
DKR Dekton® rivet fixing system

Installation guide

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In this document, Cosentino® sets out the working and good practice guidelines for the installation of Dekton® 4 and 8 mm in metal structures using a rivet fixing system.

The installation of Dekton® with this type of system must comply with certain fundamental principles, which will ensure the proper functioning of the system:

- Compliance with the minimum and maximum distances from the fixing to the edge.
- Provide each slab with two fixed points and the remainder with sliding points.
- Use a self centering drill bit to place the rivet in the hole and the profile in the Dekton® slab.
- Install the rivet without over-tightening, using the nose piece.

Fixing: rivet

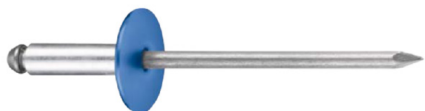
Cosentino® supplies two types of rivets for fixing Dekton® 4 mm and 8 mm:

For aluminium profiles:

- For Dekton® 4 mm, Rivet Aluminium/Stainless steel A2 AP16 5x18 (Head Ø16 mm, body Ø5 mm, length 18 mm, clamping thicknesses between 7 and 13.5 mm).
- For Dekton® 8 mm, Rivet Aluminium/Stainless steel A2 AP16 5x21 (Head Ø16 mm, body Ø5 mm, length 21 mm, clamping thicknesses between 10 and 16 mm).

For galvanised steel and aluminium profiles in a saline environment:

- For Dekton® 4 mm, Rivet Stainless steel/Stainless steel A4 SSO D15x18 (Head Ø15 mm, body Ø5 mm, length 18 mm, clamping thicknesses between 9 and 13.5 mm).
- For Dekton® 8 mm, Rivet Stainless steel/Stainless steel A4 SSO D15x22 (Head Ø15 mm, body Ø5 mm, length 22 mm, clamping thicknesses between 13 and 18 mm).



For better integration into the overall appearance of the façade, rivets are supplied with their head lacquered in a similar colour to the Dekton® piece.

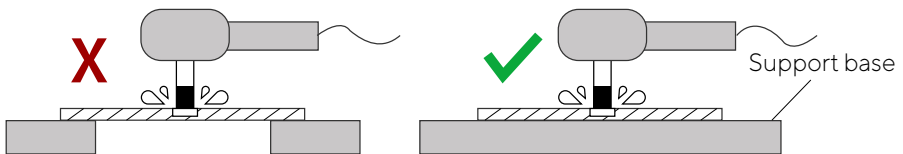
Slab preparation: drill holes

For rivet fixing:

To allow for the expansion of the metal profiles and their compatibility with Dekton®, the drill hole will be 10 mm in diameter.

Cosentino® can supply the 4 mm and 8 mm Dekton® slabs with the drill holes according to the assembly drawings. It is recommended to use a CNC drilling machine with a drill bit and adequate water supply.

To avoid chipping, it is recommended to drill in a material with a lower density than Dekton® (e.g. wood).



On-site drilling is also possible, as long as different processes are used depending on the thickness of the Dekton® slab:

Dekton® 4 mm: Dry drilling with angle grinder or drill with drill bit.



Dry drill bits for Angle Grinder and Drill.



Drill bits for Angle Grinder and Drill.

Dekton® 8 mm: Drill with water source with angle grinder.



Recommended drill bits for dry drilling

- Rubi Drygres Ø10 mm for Angle Grinder with M14 Thread or Drill.
- Italdiamant Evogres Ø10 mm for Angle Grinder with M14 Thread or Drill.
- ADW Vacuum 10 mm for Angle Grinder and CS.10 for Drill.

Recommended drill bits for water source drilling

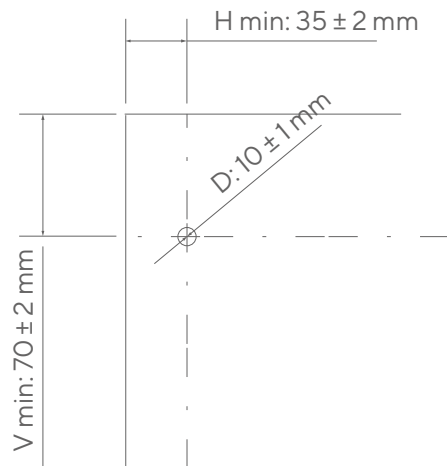
- Solestone Ø10 mm. M14 thread for Angle Grinder.

