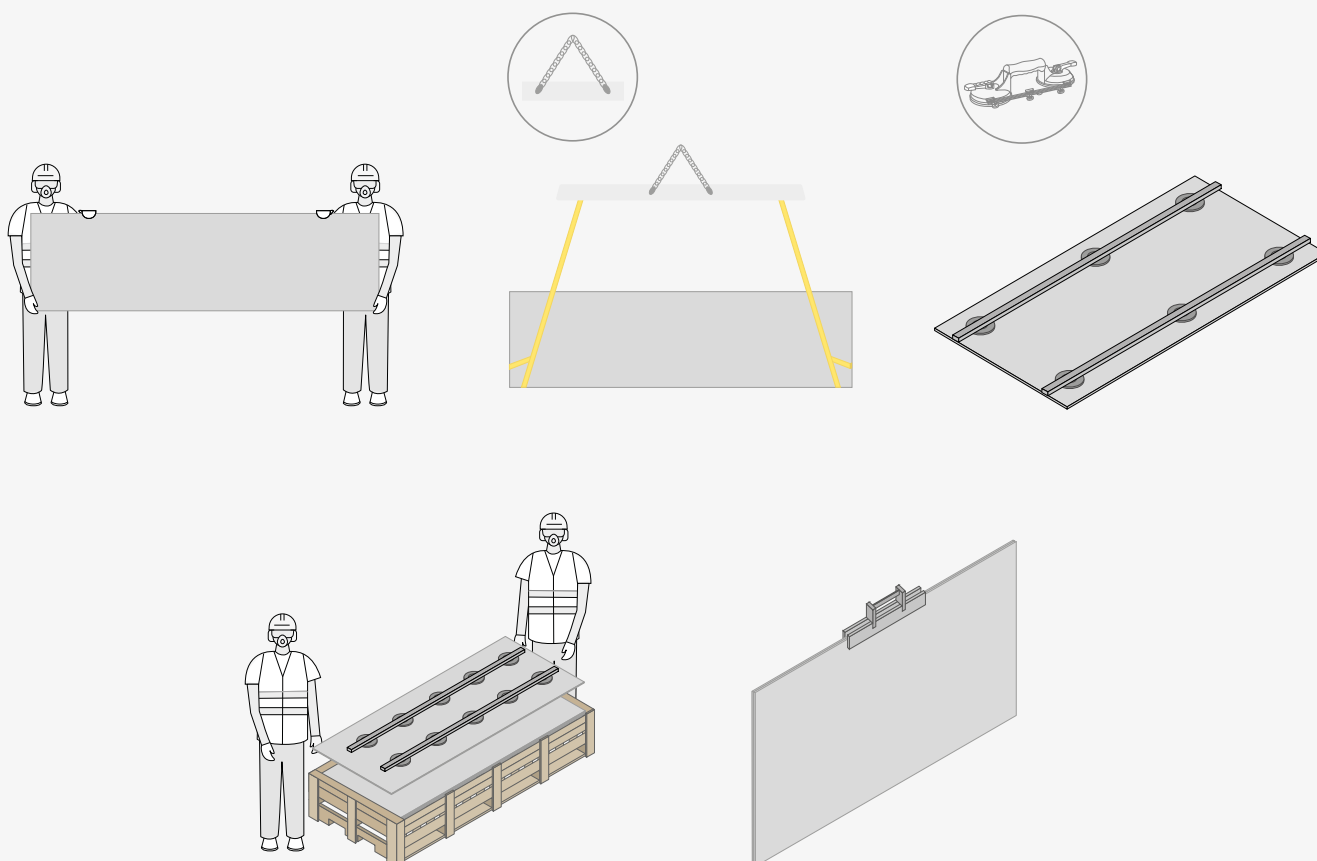
The transport from the storage location to the installation site must be carried out by mechanical means (fork-lift truck, manitou, etc.). The package must be handled according to the instructions on the package.

It is essential that the staff operating cranes, auto cranes or fork-lifts are fully qualified and have received specific training for the task. It must be ensured that the staff in charge of these activities receive the guidelines provided by Cosentino regarding the handling of materials.



Movement of individual pieces

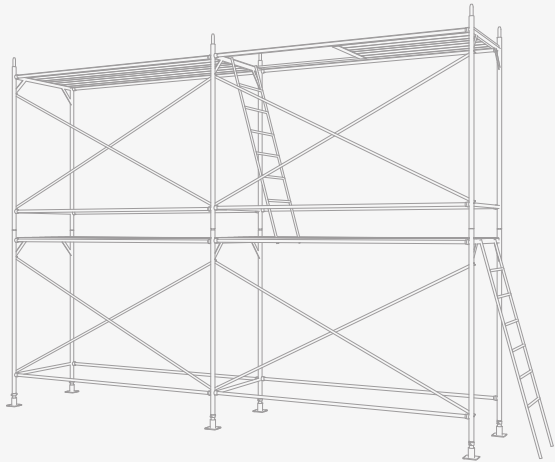
- Carefully open the pallets on site.
Procedure for opening pallets:
Remove the plastic wrap, then secure the pieces with clips and finally cut the plastic straps.
- It is recommended to have a jigsaw.
- Plan and arrange resting places at strategic points on the way between the material collection area and the installation area. It is recommended that these resting places be equipped with an element that ensures cushioning, such as a piece of wood or compressed foam, and a vertical support so that both the piece and the workers can rest before the next section or movement.
- Manual handling is limited to 25kg per person. At least two people are required to handle pieces over 25 kg, with four being the recommended number for handling standard, large-format pieces. If the dimensions of the pieces do not allow for easy handling by four people, it is recommended to use manual suction cups or a carrying frame with multi suction cups in order to facilitate the grip and distribution of weights along the slab.
- It is recommended to use mechanical means for the transport of pieces, avoiding as much as possible moving the pieces manually. Some examples of mechanical means are tackles, glass lifting tools, etc.
- For individual movement of pieces, and depending on the size of the piece, we can recommend 2 types of tools:
 1. A glass lifting tool for individual movement. It is characterized by a cushioned, grip surface greater than 80cm. This type of tool can usually be found in the glass sector. For example: TECNOCAT P21 – load 800kg – for pieces longer than 250cm.
 2. Double-lip vacuum suction cups, which provide a grip for the roughest surfaces, can also be used. At least 2 suction cups must be used when moving the piece in teams of two people, and up to 4 suction cups in order to facilitate vertical transport.
- The movement of the slabs will be carried out vertically to avoid the bending and twisting of the material, and therefore guarantee its integrity.



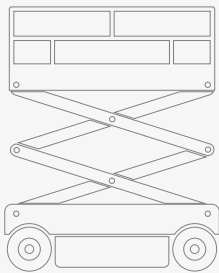
Scaffolding

There are different types of scaffolding on the market and any can be used depending on the project size, the work to be done and the size of the parts to be fitted:

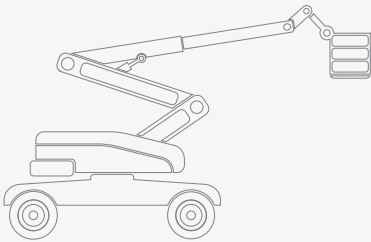
- Mast climbing work platforms: ideal for large-format pieces and where loading is carried out on the same platform, always in compliance with the loading limitations according to the manufacturer's specific instructions. The length of the platforms can be up to 30 metres. It is the scaffolding system most used by Cosentino's customers due to its versatility and speed of assembly.
- Supported scaffolding with platforms for unloading material. This type of scaffolding is ideal for facades with small cuts.
- Suspended scaffolding. They are used for small jobs, such as replacement or maintenance work, as the maximum load they can carry is very small and restrictive. This type of scaffolding is mainly used in small renovations or on replacements.



