

---

# 8mm Facades

Application basic guide

 **DEKTON®**  
designed by COSENTINO

# Index

Introduction	4
Facade systems	6
Anchorage and sizes formats per system	7
Primary structure installation: brackets, profiles, ventilated chamber, joints and insulation	8
Installation instructions for systems:	
DKT1	12
DKT3	12
DKM	13
DKC	14
DKB	17
Cutting and handling	19

**Cosentino provides in this document work guidelines, indications and good practices for the application of Dekton 8 mm in both ventilated and bonded facades.**

# Introduction

COSENTINO prepares this guide and recommendations for the use of Dekton 8 mm in the application of the Ventilated Facade.

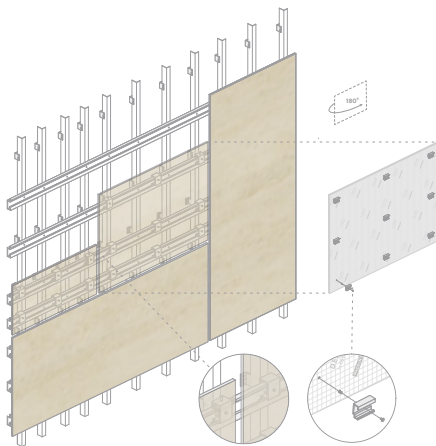
This guide has been written to facilitate general design and installation considerations for Dekton 8mm panels. Within the European & North American markets there are several codes and regulations, so this document does not intend to analyse or contradict them, but tries to bring together all the elements that should be taken into account for the design of a facade.

Dekton ultra-compact surface is a very versatile that is offered in many different thicknesses and finishes.

In this guide we analyse the anchoring systems that the COSENTINO Group has verified and recommends for the installation of 8 mm thick Dekton on facades.

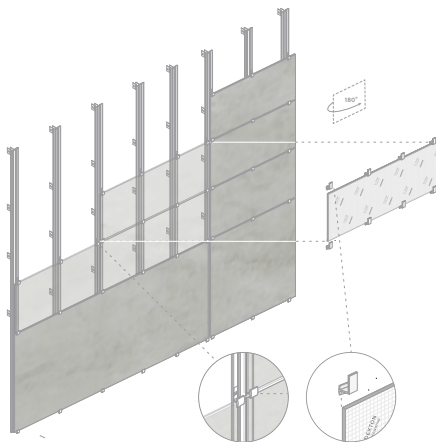
Cosentino uses the following nomenclature for the systems available in the market:

## DKT1



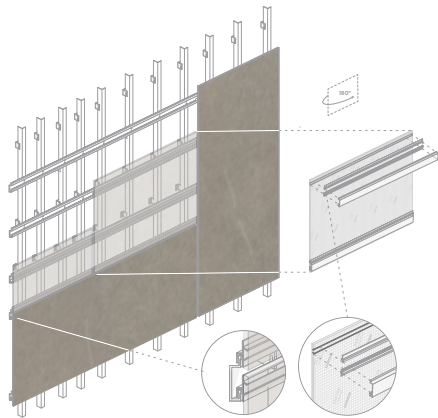
Concealed mechanical anchoring system by means of an undercut anchorage on the back of the material.

## DKT4



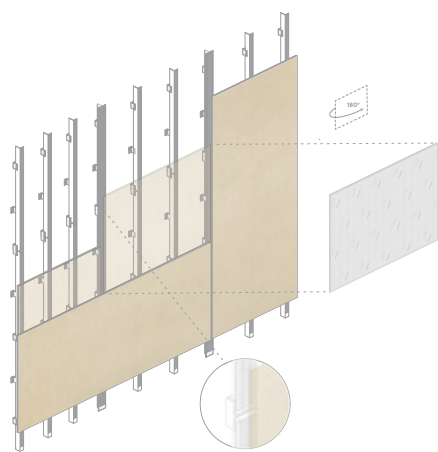
Visible mechanical anchoring system

**DKM**



Hidden mechanical anchoring system with grooves on the back of the Dekton.

**DKC**



Hidden chemical anchoring system.