Always follow the supplier's recommendations on the use of these drill bits.

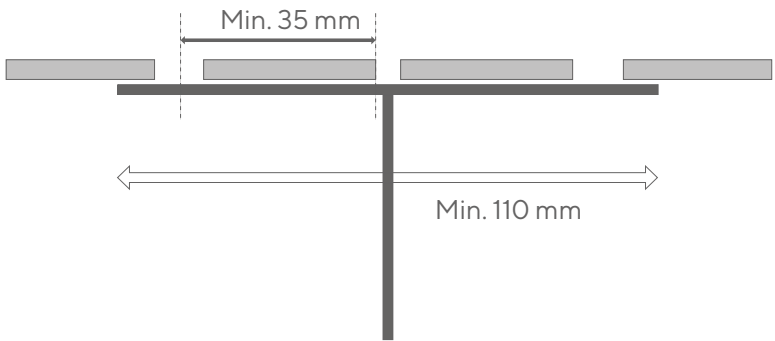
Distances from the drill hole to the edge

The minimum distance to the edge of the slab shall be 35 mm horizontally and 70 mm vertically.

The maximum distance from the rivet to the edge, in both directions, shall be 150 mm.



These distances will allow a minimum joint between slabs of 5 mm at the “T” profile of the vertical joint, as shown in the following diagram:

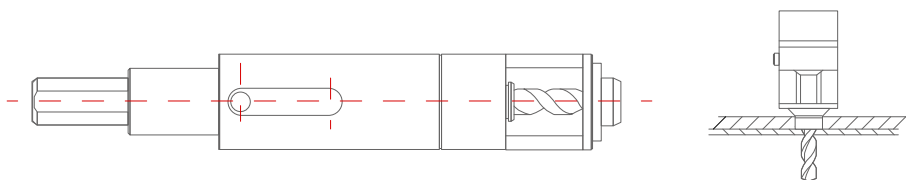


Slab installation: accessories

It is recommended to install from the top of the façade downwards.

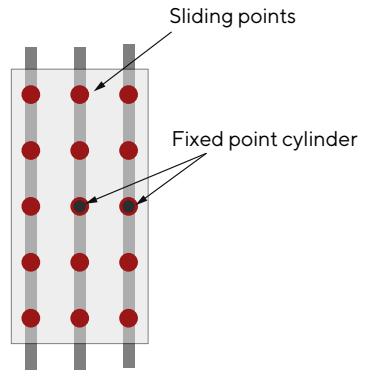
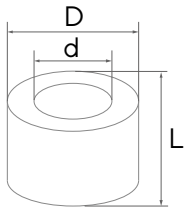
Having drilled the slab according to the established distances between profiles and to the corner, follow the process below to install the slab, properly levelled, in its final position:

- 1. Using the centralising tool, drill holes in the profiles concentric to the holes in the Dekton® slabs. This accessory is easily adaptable to any type of drill.

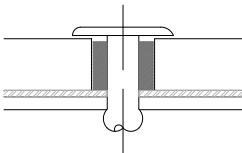


- **2. Placement of fixed point rivets.**

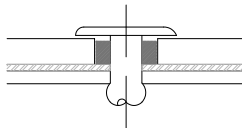
Regardless of slab size, place two rivets per slab. Each rivet will be placed by means of a fixed point cylinder. The load of the slab will be transferred to these points. The positioning criteria are: They are placed in different vertical profiles, aligned with each other, pointing to the centre of the slab and in a non-symmetrical arrangement, always applying the same criteria for each row of slabs: e.g. centre right.