Scissor lift



Crane arm with platform



Adhesion

Chemical anchoring

When installing Dekton on a ventilated facade, it is important to follow a series of instructions:

- The profile on which it is to be glued must always be in a vertical position, suitably plumbed and free of tension.
- A panel must be fixed to at least two vertical profiles. Depending on the size of the panel and the conditions of the project, the number of profiles needed to fix the panel will be defined.
- Precise positioning of the panel on the vertical profile of the facade is important.
- The application temperature of the adhesive system must be respected (it is usually between +5°C/+35°C (40-95°F)).
- Adhesive systems must be complete and supplied by a single manufacturer in accordance with his technical application instructions.

They are usually applied, in a general way, in the following steps:

1. Profile Treatment and Dekton Treatment.

Both the profile and the Dekton surface must be clean, dry and free of dust, grease and oil. Primers, adhesion promoters and cleaners specified by the adhesive system supplier should be used.

2. Application of double-sided tape.

The tape must be applied along the entire length of the profile in a parallel manner, always vertically and without removing the protective film once it has been attached to the profile.

3. Application of the adhesive.

The adhesive is applied in the form of a vertical triangular line using the pre-cut nozzle indicated by the supplier. The height, width and distance from the adhesive to the tape is indicated by the supplier. The width of the profile must be sufficient to respect all distances to the edge and between components.

4. Placement of the panel.

The protective film is removed from the double-sided tape. Position the panel as indicated by the design, without touching the tape and then press it until it touches the tape. The panel should be set within the maximum time indicated by the adhesive supplier (e.g. 10 minutes). Spacers may be required to mark the joint between panels.

General observations on application, execution and control of work

- Do not prime or bond in when there is rain or high moisture content (e.g. heavy fog).
- Avoid risk of condensation on profiles and panels. Profile temperature should be above dew point.
- Follow the recommended application temperatures, drying times and application of each component.
- We recommend having a daily control of the work with information about the installed panels, weather conditions, construction solutions, system used (components).
- It is recommended that the installation be completed by companies that have had proper training on this type of system. For a list of these companies, please contact Cosentino.

Manufacturers of chemical anchorings tested with Dekton:

- Sika. Sika Tack Panel 50.
- Innotec. Innotec bonding system (Adheseal adhesive)
- Bostik. Panel Tack HM
- Soltec. Soltec Panel Fix.
- Louvelia. Louvelia Fix

Each manufacturer has its own technical documentation, including component data sheets, safety data sheets, adapted fixing instructions, system certifications and/or tests... etc.

Safety recommendations for chemical anchoring

There is the possibility, if indicated in the project, of incorporating mechanical safety fasteners for 8 mm parts.

These elements are fixed to the profile system and their arrangement and fixing must follow the supplier's instructions.

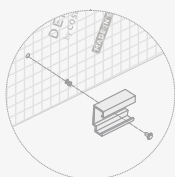
Processing

Normally, slabs are delivered cut and drilled from the factory following the project design.

Available mechanical operations for facades

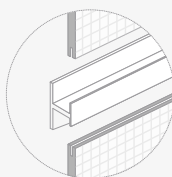
DKT1. Undercut drill

TK (thickness = 8/12 and 20 mm)



DKT2. Continuous grooved edge

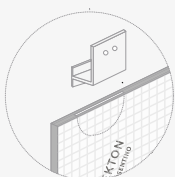
Width 3/4 mm. (thickness = 12 and 20 mm.)



CR2. 1. (thick. 12mm, width 3mm, depth 10mm.)
CR2. 2. (thick. 20mm, width 3mm, depth 10mm.)
CR2. 3. (thick. 12mm, width 4mm, depth 10mm.)
CR2. 4. (thick. 20mm, width 4mm, depth 10mm.)

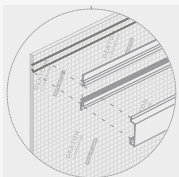
DKT3. Intermittent grooved edge

Width 3/4 mm. (thickness = 12 and 20 mm.)

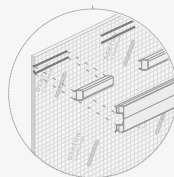


DEKCLIP. Rear groove continuous or spot

CR4 (thickness = 8 and 12 mm)



Continuous groove



Spot groove

DKR. Riveting

(thickness = 4 and 8 mm)



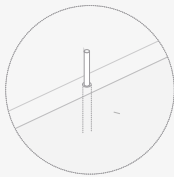
DKB. Intermittent groove on the reverse

CR5 (thickness = 8 and 12 mm)



Intermittent hole on the edge

T1 (thickness = 12 and 20 mm)



- Dekton® machining dimensions may vary depending on the specific conditions of each project.
- The thickness of the material will depend on the systems used and the requirements of the project.
- Cosentino is not responsible for mechanical calculations, nor does it indicate the necessary holes and grooves per m².
- The pieces intended for a ventilated facade will incorporate a mesh on the back of it.
- This mesh is available on request (minimum order to set up a complete slab).
- In some references, both the orientation of the texture/decoration and the background movement must be taken into account.

The following items are included in the quotation for facade projects at no additional cost:

1. NON-RETURNABLE PACKAGING
2. TRANSPORT TO DELIVERY POINT.
3. SAFETY MESHING (for Dekton® 4 mm and Dekton® ventilated facade).
4. REFERENCED PALLETIZING (following project plans).
5. CUTTING OPTIMISATION (Project Modulation)

Cleaning and Maintenance

Dekton® has practically zero porosity, so is easy to clean. Rainfall is effective to remove any accumulated dirt and to keep the external cladding clean.

But the dirt and soil depends largely on the local atmospheric conditions depending on the location of the project. In heavily industrialized areas, coastal areas and the areas where construction works are being carried out, it might be necessary to clean the product occasionally or on a periodic basis, solely for the purpose of aesthetic appearance.

If Dekton® cleaning is required, the schedule might be adjusted with other cleaning operations of the external facade for example, glass and painted aluminium components.

If an automatic wall cleaning machine is to be used, a pre-test should be done in the early stage of equipment design to confirm that there is no detrimental effect on the panel as well as to clarify the cleaning effect and frequency.

Final Cleaning On Site

After the installation of Dekton®, the surface usually shows remains of work, in the form of film or small accumulations of cement, lime, epoxy, etc. Therefore, it is necessary to do a final cleaning job to ensure total cleanliness of the Dekton.

Cleaning protocol:

A) Prepare the cleaning products and tools

- Descaling detergent. (Acid-based buffer)
- Epoxy remover cleaning product
- High-pressure washer
- Brush or scourer and sponge can be used if a high-pressure washer is not available

B) Procedure

- Mix the acid product and water (according to the manufacturer's instructions)
- Spread the mix on the facade and leave it for few minutes (according to the manufacturer's instructions)
- Clean with a high-pressure washer; if you do not have a high-pressure washer, it is recommended to scrub with a brush and rinse with a damp sponge.