# Certified systems for Dekton 8mm

		Certificado			
		Disponible	Proveedor	Referencia	Organismo Pais de aplicación
Sistema	DKT1	+			
	DKT4	+			
	DKBG	+			
	DKC	+			
		+	Innotec	21000-19 KQMO PCS	KQMO Belgica
		+	Sika	DALU 19-114-aDe	ITeC España
		+	Sika	ETA 19-0511-STP50	ITeC Europa

Tests carried out for each system

		Test			
		Disponible	Rererencia	Laboratorio	Fecha Test.
Sistema	DKT1	+	PY15-0240	Ensatec	nov-15
	DKT4	+	070124-a	Tecnalia	oct-17
	DKBG	+	QP-IT-4100-01.A	ITeC	oct-15
	DKC	+	084301	Tecnalia	ene-20
		+	19RN41	Bostick	ago-19

COSENTINO offers the possibility of carrying out specific tests for specific projects. (for more information contact [facadescentral@cosentino.com](mailto:facadescentral@cosentino.com)).

## Anchoring systems characteristics

DKT1

Hidden mechanical anchoring system  
 Full size panels can be installed either vertically or horizontally  
 Fire resistance: A2, s1-d0  
 Impact category: Class IV

DKT4

Hidden mechanical anchoring system  
 Panels will be installed in a horizontally with a maximum height allowed.  
 Fire resistance: A2, s1-d0  
 Impact category: Class IV

DKM	Hidden mechanical anchoring system Full size panels can be installed either vertically or horizontally More profiles. Combination of vertical and horizontal profiles Fire resistance: A2, s1-d0 Impact category: Class IV
DKC	Hidden chemical anchoring system Full size panels can be installed either vertically or horizontally Fire resistance: According to adhesive supplier Height limitations in some countries. Review local regulations Impact category: Class IV

### Limitations of panel format and placement on facade

System	Orientation	Maximum size	
DKT1	Vertical	Lx = 1440mm	Ly = 3200mm
	Horizontal	Lx = 3200mm	Ly = 1440mm
DKT4	Vertical	Lx = 1440mm	Ly = 1440mm
	Horizontal	Lx = 3200mm	Ly = 1440mm
DKM	Vertical	Lx = 1440mm	Ly = 3200mm
	Horizontal	Lx = 3200mm	Ly = 1440mm
DKC	Vertical	Lx = 1440mm	Ly = 3200mm
	Horizontal	Lx = 3200mm	Ly = 1440mm

# Primary structure installation indications

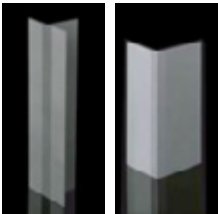
L-Bracket / Spacer

Fastening element of the facade system to the main building support



T vertical profile

T-shaped vertical support profiles



L vertical profile

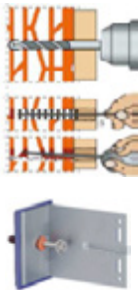
L-shaped vertical support profile

The brackets or spacers are offered on the market with standard depths that vary from 35 mm to approximately 250 mm. They allow the leveling of the facade and the correct installation of the thermal insulation.

## Attaching the brackets

When anchoring the brackets to masonry or concrete, it is recommended that a pull-out test of the bracket anchors be carried out to check the load capacity of the masonry. All holes must be perfectly clean and free of dust/dirt before using the anchor pins.

The installer must ensure that the bracket is in 100% contact with the building and that there is no gap between the bracket and the support. Also, that the appropriate screws/bolts/anchors are used to secure the clips..





## Installation of vertical profiles

The connection of the support elements with the vertical structure must allow for the expansion of the system. For this reason, the brackets incorporate two types of holes (fixed points and colloidal or sliding points).

Each individual support profile will generally have only one fixed support and the rest will be sliding to allow for expansion and contraction of the support profile. The position of the fixed points must be considered in the static calculations or in the assembly instructions provided by the supplier of the structure or engineering.



### Fixed point support

The connection screws for the support profile accessory are screwed into the round holes to support the vertical weight of the rail and facade cladding as well as the wind load.



### Sliding point support

The connecting screws for the support profile accessory are screwed in the middle of the elongated holes so that the support profiles can expand and contract. The brackets only support the wind load.

## T and L profiles

T and L profiles must always be mounted vertically.

### T-profile

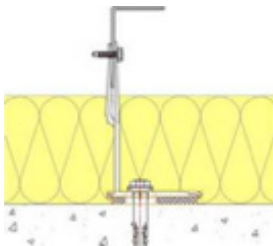
When there are vertical joints within the facade of the cladding, a T-profile must be inserted into the bracket.

### L-profile

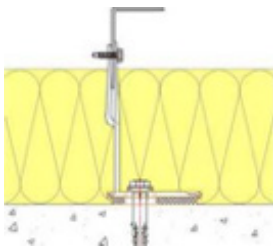
When intermediate panel support is required, insert an L-profile into the bracket.

