COSENTINO

DKR system Rivet fixing

COSENTINO® FACADES DKR SYSTEM. RIVET FIXING



DEKTON

TECHNICAL CONTENT

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Design criteria

Fixing: Rivet

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

Profile type	Dekton® thickness	Rivet*					
		Туре	Head	Body	Length	Clamping	
Aluminum	4 mm	Aluminum/ Stainless steel A2 AP16 5x16	Ø16 mm	Ø5 mm	16 mm	Between 6 and 12 mm	
	8 mm	Aluminum/ Stainless steel A2 AP16 5x18	Ø16 mm	Ø5 mm	18 mm	Between 7 and 13.5 mm	
Galvanized steel	4 mm	Stainless steel/ Stainless steel SSO D15 5x14	Ø15 mm	Ø5 mm	14 mm	Between 4 and 9.5 mm	
	8 mm	Stainless steel/ Stainless steel SSO D15 5x18	Ø15 mm	Ø5 mm	18 mm	Between 8 and 13.5 mm	

 \rightarrow (*) In case of proximity to the coast, the KS treatment (anodizing of the rivet body) may be added.

For better integration into the overall appearance of the facade, rivets are supplied with their head lacquered in a similar color to the Dekton[®] panel.



In this document, Cosentino[®] sets out the working and good practice guidelines for the installation of Dekton[®] 4 mm 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:

 \rightarrow Compliance with the minimum and maximum distances from the fixing to the edge.

 \rightarrow Provide each panel with two fixed points and the remainder with sliding points.

 \rightarrow Use a self centering drill bit to place the rivet in the hole and the profile in the Dekton® panel.

 \rightarrow Install the rivet without over-tightening, using the nose piece.

Panel preparation: Drill holes

To allow the expansion of the metal profiles and their compatibility with Dekton[®], the drill hole will be Ø10 mm.

Cosentino® can supply the 4 mm and 8 mm Dekton® panels 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.

It is possible to make punctual drilling onsite using a portable drilling machine with water supply. The drilling should be done on a continuous support of lower density than Dekton® (for example, wood) and on the visible face of the panel to avoid possible chipping.





Distances from the drill hole to the edge

The recommended distances from the drill hole to the edge of the panel can be consulted in the following table:

	Minimum distance	Maximum distance		
Horizontal direction	35 mm	15.0		
Vertical direction	70 mm	150 mm		



These distances will allow a minimum joint between panels of 5 mm at the T-shaped profile of the vertical joint, as shown in the following diagram:



Installation criteria

Panel installation: Accessories

It is recommended to carry out the installation from the top of the facade and downwards.

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

1. Drilling on the profiles

Using the centralizing tool, drill holes in the profiles concentric to the holes in the Dekton[®] panels.

This accessory is easily adaptable to any type of drill.



2. Placement of fixed point rivets

Regardless of panel size, place two rivets per panel. Each rivet will be placed by means of a fixed point cylinder.



The load of the panel will be transferred to these points.



→ Fixed point Dekton[®] 8 mm Protek (with mesh).

→ Fixed point Dekton[®] 4 mm Protek (with mesh).

The positioning criteria are: they are placed in different vertical profiles, aligned with each other, pointing to the center of the panel and in a non-symmetrical arrangement, always applying the same criteria for each row of panels (e.g. center-right).



3. Placement of sliding rivets

In the remaining drill 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 panel but the wind load.



 \rightarrow Sliding point Dekton® 8 mm Protek (with mesh).

→ Sliding point Dekton® 4 mm Protek (with mesh).

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 panel and the panel can move.



In this way, the rivets will hold the panel but will not put pressure on it. To check that the pressure is not excessive, slide a sheet of paper between the panel and the rivet head.

5. Removal of the rivet shank

After installing the rivet, trim any excess shank.

 \rightarrow (*) Cosentino^{\otimes} supplies all the accessories and tools needed for the installation of Dekton^ duly referenced.





Examples of incorrect positioning of fixed points



Key

O Fixed points

Sliding points

Profile systems

The recommended profile types for this system are listed below.

Dekton® can be used with rivet fixing system using aluminum 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 | Aluminum.



→ Metal substructure | Galvanized steel.



Or using galvanized 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.

DKR system details

DKR | Vertical section

 $\rightarrow \text{Top edge}$



→ Start

Supporting wall.
 Anchor bracket.

4. Insulating layer.

5. Fixed bracket.

7. L-shaped profile.

8. T-shaped profile.

9. Self tapping screw.

6. Adjustable bracket.

3. Insulation.



 Rivet.
 Undercut anchor.
 Horizontal rail.
 C-shaped hanger.
 Adjustable C-shaped hanger.
 Bottom/top edge profile/clip.