Cleaning and Maintenance

Maintenance has the important purpose of removing dirt superficially embedded. Correct maintenance guarantees a natural appearance of the facade.

The site should be inspected on a six monthly or yearly basis, depending upon the atmospheric conditions where the project is located as defined above.

For cleaning, it is recommended to use a neutral detergent with high cleaning power, avoiding products with too much soap or presence of wax.

The simplest procedure for cleaning is to spread the solution, following the manufacturer’s instructions, wait a few minutes and clear out with a high pressure washer; without the high-pressure washer, it is recommended to scrub with a brush and rinse with a damp sponge.

Stubborn Stains

For stubborn stains, those which have been there for a while, or of a special composition, that are stuck to the surface and cannot be removed with daily cleaning, we recommend following the table below.

STAIN	CLEANING PRODUCT
Liquids and organic residues	Conventional detergent, grease remover
Grease and oil	Degreaser
Rubber	Degreaser
Resins, putties, silicone, dyes	Solvent, Acetone
Traces of cement adhesives	Acid
Plaster	Plaster remover, Acid detergent
Tar	Degreaser
Nicotine	Abrasive cleaning product, Solvent, Acetone
Metal Rust	Metal cleaner, hydrochloric acid

* Avoid contact of Dekton® with hydrofluoric acid.

Contact Details

We have a presence
all over the world in
order to be close
to our clients and
their projects

Our Cosentino CITIES, located in some of the world’s most iconic cities, create spaces where everyone can discover Dekton® and the latest market trends with all five senses. As well as being used as an office, these spaces can be set up for meetings, classes, exhibitions, and much more. We see them as dynamic, social spaces and the ideal setting for exchanging ideas.

Wherever they are in the world, our Cosentino CENTERS are the epicentre of our company. Anyone with a curiosity or passion for design is welcome to visit our warehouses to experience our life-size products close-up and to see them in use. We know all there is to know about Dekton®’s rich colour variety and what it brings to the world of design.

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Cosentino TURIN
Cosentino VENEZIA
[Cosentino CITY MILAN](#)

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Cosentino LYON
Cosentino MARSEILLE
Cosentino PARIS
Cosentino RENNES
Cosentino STRASBOURG
Cosentino TOULOUSE

AUSTRIA
Cosentino WIEN

BELGIUM
Cosentino BELGIUM
Cosentino ANTWERP

NORWAY
Cosentino OSLO

SWEDEN
Cosentino GÖTEBORG
Cosentino STOCKHOLM

SWITZERLAND
Cosentino ZÜRICH

NETHERLANDS
Cosentino THE NETHERLANDS

ISRAEL
Cosentino CAESAREA
Cosentino TEL AVIV

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Cosentino ANKARA
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Cosentino WARSAW

MALAYSIA
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Project Quotation

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PSU Technical Services

Services offered from the PSU (Project Service Unit) to facade projects are grouped in four different categories.

Basic project/technical advice

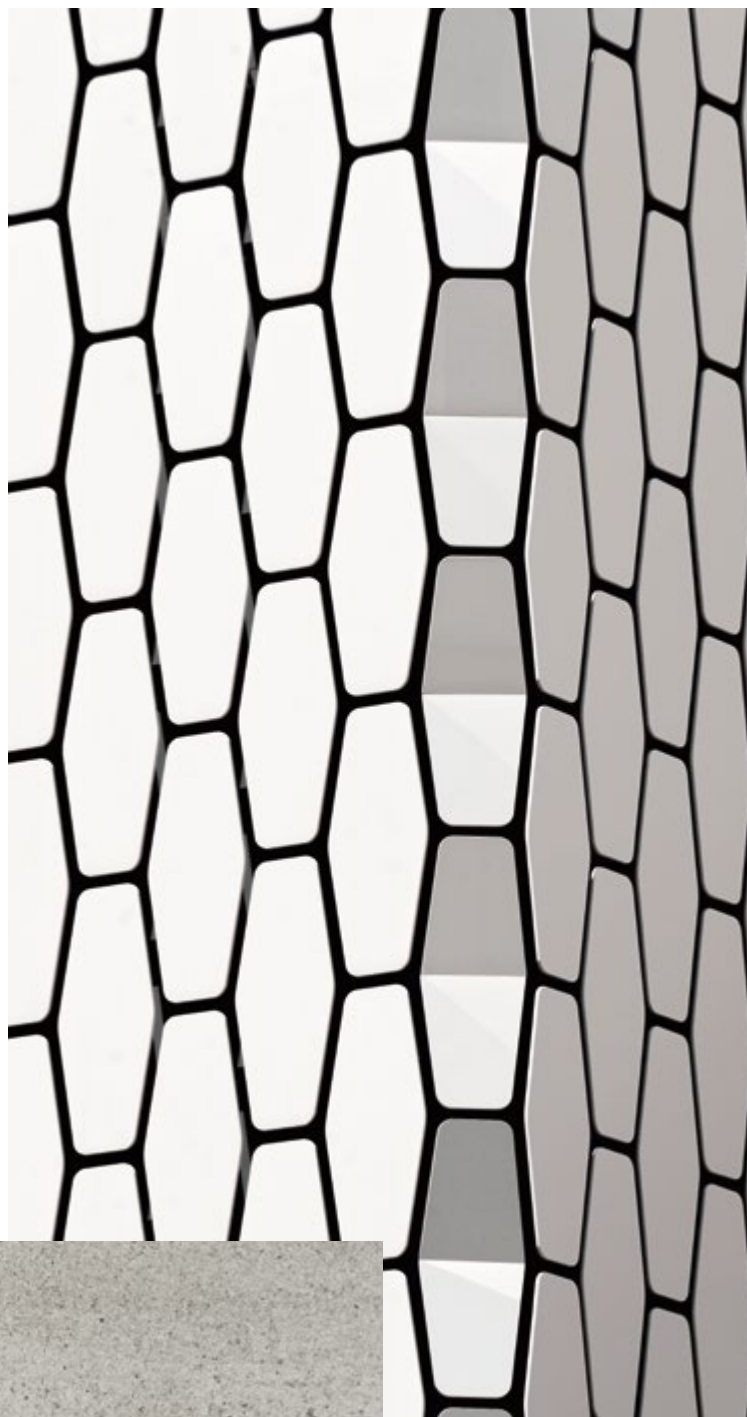
- Network of associated installers
- Specific test for for each project
- Providers of associated systems

Project implementation/Technical proposal

- Study of customised projects
- Quotation
- Technical drawings
- Project rendering
- Project delivery customisation

Project support on site

- Installation support on site
- Final visit on site
- After sales quality service
- Training at the factory. Theoretical and Practical
- Virtual visit to Facades Showroom (Facades Lab)