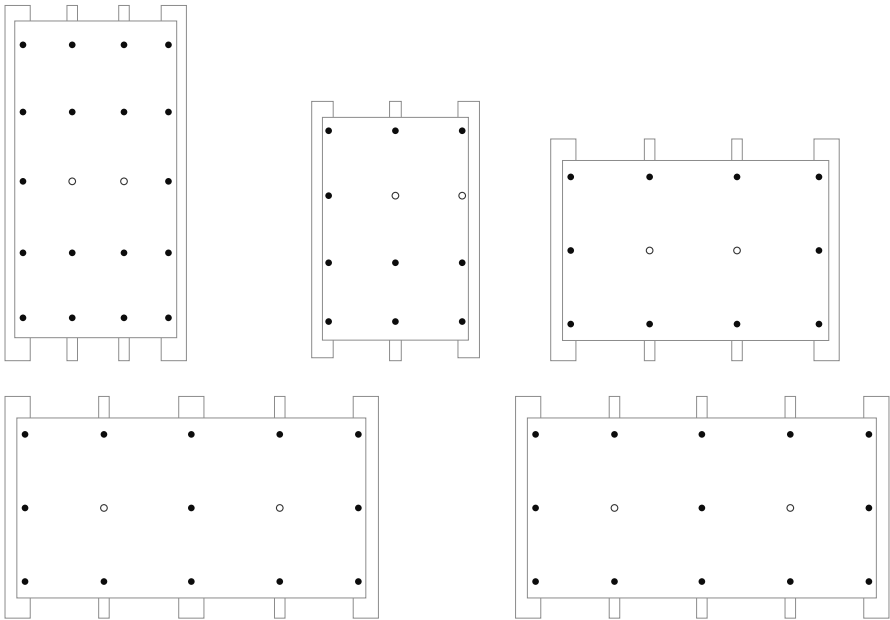
Fixed point DK 8 mm



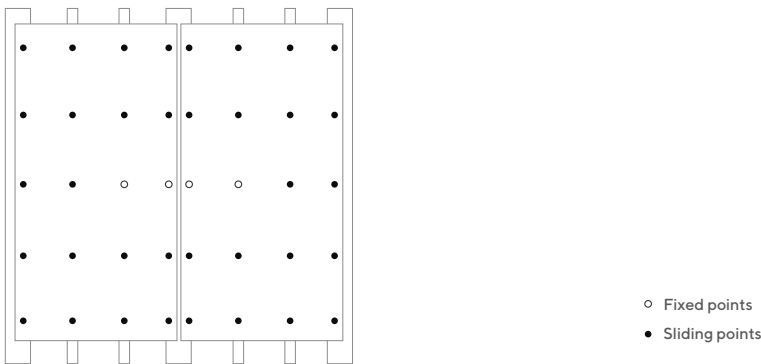
Fixed point DK 4 mm



Examples of correct positioning of fixed points



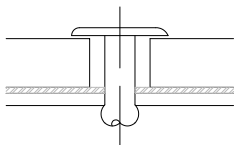
Examples of bad positioning of fixed points



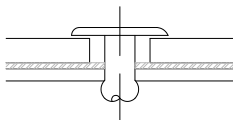
- **3. Placement of sliding rivets.**

In the remaining holes, only the rivet is placed. They are sliding points where the expansion of the panel and the profile is allowed. These points do not bear the load of the slab but the wind load.

Sliding point DK 8 mm

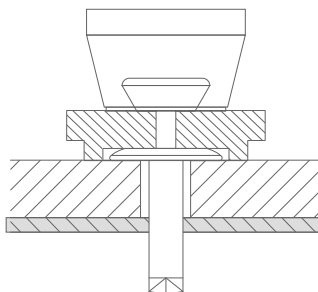


Sliding point DK 4 mm



- **4. Use of nose piece.**

The use of a cordless riveter is recommended for installing the rivets. It will be necessary to use a nose piece so that there is not total pressure of the rivet on the slab and the slab can move. In this way, the rivets will hold the slab but will not put pressure on it (to check that the pressure is not excessive, slide a sheet of paper between the slab and the rivet head).



- **5. Removal of the rivet shank.**

After installing the rivet, trim any excess shank.

Cosentino® supplies all the accessories and tools needed for the installation of Dekton® duly referenced.

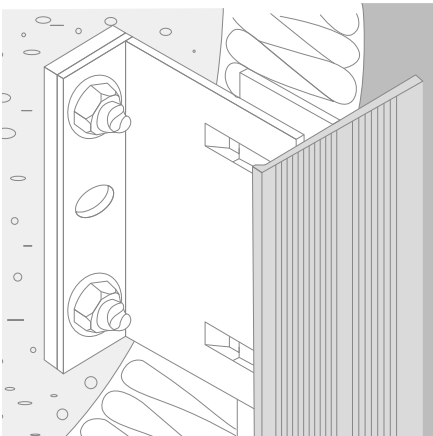
Profile systems

The recommended profile types for this system are listed below.