## Insulation with structural systems

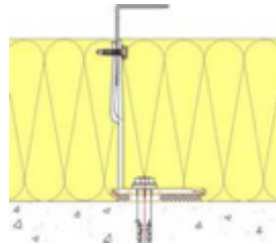
It is ideal if the chamber between the insulation and the face of the profiles was larger than the core of the T or L profile. This means that the profiles do not interrupt the insulation. If the chamber is smaller than the profile web, the profiles cut, interrupt or compress the insulation. The installer/engineer should check whether this affects the U-value of the supporting wall.



The insulation does not interfere with the profiles or brackets.



The insulation should be cut or compressed to allow the profile core to be installed. But this will not affect the attachment of the profile to the bracket.



The fixing of the profiles with the bracket is located inside the insulation.

The insulation must be installed after the installation of the substructure is completed.

## Wide ventilated chamber, joint between panels and insulation protection

The air chamber is a main feature of a Ventilated Facade. It works as a pressure pillow to prevent water from reaching the insulation or the supporting wall and helps to eliminate condensation humidity by evaporation or simply by descending on the back of the panel and escaping outside the supporting wall.

It is generally considered that the minimum width of the chamber should be at least 20mm (or approximately 3/4"), behind the back of the panel of the facade system. In some countries higher minimum chamber widths are required, so it is important that national requirements are followed.

This minimum width is only suitable for low buildings, up to 10m. As the facade increases in height, the chamber needs to increase in depth.

General recommendations:

Building height	0-10m	10-20m	20-50m
Minium chamber width	20mm	25mm	30mm

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

Joint width (mm)	Chamber width (mm)
5 - 10	20 mm
10 - 15	50mm

Just as the chambers are ventilated from the top and bottom of the facade, it is also important to allow air to enter and exit under and above openings such as windows.

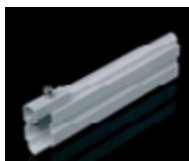
These openings need to be protected from birds and animals entering the chamber that could damage the insulation, the chamber, or even the supporting wall. This is normally achieved by placing a perforated profile at the bottom of the facade, with perforations of sufficient size to allow the entry and exit of air and to prevent the entry of small animals.

The top of the facade must allow the air to escape from the chamber and must also protect against the entry of rainwater and wind-water that could affect the insulation and the support.

# DKT1 system indications

The DKT1 system incorporates the following elements on the primary structure system this composed by:

## Horizontal / C-rail profile



The horizontal profiles are used as a reception element for the Dekton plate. The horizontal profiles must have a fixed point that controls the expansion and the rest of the connections to the T/L profiles are made by means of a sliding/colling point.

## Hanging Parts /C-Hanger



The hangers (C-hangers) are attached to the Dekton panel by means of a system of undercut anchors on the back of the panel. The panels are adjusted and levelled using at least 2 hanging pieces with adjustable screws in each panel, located in the upper corners of the piece. The remaining hangers are used to distribute the wind load on the panel. Please refer to the mounting instructions for the positions of the adjustable and fixed hooks on each panel.

The last step is to place the panels on the substructure. Levelling can be done with the adjusting screws. Once leveling is complete, lock each panel using the second hole in the adjustable hook. You only need one set screw for each panel. The fixing screw should be aligned vertically to ensure that thermal expansion of the panels occurs in the same direction.

# DKT4 system indications

The DKT4 system with visible staples, incorporates exposed staples on the primary substructure. For the detailed definition of this system in terms of:

- Dimensioning of the staple.
- Distance between staples.
- Maximum facade and piece size.

A particular study should be made of the conditions of each project.

The installation of this system is generally done with two types of staples: one with a top and bottom finish and an intermediate one for horizontal joints between pieces... These staples are fixed by means of a screw or rivet to the profiles as the pieces are installed.

For further details on installation you can consult Cosentino and/or the supplier of the staple system.

## **DKM system indications**

The DKM system incorporates on the primary substructure some parts and/or hanging profiles that are fixed to the Dekton by a mechanical/chemical hybrid system. This system can vary depending on the selected supplier.

For the dimensioning of a project, a particular study of the conditions of each facade must be made.

For the installation of these systems, generally profiles or staples are fixed to the back of the panel with a mechanical or hybrid system (chemical anchor), and these are hung from a horizontal profile fixed to the primary structure.

They are usually certified and guaranteed systems by the system supplier, who usually provides technical support for the calculation and definition of the facade project.