Project definition

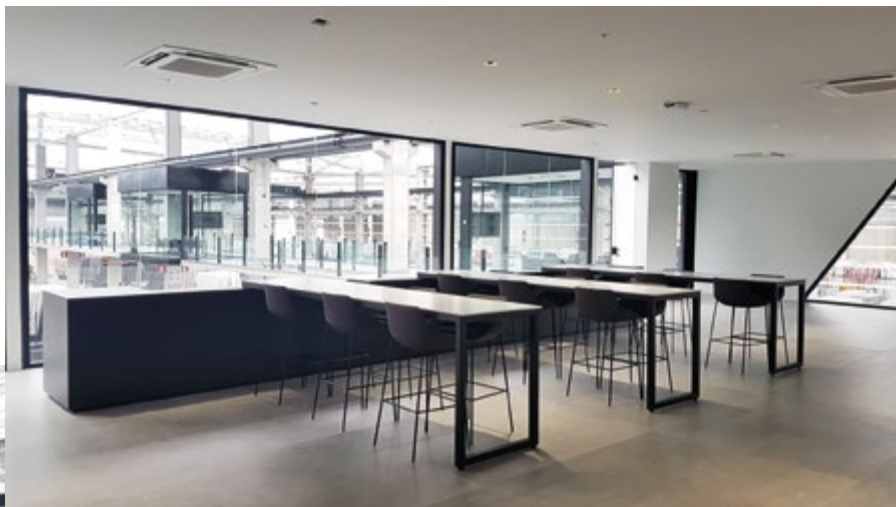
Basic project/technical advice

- Initial meeting with facade specialist from salesforce
- Material definition: Colour, Thickness (Dekton iD services)
- Recommended optional systems
- Standards and certifications applied
- Performance and design optimisation
- Initial quotation
- References from previous facades (Case Studies)
- Cosentino City visit
- Virtual visits to the factory.
- Facade models in Augmented Reality
- Facade videos
- Factory visit (depending on the project)

Customised Projects

Project implementation/Technical proposal.

- Tender quotation and project description
- Constructive Solutions support
- Fixing distances for Dekton (software including Dekton FEM)
- Technical support for tests and testing
- 3D Rendering Model (depending on project)
- Collaboration with system suppliers (together with suppliers, facade consultants and technical installation office)
- Static calculation
- Workshop plans
- Final Quotation (including installation)



Integral installation support service

Project support on site.

CONTRACTOR

- Associated installer program
- Mock-up service on site
- Technical Support at on site meetings

INSTALLER

- Cut to size panels
- Panel machining
- Special 3D elements (U & L shapes)
- Personalised supply
- Closed service time
- On site support visits



Aftersales service

- Final on site visit
- Warranty delivery
- Project Case Study if needed e.g. Professional photos, videos, social media presentation....

Integral Services for International Projects

At Cosentino Group, we meet the demands of architects and designers who seek inspiration and information to execute construction and renovation projects. Every project entrusted to us through our sales and service network goes through several stages that guarantee efficiency and safety:



Initial Consultation

A Project Manager takes care of managing more than 15 analysis and implementation experts.



Production

We create turnkey projects and offer solutions for each of the phases in a personalised manner.



Logistics

A team of more than 170 people send the material via an automated platform.



Quotes and Technical Proposal

Detailed study of each element of your project.



Mock-ups and Layouts

Upon request, customers can be sent life-size samples of their project.



Quality Control



Implementation and Support

We advise customers in the project implementation as well as technical support.



Dekton Warranty

Transportation insurance to guarantee the perfect condition of our shipment.

Initial Consultation

We assess project requirements in detail and we advise on the use of one or various brands (Silestone, Dekton, Sensa or Scalea), depending on its characteristics and the application type: worktops, facades, cladding or flooring.

A Project Manager takes care of managing more than 15 analysis and implementation experts. Legal consultations are carried out on construction permits, certificates are arranged and software is used to prepare and manage plans.



Initial advice, analysis and technical proposal

DETAILED STUDY OF ALL PARTS OF YOUR PROJECT

- Assignment of a project manager
- A team of more than 15 experts (experienced architects, engineers, etc.) involved in the analysis and execution of the project
- Software for management and interpretation of blueprints
- A team of designers
- Different teams look at the study
- Advice on construction regulations
- A chance to obtain certificates
- Advice and solutions for LEED certification

QUOTATION AND TECHNICAL PROPOSAL

- A study of customer proposals and input of new ideas by our team of experts
- Design recalculations: Less Waste = Higher savings/Improved aesthetic finish
- A detailed budget for items
- Speedy budget implementation <48h
- Completion of specific certificates or tests for the project
- Coordination in security documentation

Production

At Cosentino, we can adapt to satisfy the needs and preferences of each architectural, decoration or design professional, thereby creating turnkey projects and providing solutions for each of the phases in a personalised manner.

More than 140 employees work in the production factory, using next-generation cutting and polishing technology. In the factory, they operate one automatic production line for worktops and another for sinks, an automatic stone washing machine, and a texturing machine.

Over 187 employees work in the flooring and cladding factory, with one automatic line that creates large slabs measuring from 60 x 60 cm up to 320 x 1,50 cm, and another automatic line for pieces measuring from 30 x 15 cm up to a maximum of the size of the slab itself (320 x 150 cm). Furthermore, more than 140 people work in quality control with raw materials.



Logistics

The material produced is packaged with the aim of limiting the weight and dimensions per package and taking into account the agreed design for the piece placement order.

Every day, a team of more than 170 people send the material via an automated platform that is adapted to the customer's requirements in terms of time and volume.

At Cosentino, we have signed delivery contracts with the main shipping companies and can accommodate more than 150 containers at our own facilities.

Quotes and technical proposal

A budget is drawn up for each part of the project based on the initial proposal, any changes suggested by the experts, any new designs and the inclusion of customised colours.

Design and development

An R&D + Innovation team together with our internal designers, work in direct contact with the customer through our Custom Colour Product Manager.

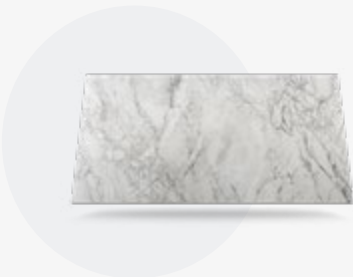
Mock-ups and Layouts

We create 3D digital models to present the final image of the project, as well as mock-ups or physical prototypes. Upon request, customers can be sent life-size samples of the brands to be used in the construction process.

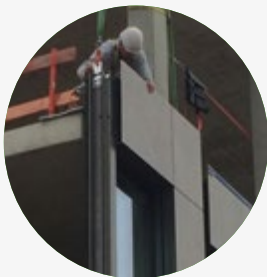
We offer the possibility of preparing a mock-up to be able to validate structures and modulated systems in advance.



Possibility of the final project aspect in 3D Digital



We ship actual size samples



Possibility of on-site mock-up

Implementation and Support

A budget is drawn up for each part of the project based on the initial proposal, any changes suggested by the experts, any new designs and the inclusion of customised colours.

Project management and execution.

1

Production

Guaranteed deadlines thanks to the link between the Project and Factory through our Project Manager.

Daily review of production date plans adjusting to work setbacks.

Production factory: More than 140 workers.
Max capacity of 240,000 m² CTS a month.

Project Factory. Facades, flooring and cladding.
Max. capacity of 150,000 m² month.

3

Packing

Customised packaging. We pack all our materials treating each piece as an individual unit, adding specific protection in each case.