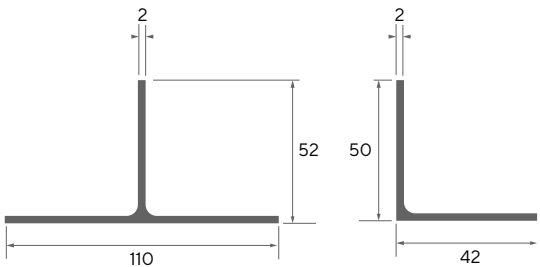
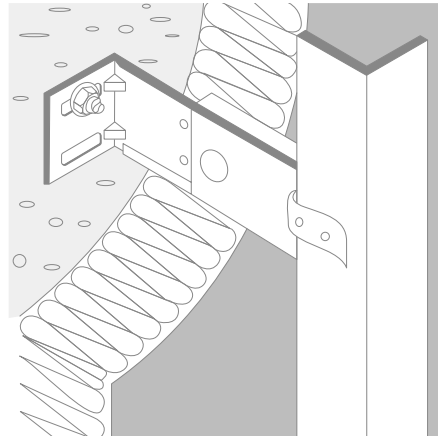
Dekton® can be used with rivet fixing system using aluminium profiles (6060 or 6063) with a minimum thickness of 2 mm, T-shaped for vertical joints with a minimum width of 110 mm, and T-shaped or L-shaped for intermediate vertical joints with a minimum width of 40 mm.

Metal substructure

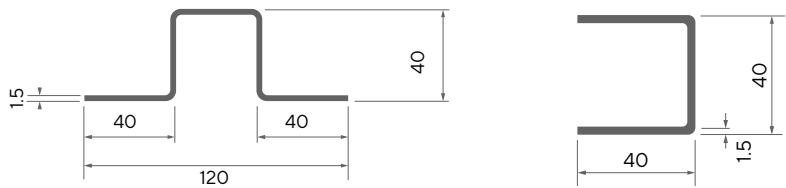
Aluminium



Galvanised steel



Or using galvanised steel (minimum Z 275) with a minimum thickness of 1.5 mm, Omega-shaped for vertical joints with a minimum width of 120 mm, and U-shaped for intermediate vertical joints with a minimum width of 30 mm.



The distance between profiles, as well as the distance from the support brackets to the wall, will be defined by a qualified technician according to the project conditions.

Test and essays results

The results of the wind tests performed in an external laboratory have provided the following data according to thickness, layout of pieces and distance between rivets for a complete slab of 3200 x 1440 mm.

Wind load table

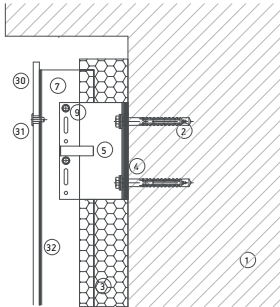
Test reference	Dekton® thickness	Orientation	Maximum horizontal distance between rivets	Maximum vertical distance between rivets	Test value [Pa]	Safety factor	Result
V-DKR-04-H-OP1	4 mm	Horizontal	522 mm	650 mm	6,000	3	2,000
V-DKR-04-H-OP2	4 mm	Horizontal	626 mm	433 mm	6,000	3	2,000
V-DKR-04-V-OP1	4 mm	Vertical	457 mm	612 mm	6,000	3	2,000
V-DKR-08-H-OP1	8 mm	Horizontal	626 mm	650 mm	6,000	3	2,000
V-DKR-08-V-OP1	8 mm	Vertical	685 mm	612 mm	5,800	3	1,933

(Tests carried out at Tecnalía Research & Innovation between May and June 2021)

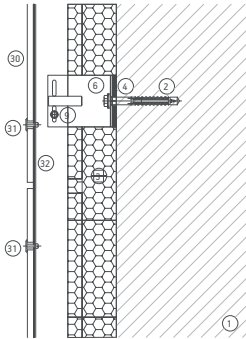
Annexes:

Construction details – Dekton® rivet fixing system. Vertical section.

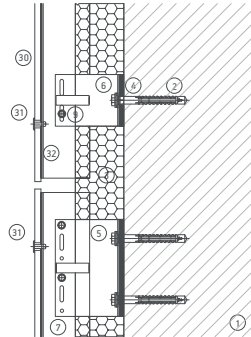
Start, horizontal joint and top edge.



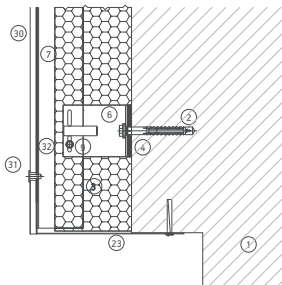
DKR. D4. Top edge.