 Intermediate edge profile/clip.
 Rottom/top visible clip.
 Intermediate visible clip.
 Interior back clip.
 Exterior back profile.
 Chemical fixing system.
 Security fixing.
 Ventilation profile.

24. Lintel.
 25. Jamb.
 26. Window sill.
 27. Top coping.
 28. Corner profile.
 29. Bonding adhesive.
 30. Dekton Protek.
 31. Foam strip (Optional).

→ Horizontal expansion joint

→ Horizontal joint

(10)

(10)



DKR | Vertical/horizontal section



 \rightarrow Window start



hanger.



→ Dekton® jamb



→ Inside corner



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

16. Intermediate edge 10. Rivet. 11. Undercut anchor. profile/clip. 17. Bottom/top visible clip. 12. Horizontal rail. 13. C-shaped hanger. 18. Intermediate visible clip. 14. Adjustable C-shaped 19. Interior back clip. 20. Exterior back profile. 15. Bottom/top edge 21. Chemical fixing system. profile/clip. 22. Security fixing. 23. Ventilation profile.

24. Lintel. 25. Jamb. 26. Window sill. 27. Top coping. 28. Corner profile. 29. Bonding adhesive. 30. Dekton Protek. 31. Foam strip (Optional).

DKR | Horizontal section





→ Mitered outside corner



→ Vertical joint



→ Vertical expansion joint





10. Rivet. 11. Undercut anchor. 12. Horizontal rail. 13. C-shaped hanger. 14. Adjustable C-shaped 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.

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24. Lintel.
25. Jamb.
26. Window sill.
27. Top coping.
28. Corner profile.
29. Bonding adhesive.
30. Dekton Protek.
31. Foam strip (Optional).
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Annexes

Installation

accessories

Self centering drill bit	Fixed point rivet cylinder DK 4 mm	Rivet nose piece ALUMINUM/
DK D = 10 mm; 1 unit	FP-A-9 5x3.5-5.1; box 100 units	STAINLESS STEEL C16; 1 unit
Spare bits for drill centering tool	Fixed point rivet cylinder DK 8 mm	Rivet nose piece
DK HSS D 5.1; 5 units	FP-A-9 5x7.4-5.1; box 100 units	STAINLESS STEEL C15; 1 unit



 \rightarrow Spare self centering drill bit.

 \rightarrow Self centering drill bit.





 \rightarrow Fixed point rivet cylinders.

→ Rivet nose piece.

Optimal system configurations for full size panel

Panel Dekton® position thickness		n® Iess	H (mm)	V (mm)	Horiz. rivets (units)	Vert. rivets (units)	Horiz. dist. (mm)	Vert. dist. (mm)	Rivets (units)
Horizontal	4 mm	Option 1	3,200	1,440	7	3	522	650	21
		Option 2			6	4	626	433	24
	8 mm	Option 1			6	3	626	650	18
		Option 2			7	3	522	650	21
Vertical	4 mm	Option 1	1440	0 3,200	4	6	457	612	24
		Option 2			4	7	457	510	28
	8 mm	Option 1	1,440		3	6	685	612	18
		Option 2			3	7	685	510	21

→ Horizontal panel - 4 mm | Option 1 - 522 x 650 mm



 \rightarrow Horizontal panel - 4 mm | Option 2 - 626 x 433 mm











→ Vertical panel - 4 mm | Option 1 - 457 x 612 mm



→ Vertical panel - 4 mm | Option 2 - 457 x 510 mm



→ Vertical panel - 8 mm | Option 2 - 685 x 510 mm



→ Vertical panel - 8 mm | Option 1 - 685 x 612 mm



Health & safety

Operators and fitters dealing with Dekton® materials, must comply with all applicable occupational health and safety laws and regulations.

Always take the necessary occupational safety measures to meet the requirements of local regulations. This *Guide* is not an exhaustive document or a substitute for the relevant laws and regulations, and is provided for information purposes only.

Safety measures will depend on the specific conditions of each job.

Risks associated with handling and transport

During transport and handling of Dekton® materials, risks such as bumps, cuts, musculoskeletal disorders, entrapment or blast injuries can occur due to incorrect handling.

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.

Before processing the product, consult the Dekton® Safety Data Sheet and the Good Practice Guidelines available upon request from Cosentino® or on the website osh.cosentino.com.



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→ These certificates apply to Dekton® and Silestone®

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