Vertical or horizontal design possibilities.

Choice of other specific materials
- ECO Packaging.

Organisation by lots, items and size.

Information sheets (safety, material, use, maintenance, etc.)

5

Post-sales

Incident management and resolution.
Cosentino's specialised staff can travel for 'on-site' assessment and resolution.

Transportation insurance to guarantee the perfect condition of our shipment.

Monitoring and traceability of all shipments to their destination.

Training in the use and maintenance of the material in each application.

2

Quality control

Validation of production plans by the customer as well as the final product before loading and shipping.

Each piece of the finished product is individually checked by our quality team.

Support when receiving the material/piece from our Technicians, according to the project

4

Logistics

We manage the goods efficiently from point to point for the customer thanks to a Logistics and Planning team of more than 170 people.

More than 40 Containers and 20 trucks per day.

Preferential agreements with the world's leading shipping companies.

Dry port in our facilities with capacity for more than 150 containers.

Agility in customs and ports.

General Conditions of Sale Cosentino Group (“Cosentino”)

1. Scope and validity

The present General Conditions of Sale shall be applicable provided that the parties have not agreed upon other specific conditions expressly and in writing. The same shall be of priority application, where appropriate, on the general conditions of the purchaser.

The Client acknowledges that the General Conditions of Sale have been made available to them prior to the business relations to which they may apply. The undertaking by COSENTINO of the sale of a product to the Client implies the acceptance for this, fully and without reservation, of its terms that are considered automatically and duly incorporated into the business relations between the parties.

Signing the delivery note or delivery document implies the acceptance of the present General Conditions of Sale, as well as the quality, quantity and state of the goods.

When the sale refers to Dekton panels for facades, the client acknowledges that the Conditions of Service Provision and the Technical Conditions for Facades form an indissoluble part of these General Conditions of Sale.

COSENTINO offers are not binding until a written confirmation of the order has been issued.

Orders sent by the client are binding. They may be accepted by COSENTINO within two weeks of receipt, either in writing or by delivery of the material to Client. If the order is submitted electronically and a confirmation of receipt is issued, such confirmation of receipt does not constitute a binding acceptance of the order.

2. Pricing

The sales prices of the products shall be those that are set in COSENTINO's offers and rates, disclosed to the Client, or alternatively the specific terms and conditions agreed upon between COSENTINO and the Client. The corresponding taxes shall be added to said prices.

COSENTINO may change the sales prices of products at any time. The increase in the sales price shall not affect those already-underway orders that have been expressly accepted by COSENTINO.

COSENTINO reserves the right to set a credit limit for each Client and subordinate deliveries on the basis of this limit and/or the presentation of an adequate payment guarantee. In the event of any delay in payment, COSENTINO may proceed to recover the goods pending payment and/or initiate appropriate legal action.

3. Product guarantee and delivery

COSENTINO guarantees that the products are marketed under the terms of the specific product guarantee that is made available to the Client, which the latter declares to know and accept.

The order represents an acquisition commitment for the Client.

COSENTINO reserving the right to suspend or cancel them, in cases where the provided guarantees of solvency are deemed insufficient.

The product delivery dates agreed upon with Clients shall always be merely indicative, with any delivery subject to

the availability of stock. COSENTINO shall not be liable for any non-delivery of products or delays of the same.

The Client must review the goods at the time of reception, informing COSENTINO in writing as soon as possible and, in any event, no later than seven (7) days as from the delivery date of the goods, of any external and apparent defects that they may see. The delivery of materials shall be understood as delivered by simply making them available to the purchaser, in the COSENTINO facilities.

Any exchange or return of goods consisting of full slabs that the Client may request within thirty (30) days following the receipt of the goods shall be verified and approved by COSENTINO.

Furthermore, any exchange or return of goods consisting of full slabs requested by the Client after thirty-one (31) until ninety (90) days from the date of receipt of the products must be verified and authorised by Cosentino and a refund fee equal to 25% of the price of the goods will be applied.

Returns of full slabs will not be accepted after ninety (90) days from the receipt of the products.

As a general principle, materials produced or purchased especially for the Client will not be returned.

If COSENTINO produces tools or orders them for Customer's orders and charges the incurred costs proportionately to the Customer, ownership of such tools and their accessories does not pass to the Customer, nor does the Customer have a right to their delivery. In particular, the tools will not be delivered to the Customer.

COSENTINO reserves the right to make partial deliveries. The Goods may present reasonable deviations in weights and quantities, attributable to the production processes. A deviation of up to 10% in weights and quantities is allowed.

Any costs for inspections and acceptance procedures will be borne by the Client.

4. Packaging and transportation

The packaging, if any, is not included in the given prices and shall be borne by the Client. The delivery, unless otherwise agreed, will be ex-works (EXW according to Incoterms 2020), with transport and unloading at Customer's expense and risk. If the transport is carried out by means, commission or management of Cosentino, it will be understood that the transport agreed upon with Cosentino is as Client's agent.

5. Quality and measurement

No claim will be accepted if the material has been used or subjected to any transformation, treatment, or modification process by the Client.

The measures to be recorded shall be obtained by proportionally deducting those incoming, chamfers and commercial trade in simply sawn blocks or tables and they will be true if their edges are cut to a fixed size.

In the case of natural stone, the samples provided do not mean that the supply will be absolutely identical in tone and aspect, as they are natural products, which, although carefully selected and prepared, may be subject to variations in hue, grain and composition. The variations introduced by nature in the same shall not be considered defects: no claims for this reason will be addressed. The Client may examine the product in our facilities. Any claims for differences or

defects in the material must be made by the purchaser upon delivery of the goods, or within a maximum period of eight (8) days following receipt of the same.

6. Terms of payment

Payments shall be made in the way and timeline established in the corresponding invoice. Notwithstanding the foregoing, and unless COSENTINO and the Client have expressly agreed otherwise, payments shall be made through a charge to the account the Client has designated for said purpose. Each time the Client places a new order, and it is accepted by COSENTINO, the customer expressly authorises COSENTINO to submit the corresponding invoice to the bank account that has been provided to COSENTINO and that is reflected in the corresponding invoice. Therefore, the Client expressly recognises that they will not have the right to request the return of the invoices from their bank corresponding to the purchases that COSENTINO draws on said current account, for breach of the conditions of article 48 of Royal Decree-Law 19/2018, of 23 November, on payment services and other urgent financial measures ("RD 19/2018") or any other regulation that may be applicable.

In any case, and in order to avoid any doubt, the Client expressly waives the right to request the return of the charges made as a result of the invoices drawn by COSENTINO, in accordance with the provisions of Article 34 of RD 19/2018 or any other regulation that may be applicable.

The Client authorises COSENTINO to report the declarations contained in the present clause to the financial institution in which the payments are directly debited.

Notwithstanding the foregoing, COSENTINO reserves the right to claim, where it considers appropriate, the payment by other means (cheque, transfer, promissory note, etc.).

In the event of total or partial breach of the payment obligations assumed by the Client, COSENTINO shall have the right to settle the outstanding sales as well as to compensation for damages and payment of the corresponding interest. Furthermore, the Client must bear the financial and banking expenses caused by the delay in payment.