DKR. D2. Horizontal joint.



DKR. D3. Horizontal expansion joint.

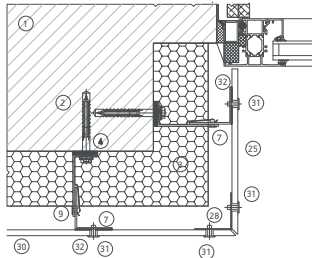


DKR. D1. Start.

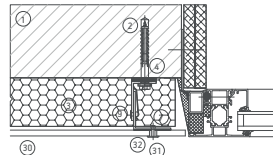
- 1. SUPPORTING WALL
- 2. BRACKET ANCHOR
- 3. INSULATION
- 4. INSULATING BASE
- 5. FIXED POINT BRACKET
- 6. SLIDING POINT BRACKET
- 7. L-SHAPED PROFILE
- 8. T-SHAPED PROFILE
- 9. SELF-DRILLING SCREW
- 23. VENTILATION PROFILE
- 24. LINTEL
- 25. JAMB
- 26. WINDOWSILL
- 27. TOP EDGE
- 28. CORNER PROFILE
- 29. ADHESIVE SYSTEM
- 30. DEKTON®
- 31. DEKTON® RIVET
- 32. FOAM STRIP (OPTIONAL)

Construction details – Dekton® rivet fixing system. Vertical/Horizontal section.

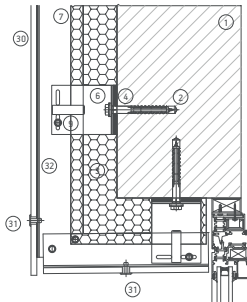
Window details: jamb, lintel and windowsill.



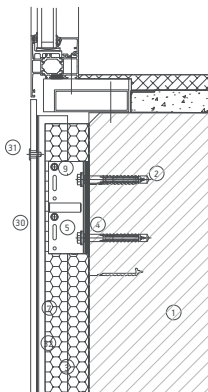
DKR. D11a. Dekton® jamb.



DKR. D11b. Window side.



DKR. D6a. Dekton® lintel.

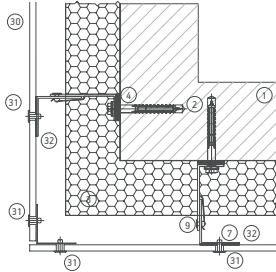


DKR. D5b. Window start.

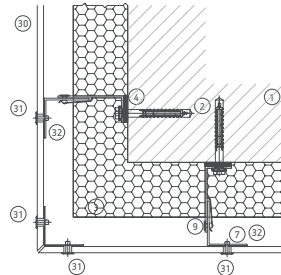
1. SUPPORTING WALL
2. BRACKET ANCHOR
3. INSULATION
4. INSULATING BASE
5. FIXED POINT BRACKET
6. SLIDING POINT BRACKET
7. L-SHAPED PROFILE
8. SELF-DRILLING SCREW
23. VENTILATION PROFILE
24. LINTEL
25. JAMB
26. WINDOWSILL
27. TOP EDGE
28. CORNER PROFILE
29. ADHESIVE SYSTEM
30. DEKTON®
31. DEKTON® RIVET
32. FOAM STRIP (OPTIONAL)

Construction details – Dekton® rivet fixing system. Horizontal section.

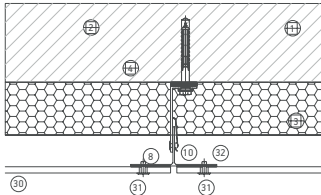
Inside-outside corner and vertical joint.



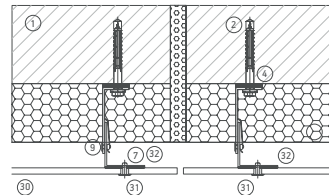
DKR. D7a. Outside corner.



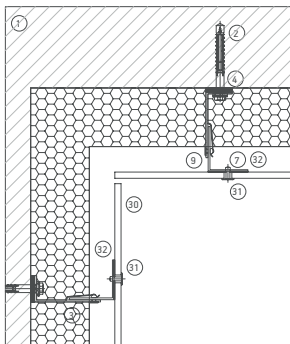
DKR. D7b. Mitred outside corner.