For further details on installation, please consult Cosentino and/or the supplier of the profile and fastening system.

# DKC installation recommendations

## Chemical anchoring

When installing Dekton Protek 8 mm 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:

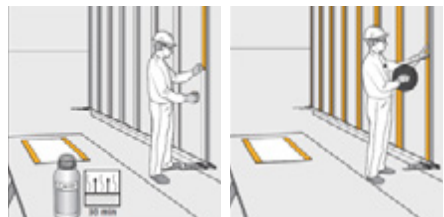
### 1. Profile Treatment and Dekton Treatment.

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.



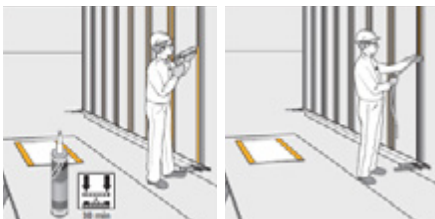
### 2. Application of the double-sided tape.

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 bead using the pre-cut nozzle indicated by the supplier. The height, width and distance from the bead 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 layout, 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 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 case of rain or high moisture content (e.g. heavy fog).
- Avoid risk of condensation on profiles and panels. Profile temperature 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, constructive 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.

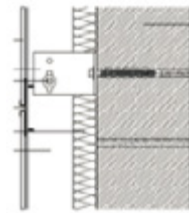
Louvelia. Louvelia Fix

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

## Safety recommendations 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 fastening must follow the supplier's instructions..



E.g. Possible safety hook diagram seen Dekton thickness 8 mm.

### Projects completed with Dekton 8mm:

#### DKT1

- Residential housing in c/Marques de Sentmenat in Barcelona. 900 m2 Dekton Popular Warm.
- Jordi Sala housing in Andorra. 600 m2 Dekton Danae.
- Civic centre in Lugones (Asturias). 915 m2 Dekton Popular Warm.

#### DKM

- Housing in Bergen (Norway). 605 m2. Dekton Borea.

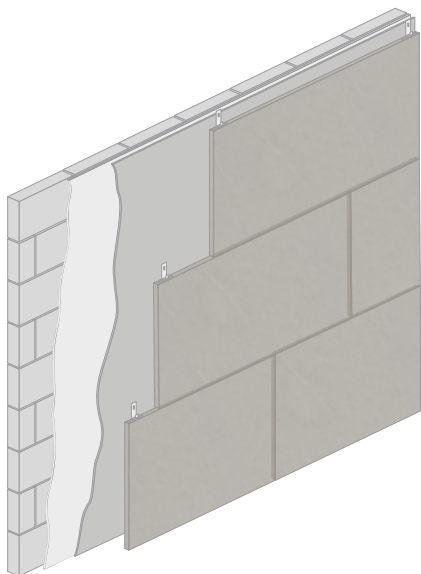
#### DKC

- Housing c/Stasart in Brussels (Belgium). 684 m2. Dekton Zenith.
- Jewellery shop in Ghent (Belgium). 90 m2. Dekton Edora and Spectra.
- Seabird housing in Knokke (Belgium). 90 m2. Dekton Nayla.
- Meuseview housing in Hermalle Sous Argenteau (Belgium). (1st phase). 8800 m2 Dekton Nayla and Sirius.



# DKB

## Glued facade system



- Mechanically resistant for the loads it will support and its use.
- Dry, clean and no loose parts.

### B. Planning

The deviation from planarity of a fixing surface should be measured with a rigid rule of 2 m length and should be less than 3 mm for 8 mm Dekton thickness. In the case of traditional substrates (e.g. brick, block), it will be necessary to apply a layer of mortar to regularize the substrate.



## Direct Adhere recommendations

When installing Dekton as a direct adhered facade, it is important to follow the proper recommendations

### A. Support:

It must be verified that the support on which Dekton is going to be glued has a series of characteristics:

- Healthy and without cracks.
- Cure and stable in dimension.

### C. Adhesive:

It is important to consult with the supplier of the selected adhesive and to follow their recommendations regarding the product and its application conditions.

Cementitious adhesives of class C2 (improved adhesion) and S2 (highly deformable) should generally be used for bonding Dekton 8 mm without facade mesh. For more detailed application information and recommended adhesives, please refer to the Direct Adhere Facade Installation Manual.

## D. Joints

A fundamental part of a cladding system is the planning of tile-to-tile joints and the arrangement of expansion joints.