7. Retention of title

The Products shall remain the property of COSENTINO until any and all claims of COSENTINO arising from its business relationship with CLIENT have been paid in full.

In the case of current accounts, this retention of title shall serve as security for the claim for the balance to which COSENTINO is entitled.

Prescription, engineering, consulting and construction support services are ancillary services provided free of charge and without any obligation or responsibility on the part of COSENTINO, unless a separate additional order is made for such services and the corresponding amount is paid.

8. Liability

Apart from those cases derived from non-conformity of the products, any claim for damages brought by the Client when there is no gross negligence or fraud is expressly excluded. The contractual liability of COSENTINO is limited to the purchase value of the products. Under no circumstance shall COSENTINO be financially liable to the Client for loss of profit, income lost, costs of downtime or, in general, for losses of any kind that the Purchaser may suffer due to non-delivery or faulty delivery of the products.

The Client shall be solely liable, exempting COSENTINO where applicable, for damages stemming from the improper use, storage, preservation, processing or handling of products.

For this purpose, COSENTINO has provided the Client with all the necessary documentation and instructions for the safe and proper use of products.

Likewise, COSENTINO is exempt, with regard to third parties, of any legal, contractual or extra-contractual liability that may arise from the handling, treatment and installation of products made by companies other than COSENTINO.

The Client is responsible for complying with the existing legal provisions on the environment, and especially for the managing waste produced in the handling and processing of acquired materials or their packaging.

Therefore, COSENTINO shall have the right to modify the delivery times of the goods agreed with the corresponding client and/or these General Conditions of Sale due to circumstances beyond its scope or control, including, among others, regulatory changes, natural or social or legal conditions (restrictive regulations on foreign trade operations, changing market conditions that may restrict or substantially affect the product supply or prices, as well as unforeseen tariffs or taxes) or force majeure that are beyond its control.

9. Health and safety requirements

The Client will comply, at all times, with all regulations that may apply to the implementation, handling, storage, manufacturing and disposal of products marketed by COSENTINO.

Products purchased from COSENTINO may contain crystalline silica (please see the corresponding label and Safety Data Sheet). Incorrect processing of the products, or without appropriate measures for protection, may cause serious illness, such as silicosis or lung cancer.

Consult a competent health and safety professional in order to implement the required occupational measures for containing the source of dust, such as tools with a water supply and ventilation systems that ensure air renewal.

Employers of the professionals who ultimately process the products are responsible for informing employees and ensuring that the workplace complies with the applicable local regulations for limiting occupational respirable crystalline silica exposure.

To be exact, the Client must carry out, regarding each position, periodic risk assessments in accordance with applicable sector regulations, and implement the appropriate risk control measures.

All boards are accompanied by a safety label with the identified hazards. The Safety Data Sheets, labels and the Guide to Good Practices are available in your language at osh.cosentino.com, accessible by scanning the following QR code, at www.cosentino.com, or upon request to the manufacturer at info@cosentino.com.



10. Personal data protection

In compliance with the current legal framework in matters of data protection, we inform you that the underlying personal data of these conditions will be included in a file under the liability of COSENTINO, with registered address Ctra. Baza a Huércal – Overa, Km. 59 – 04860 Cantoria (Almería), for purposes of managing business relations. Likewise, the Parties ensure compliance with the duty of information regarding their employees whose personal data is communicated between the Parties in order to maintain and fulfil the

contractual relationship. The legal basis that legitimises the processing of the data of the interested Parties is the need for the entering into and execution of this contract, as well as the lawful interest of the Controller.

The retention period of their data will be 15 years in order to comply with the legal obligations of the company. However, they may exercise their rights of access, rectification, abolition, objection, limitation and portability by means of written communication to the address provided or to the Data Protection Officer gdpr@cosentino.com providing a photocopy of their Spanish National ID card or equivalent document, and indicating the right that is requested. Likewise, if they consider their personal data protection rights to be violated, they may file a claim with the Spanish Data Protection Agency (www.aepd.es) or any other entity that is competent in this matter.

The Client accepts that COSENTINO has the right to provide the Client's data in a commercial relationship to a credit insurance agency in order to contract credit insurance.

11. Cosentino industrial property rights

The Client acknowledges that the trademarks and trade names that identify COSENTINO and its products are and will solely and exclusively belong to COSENTINO, and that they may not claim anything or have any rights with respect to the same. Trademarks and trade names shall only be used by the Client for product marketing, clearly stating the Client's relationship with COSENTINO, that COSENTINO is the owner of the trademarks and trade names, and complying with the guidelines and requirements established by COSENTINO in all circumstances.

In that regard, the Client undertakes to not register or request the registration of any name, trademark, trade name, internet domain, social media profile, or any other form of industrial or intellectual property that contains or

resembles the trademarks or trade names that identify COSENTINO and its products in a misleading way about the origin of the products or about the Client's relationship with COSENTINO.

In the event that the Client is interested in the design, implementation or use of a web page for the promotion and marketing of COSENTINO products, prior written authorisation by COSENTINO shall be required to agree upon the characteristics, design and contents of the same, as well as the domain name that will be used for this purpose, in detail. To the contrary, COSENTINO shall be empowered to demand that the Client cease using said web page at any time.

Furthermore, COSENTINO may require that the Client use any of COSENTINO's web pages instead of alternative web pages.

If, for any reason, the Client registers any name, domain, trademark, social media profile or trade name that contains, is equal to or similar to the trademarks and trade names registered or used by COSENTINO, the Client will be obliged to immediately transfer the ownership of said records to COSENTINO upon the formal request of and at no cost to the latter.

The Client shall not use any trademark, trade name or copyright of COSENTINO as a part of its company name or trade name.

COSENTINO reserves all proprietary rights, patent rights, design rights and copyrights with respect to images,

drawings, designs, details, cost estimations and other documents. This also applies to any document designated as "confidential". The express written consent of Cosentino is required before such documents may be disclosed to third parties.

12. Assingment

COSENTINO shall be entitled to transfer or assign in favour of third parties the manufacturing and delivery of the goods as well as assign the delivery of any other services under these General Conditions of Sale.

13. Applicable law and jurisdiction

The present General Conditions of Sale shall be subject to Spanish law or that law that would be applicable to the commercial relationship between the Cosentino subsidiary that carries out the sale and the Client.

In case of discrepancies regarding the interpretation, application or execution thereof or dispute regarding the terms set forth in these general conditions, the Parties agree to submit to the jurisdiction of the courts and tribunals of the city of Almeria or those courts that may be competent to settle any dispute between the Cosentino subsidiary and the Client. Notwithstanding, COSENTINO may request any measure seeking to satisfy its interests before a different court.

COSENTINO and the Client agree to the non-applicability of the United Nations Convention on Contracts for the International Sale of Goods (CISG) or Vienna Sales Convention.