DKR. D9. Vertical joint.



DKR. D10. Vertical expansion joint.



DKR. D8. Inside corner.

1. SUPPORTING WALL
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31. DEKTON® RIVET
32. FOAM STRIP (OPTIONAL)

Installation accessories.

Self centering drill bit DK D = 10 mm, 1 unit.

Spare bits for drill centering tool DK HSS D 5.1, 1 unit.

Fixed point rivet cylinder DK 4 mm FP-A-9 5x3.5-5.1, Box 100 units.

Fixed point rivet cylinder DK 8 mm FP-A-9 5x7.4-5.1, Box 100 units.

Rivet nose piece ALUMINIUM/STAINLESS STEEL C16, 1 unit.

Rivet nose piece STAINLESS STEEL C15, 1 unit.



Self centering drill bit



Spare self centering drill bit



Fixed point rivet cylinders

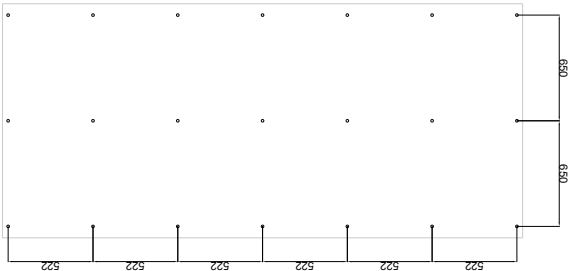


Rivet nose piece

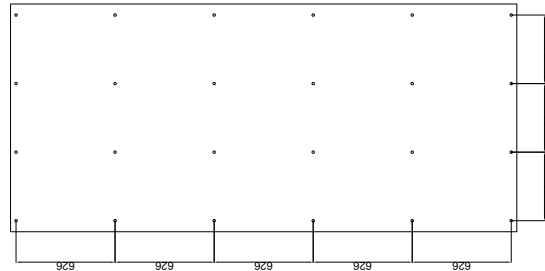
Optimal system configurations for full slab.

			H (mm)	V (mm)	Horiz. rivets (pcs)	Vert. rivets (pcs)	Horiz. dist. (mm)	Vert. dist. (mm)	Rivets (pcs)
Horizontal full slab	DEKTON® 4 mm	Option 1	3200	1440	7	3	522	650	21
		Option 2	3200	1440	6	4	626	433	24
	DEKTON® 8 mm	Option 1	3200	1440	6	3	626	650	18
		Option 2	3200	1440	7	3	522	650	21
Vertical full slab	DEKTON® 4 mm	Option 1	1440	3200	4	6	457	612	24
		Option 2	1440	3200	4	7	457	510	28
	DEKTON® 8 mm	Option 1	1440	3200	3	6	685	612	18
		Option 2	1440	3200	3	7	685	510	21

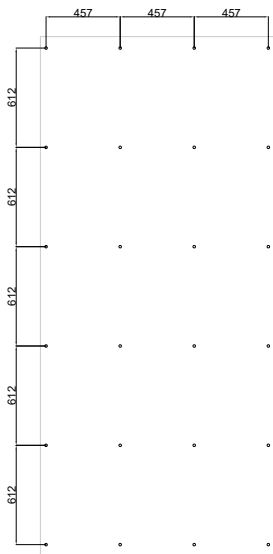
**Optimal system configurations
for full slab.**



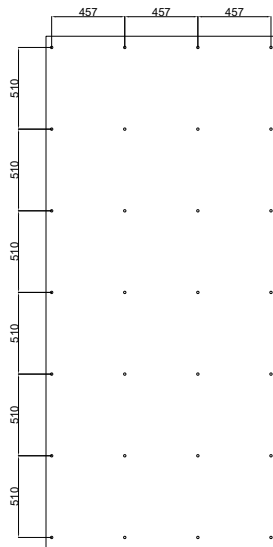
Horizontal slab - 4 mm
Option 1 - 522 x 650 mm



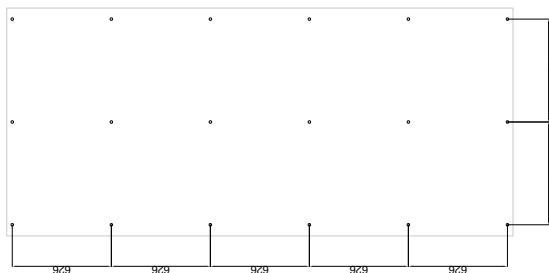
Horizontal slab - 4 mm
Option 2 - 626 x 433 mm