Never use seamless or butt joints for cladding. Due to its low expansion coefficient of  $6.3 \times 10^{-6} \text{ }^{\circ}\text{C}^{-1}$  (according to UNE EN ISO 1054-8), Dekton could be installed with minimum placement joints between pieces of 3mm for interior applications and 5mm for exterior applications. The minimum joint recommendation may vary by project specific conditions. .

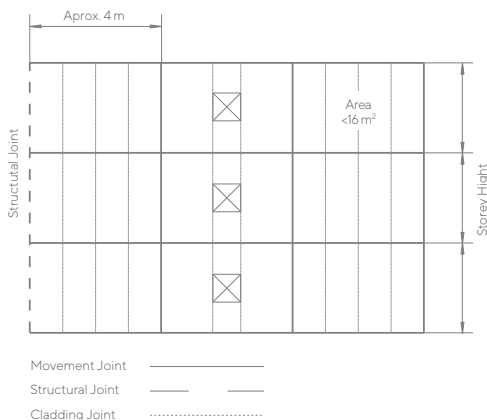
However, each project needs to follow the standards and specifications suggested by the adhesive manufacturer and/or your local tile standards associations (e.g. TCNA for North America). Each project needs to be considered individually, based on weather and other climate conditions that might affect the building.

1. Joints between pieces: Depending on the conditions of the project, a standard joint of 5 mm should be used. With approval by the adhesive supplier a minimum joint of 3 mm could be used on certain project conditions.

2. Cladding Expansion Joint: To avoid the accumulation of stresses resulting from the expansion and contraction of the building. It is necessary to add an expansion joint in large areas (typically 16 m<sup>2</sup>) or in maximum lengths of separation between joints in linear meters. (typically 4 linear meters).

3. Perimeter movement joint: meets other perpendicular walls or floors and horizontal elements (e.g. eaves, overhangs, balconies...).

4. Structural Movement Board: Which will be respected by the cladding both insituation and in dimensioning.



General diagram of facade joints

## E. Mechanical Safety Fixing

For large format panels, it is often necessary, depending on local and international standards, to provide a mechanically attached safety-clip in addition to the mortar. How many safety clips are necessary depends on the panel weight, the height of the application, and the project specific conditions.

The reason why mechanical safety clips are important, even if the adhesive is applied correctly, is due to the possible settling of the building, temperature changes, possible seismic movements, and other potential issues.

The use of a safety fixings prevent the panel from falling off the structure, giving time for repair.

There are different types of suppliers for these types of fasteners, which for Dekton 8 mm are placed on the back side of the panel with its corresponding groove.



It is also possible to cut with a circular saw with the right cutting discs for Dekton. We recommend machines with a water supply to improve the quality of the cut and extend the life of the cutting disc.

It is generally not advisable to cut pieces in L or U shapes, especially when the slenderness of any of the legs may facilitate their breakage.

To make cutouts, we recommend pre-drilling with a minimum radius of 10 mm for smoothing edges and subsequent cutting with a recommended cutting system.

For more detailed information and health and safety issues, please refer to the Dekton Glued Facade Installation Manual, the Dekton Slim Application Guide and the Dekton Quick Start Guide.

In case of questions or need for additional information please contact Cosentino.

## Cutting and handling

The material can be supplied cut to size from Cosentino or cut on site with the recommended tools and accessories.

For on-site adjustments in Dekton 8mm, you can make cuts, holes, and simple mechanizations to solve corners, joints, or cutouts for other conditions.

On-site cutting is possible with score and snap machines (dry cutting). The use of polishing blocks is recommended to micro-bevel the edges.

The instructions contained in this document should be understood as informative and cannot reflect all of the scenarios found on site. Before starting the construction, all Dekton applications must follow the recommendations of this manual, the applicable local and international regulations, good building practices, and application requirements of the other suppliers involved.

Cosentino will not be responsible for the material supplied that has not been installed following the requirements of this document. For any questions or additional information please consult the website [www.cosentino.com](http://www.cosentino.com) or contact Cosentino S.A.



\* Learn about NSF certified colors through [www.nsf.org](http://www.nsf.org)

A product designed by **COSENTINO**

Ctra. Baza a Huércal-Overa, km 59. 04850 Cantoria, Almería (Spain)  
+34 950 444 175 [info@cosentino.com](mailto:info@cosentino.com) [www.dekton.com](http://www.dekton.com) [www.cosentino.com](http://www.cosentino.com)  
📍 DektonbyCosentino® 🌐 @Dekton