"The client undertakes not to market the products supplied by Cosentino to individuals or legal entities (hereinafter, "Persons"), or entities in which such Persons have an ownership stake or control, that (i) appear as persons sanctioned by laws, regulations, directives, judgements, programmes or restrictive measures with regards to international economic-financial sanctions imposed by the United Nations, the European Union, including the Kingdom of Spain, or any other Member State whose regulations on Sanctions are applicable. This includes the Office of Financial Sanctions Implementation (OFSI) of the Her Majesty's Treasury (HMT) of the United Kingdom and/or the U.S. Department of the Treasury's Office of Foreign Assets Control (OFAC) (hereinafter, "Sanctioned Persons"); (ii) have an ownership stake in or control a Sanctioned Person; (iii) act directly or indirectly for or on behalf of a Sanctioned Person; (iv) are constituted, located or with an operating headquarters or resident in a country or territory, or whose government is recorded in laws, regulations, directives, judgements, programmes or restrictive measures with regards to international economic-financial sanctions imposed by the United Nations, European Union, the Kingdom of Spain, the OFSI of HMT and/or the OFAC (hereinafter, "Sanctions"); (v) maintain business relationships or carry out transactions with Clients that involve the transfer of funds from or to countries, territories or jurisdictions subject to Sanctions."

Technical Conditions of Dekton® Facades

This document outlines the technical conditions for the specific use of Dekton® for facades, including the limitations on the use of the materials and systems supplied by Cosentino.

1. Dekton® slab: specifications and finishes

The technical specifications of the Dekton® panel can be found in the Cosentino Facade Manual – Cosentino Facade Fixing Systems, rev. 08 (March 2023) and later. Performance may vary slightly depending on the technical families of finishes chosen (Families I, II, III and IV), so it is recommended to analyse the performance per range before making a final choice.

The four families of finishes are listed in Annex N of ETA 14/0413 issued by ITeC on 20/07/2020. The performance of each family of finishes is listed in the 'Declaration of Performance No. 092013DK' document, updated as of January 2019.

The environmental impact of Dekton® panels is described in the Environmental Product Declaration (EPD). S-P-00916 – Version 2, last updated 09/12/2021.

The colour stability of Dekton® finishes has been evaluated using accelerated ageing tests. The results are included in the Cosentino Facade Manual – Cosentino Facade Fixing Systems, rev. 08 (March 2023) and later.

The specifications of the Dekton® facade system when used as a ventilated facade with mechanical fixings are set out in the European Technical Assessment ETA 14/0413 issued by ITeC on 20/07/2020. The system designer shall refer to sections 1, 2 and 3 of such document for the technical description of the system, its specifications for use and its performance.

In the event that the fixing solution proposed by the project designer differs from that described in the Cosentino Facade Manual – Cosentino Facade Fixing Systems, Cosentino recommends that the verification tests contained in the European Assessment Document EAD 090062-00-0404 be carried out: Kits for mechanically fixed exterior facade cladding.

2. Limitations on use, cutting, handling, assembly and transport

Depending on the expected impact on the panels, the recommended edge finish for Dekton® panels will vary. See the table of recommendations in the Cosentino Facade Manual – Cosentino Facade Fixing Systems, rev. 08 (March 2023) and later.

The use of flat L- or U-shaped Dekton® panels for facades is not recommended due to the concentration of stress in the inner corners. See the Cosentino Facade Manual – Cosentino Facade Fixing Systems, rev. 08 (March 2023) and later.

When drilling holes in the panels, holes must first be drilled in the corners of the hole. The minimum distances from the holes to the edge of the panel must be maintained. See the Cosentino Facade Manual – Cosentino Facade Fixing Systems, rev. 08 (March 2023) and later.

Three-dimensional pieces can be created by mechanically assembling return parts with straight or bevelled edges on ventilated facades. Please refer to the limitations contained in the Cosentino Facade Manual – Cosentino Facade Fixing Systems, rev. 08 (March 2023) and later.

Corners between adjacent facades can be made as indicated in the Cosentino Facade Manual – Cosentino Facade Fixing Systems, rev. 08 (March 2023) and later.

3. Impact category

The impact resistance of Dekton® facade surfaces varies according to their thickness and family. This value is given in section 3.5 of Dekton® ETA 14/0413 dated 18/01/2022. The panels were subjected to a series of hard and soft body impacts at different energy levels. The results place Dekton® in impact category IV for thicknesses of 12 mm or 20 mm.

Category IV: The degree of exposure in use should be a zone out of reach from ground level.

It is the responsibility of the project engineer to decide which facade construction solution is ultimately chosen for a specific project.

4. Fixings used in Dekton® panels and their limitations of use

The Dekton® facade panel allows for various mechanical fixing systems to the substructure. The fixing systems can be hidden (DKT1, DKT2 and DKT3) or visible (DKT4 and DKR). There are also gluing systems such as chemical (DKC), mixed (DEKCLIP), with cement-based adhesives (DKB) or on external ETICS type insulation (DKS). However, not all of these fixing systems are suitable for use on ventilated facades. Please refer to the limitations contained in the Cosentino Facade Manual – Cosentino Facade Fixing Systems, rev. 08 (March 2023) and later.

The instructions and limitations of use for each type of fixing system on the back of the panel, as set out in the Cosentino Facade Manual – Cosentino Facade Fixing Systems, rev. 08 (March 2023) and later, and in the relevant ETA standards, must be followed:

- DKT1 System: Manual and Annex 2 of ETA 14/0413
- DKT2 System: Manual and Annex 2 of ETA 14/0413
- DKT3 System: Manual and Annex 2 of ETA 14/0413
- DKT4 System: Manual
- DKR system: Manual
- DEKCLIP system: Manual
- DKC system: Manual
- DKB system: Manual
- DKS system: Manual

In the event that the fixing solution proposed by the project designer and facade contractor differs from that described in the Cosentino Facade Manual – Cosentino Facade Fixing Systems, Cosentino recommends that the verification tests contained in the European Assessment Document EAD 090062-00-0404 be carried out: Kits for mechanically fixed exterior facade cladding.

5. Adhesive fixings for cladding panels

For glued fixings, whether chemical (DKC), mixed (DEKCLIP), with cement-based adhesives (DKB) or on external ETICS type insulation (DKS), the installer must strictly adhere to all the criteria and limitations for design, calculation, placement patterns, cleaning, surface preparation, pre-priming, gluing process, tapes and temperature of use specified in the Dekton® manuals and in the technical documentation of the adhesive suppliers.

As these are products not manufactured by Cosentino, the installer must request technical documentation from the supplier of the adhesive and its ancillary components for each gluing system.

6. Substructure, slab support and anchors and their limitations of use

The general instructions for the substructure and its anchoring to the main structure of the building, as described in the Cosentino Facade Manual – Cosentino Facade Fixing

Systems, rev. 08 (March 2023) and later, must be followed.

In the case of ventilated facades, the general instructions for the substructure and its anchoring to the main structure of the building, as described in the Cosentino Facade Manual and in Annex 4 of ETA 14/0413, dated 20/07/2020, must also be followed.

In the case of joints between facade panels, the structural and thermal movement joints of the building must be respected, as recommended in the Cosentino Facade Manual – Cosentino Facade Fixing Systems, rev. 08 (March 2023) and later.

7. Other materials supplied by Cosentino and their limitations of use

Cosentino can supply the customer with materials that are not manufactured by Cosentino but are part of the facade design, such as fixings, glues, adhesives, structural profiles, anchors or thermal insulation elements, among others.

In this case, it is the sole responsibility of the customer to use these materials in accordance with the technical instructions of their suppliers.