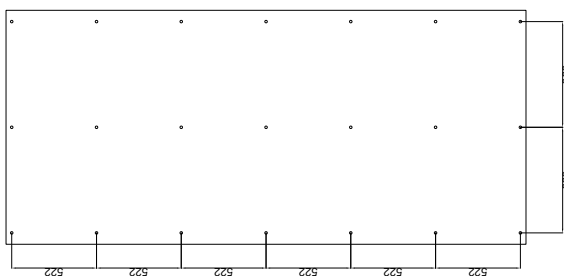
Vertical slab - 4 mm
Option 1 - 457 x 612 mm



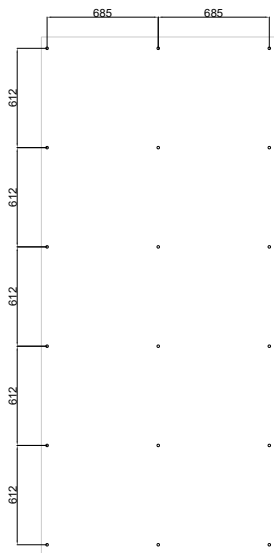
Vertical slab - 4 mm
Option 2 - 457 x 510 mm



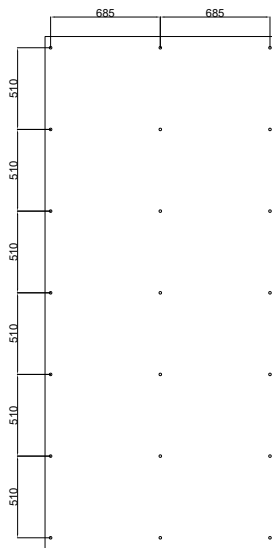
Horizontal slab - 8 mm
Option 1 - 626 x 650 mm



Horizontal slab - 8 mm
Option 2 - 522 x 650 mm



Vertical slab - 8 mm
Option 1 - 685 x 612 mm



Vertical slab - 8 mm
Option 2 - 685 x 510 mm

Health and safety

Risks associated with handling and transport

Stonemasons and installers dealing with Dekton® must comply with all laws and regulations relating to occupational health and safety in workplaces, as well as the information contained in this Guide. During transport and handling of Dekton® materials, risks such as bumps, cuts, musculoskeletal disorders, entrapment or blast injuries can occur due to incorrect handling. Always follow the safety instructions contained in this Guide.

Risks associated with manufacturing and transformation

The manufacturing process can involve risks such as cuts, blast injuries, entrapment, exposure to high noise levels and exposure to chemicals such as free crystalline silica dust. For more information about these risks and the measures to prevent them, consult the Safety Information Sheet as well as the Best Practice Guide that Cosentino® has published. If you do not have this information, please ask your supplier.

**HEAD
PROTECTION**
(UNE EN 397)

**EAR
DEFENDERS**

*During cut

**AIRWAYS
(FFP3)**

*During cut

**EYE
PROTECTION**
(Safety goggles)

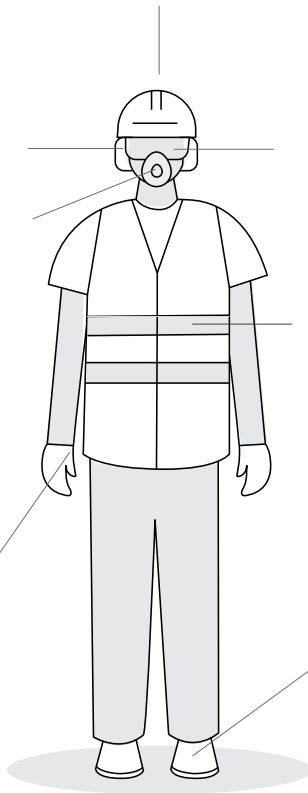
*During cut

HIGH VISIBILITY
(Vest)

**PROTECTION
AGAINST CUTS**
(Safety gloves)

*Anti-cut level 4

**PROTECTION
AGAINST
IMPACTS**
(S1P safety
footwear)





COMPANY WITH
MANAGEMENT SYSTEM
CERTIFIED BY DNV GL
= ISO 9001 =
= ISO 14001 =

* Find information on NSF-certified colours at www.nsf.org

A product designed by **COSENTINO**

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