Cosentino shall not be held responsible for any failure on the part of the customer to comply with the technical data sheets, product specifications and limitations on the use of materials manufactured by other companies and supplied by Cosentino for use in facades.

8. On-site installation

The instructions and recommendations given in the Cosentino Facade Manual – Cosentino Facade Fixing Systems, rev. 08 (March 2023) and later, must be followed.

In the case of ventilated facades, the general installation instructions, as described in the Cosentino Facade Manual and in Annex 4 of ETA 14/0413, dated 20/07/2020, must also be followed.

9. Reaction to fire and fire transmission through the air gap

Within the limits of liability set out in the agreement, an aggregate limit of €100,000 shall apply in respect of claims relating to the combustibility of the facade cladding or panels, the insulation material and its fixing systems, or claims relating to the fire safety of any air gap barrier or fire compartmentation (or lack thereof) on the building facade.

10. Quality requirements (QA/QC)

It is the responsibility of the project designer to specify the quality requirements for the execution of the facade, which may include requirements for dimensions, flatness, testing, sampling, etc. The quality requirements to be met will depend on the geographical location of the project.

If there are no specific quality requirements for facades in the project drawn up by the architect, and if the requirements to be followed by the facade contractor are not specified, Cosentino will follow the quality

requirements set out in the Cosentino Facade Manual – Cosentino Facade Fixing Systems, rev. 08 (March 2023). In the absence of other standards, Cosentino recommends that the facade contractor follow the quality criteria of the Centre for Window and Cladding Technology (CWCT) in its 'Guide to good practice for facades', section 'Quality'.

In particular, Cosentino requires the customer to validate the production drawings and the final product prior to loading and shipment.

Cosentino's quality team checks the finished product and assists with the reception of the piece/material by its technicians for each project.

11. Facade maintenance and cleaning

It is the responsibility of the project designer to specify the maintenance and cleaning requirements of the facade throughout its life cycle. In any case, Cosentino recommends that the requirements for final cleaning of the job, maintenance, cleaning and conservation set out in the Dekton® Facades Maintenance and Cleaning document be followed.

12. Reference standard according to geographical area

It is the responsibility of the project designer to specify the reference standards to be followed in the development of the facade solutions, including requirements for wind load, impact resistance, fixings, durability, reaction to fire, fire resistance, etc. The technical standards to be met will depend on the geographical location of the project.

If there is no specific standard for facades in the project drawn up by the architect, and if the standard to be followed by the facade contractor is not specified, Cosentino will follow the European standard for its calculations, checks and recommendations. In particular, the European Assessment Document EAD 090062-00-0404 shall be taken into account: Kits for mechanically fixed exterior facade cladding and the European and international reference standards listed in section 4 of both documents, together with all their Annexes.

13. Health and Safety (H&S) requirements

It is the responsibility of the project designer to specify the health and safety requirements to be met in the development of the facade solutions. These requirements will depend on the country in which the project site is located.

If there are no health and safety requirements for facades in the project drawn up by the architect, and if these are not specified by the facade contractor, Cosentino will follow the health and safety requirements indicated in the Cosentino Facade Manual – Cosentino Facade Fixing Systems, rev. 08 (March 2023).

14. Liability

Engineering, site and installation support (if applicable) are services for which Cosentino is liable only if a separate order for such services is placed and paid for. In this case, Cosentino's civil liability (general and professional) towards the customer shall be limited to the amount invoiced for these services.

15. Dekton® brand

Only those facade elements that have been manufactured exclusively from Dekton® components in accordance with the current Cosentino facade manuals can be branded as Dekton®. The use of construction components other than those recommended by Cosentino in its manuals shall render this right null and void. Furthermore, Dekton® test reports relating to such units will no longer be valid.

16. Supplementary conditions

These Technical Conditions for Facades supplement, but do not replace, Cosentino's General Terms and Conditions of Sale and Terms and Conditions for the Provision of Services, in the version in force at the time of prescription or sale. These three documents apply to the ancillary services of facade prescription, consultancy and installation (where applicable).

Notes for Dekton® prescription on facades.

This note is joint and severally supplied together with the preliminary study or specific documentation issued to the architects for their project at design stage. For future deliverables during design stage, this note will be understood as delivered and accepted by the architects and will also be valid for any of the deliverables that would be sent to the architects during that stage.

The **drawings** supplied by Cosentino, if any, have been drawn up based on information received by Cosentino and sent by the designer. Cosentino is not responsible for the accuracy and scope of the information received, whether in dimensions, orientation, height, or others. The plans are not drawn for installation; their objective is to give indications to the designer about the application of Dekton on the facade during the development of the project.

The **calculations** supplied by Cosentino, if any, have been prepared based on the information received by Cosentino and sent by the designer. Cosentino is not responsible for the accuracy and scope of the information received, whether in dimensions, orientation, height, or others. Calculations are not made for installation; their objective is to give indications and limitations to the designer on the application of Dekton on the facade during the development of the project.

For the **impact resistance** of a facade cladding, please refer to the European approved document "Kits for external wall claddings mechanically fixed". Dekton surfaces on facades have an impact resistance that varies according to their thickness and their family. This information is included in section 3.5 of the ETA 14-0413 dated 18.01.2022, issued by Dekton. The panels have been subjected to a series of hard body and soft body impacts at different energy levels. The results classify Dekton in the impact category IV for thicknesses of 12mm or 20mm. Category IV: The degree of exposure to use must be an area out of reach from ground level. The responsibility for the decision of the built solution of the facade to be adopted in the specific project falls on the designer.

The **facade study** carried out by Cosentino Technical Team, in accordance with the instructions received, has focused on what was requested, which can be one of these four options: a) Dekton panels without reference to their fixing system; (b) Dekton panels for adhered attachment to a continuous surface; (c) Dekton panels excluding fastening substructure; or (d) Dekton panels including a fastening substructure.

The facade study carried out by Cosentino Technical Team is complemented by the following **documents**, which are an inseparable part of the study:

- [ETA 14-0413 certification, dated 18.01.2022, for ventilated \(not adhered\) facades.](#)
- [Dekton Environmental Product Declaration.](#)
- [Technical Manual of Dekton Facades.](#)
- [Maintenance and Cleaning requirements for Dekton Facades.](#)
- [25-year Dekton Facades warranty.](#)
- [Conditions of Provision of Services \(CPS\)](#)
- [Technical Conditions of Facades \(TCF\)](#)

We recommend that the designer consult the Cosentino **Manuals, Certificates and Tests** for Dekton facades, accessible on the web. <https://www.cosentino.com/professional/technical-documentation> and/or with the Technical Department of Cosentino.

Dekton® Warranty

Cosentino has a specific team from the Quality Department, trained to provide on-site support. In addition, we have our Dekton® Trainers. Their mission is to provide training and the certification of workshops for the proper preparation of materials.

Cosentino offers a 25-year material guarantee on its Dekton® facades executed anywhere in the world and offers its clients, if necessary, all its support and project monitoring services so that they are executed according to the highest quality standards.



Dekton® Warranty

*Warranty subject to the terms and conditions of the "Dekton Facades Warranty" to be requested from Cosentino Global, S.L.U.

COSENTINO®

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* To obtain more information about colours with an NSF certificate please visit www.nsf.org

Rev: 05 10/2023