

Declaration of Performance

N - 102020DKFV

Name and identification code:

Product: Dekton®

Name and address of manufacturer:

Company: Cosentino S.A.U.

Address: Carretera A-334, km 59, 04850 Cantoria (Almeria) - Spain

1. Product: Dekton®.

2. Prior use: External ventilated façade cladding mechanically fixed to the substructure, which in turn is fixed to new or existing external walls (refurbishment).
For description of the type of fixings considered see annex 4.

3. Manufacturer: Cosentino S.A.U.
Carretera A-334 km 59, ES-04850 Cantoria (Almeria) - Spain

4. Assessment and verification system of the constancy of performance: System 2+

5. European Assessment Document: EAD 090062-00-0404 used as EAD in accordance with Art. 66.3

European Technical Assessment: ETE 14/0413 de 20-07-2020

Technical Assessment Bodies: ITeC - Instituto de Tecnología de la Construcción de Cataluña

Notified Body: 1220

6. Performance declared

Basic requirement	Essential characteristic	Performance			
Safety in case of fire	Reaction to fire	Dekton without auxiliary mesh Dekton with auxiliary mesh			
		A1 A2-s1,d0			
Hygiene, health and the environment	Watertightness of joints	Not watertight (open joints)			
	Drainability	See Annex 1			
	Release of dangerous substances	NPD			
	Wind load resistance	See Annex 2			
	Flexural strength	≥ 45 N/mm ²			
Safety and accessibility in use	Resistance to axial tension	DKT1.1	Centre	≥ 3000 N	
		12 mm	Border	≥ 1000 N	
			Corner	≥ 1000 N	
			DKT1.2	Centre	≥ 3000 N
		20 mm	Border	≥ 1000 N	
			Corner	≥ 1000 N	
	DKT1.1		Centre	≥ 2500 N	
	Resistance to shear load	DKT1.1	Border	≥ 2400 N	
		12 mm	Corner	≥ 2400 N	
			Centre	≥ 3300 N	
			DKT1.2	Border	≥ 2700 N
		20 mm	Corner	≥ 2200 N	
			DKT1.1	Centre	≥ 3900 N
	DKT1.2		Centre	≥ 6900 N	
	Resistance to combined tension and shear load	DKT1.1	20 mm	≥ 4900 N	
		DKT1.2	20 mm	≥ 6300 N	
		12 mm	60° angle	≥ 900 N	
			30° angle	≥ 900 N	
			DKT1.2	60° angle	≥ 1000 N
		20 mm	30° angle	≥ 550 N	
	DKT1.1		60° angle	≥ 1100 N	
	DKT1.2		30° angle	≥ 900 N	
	Resistance of grooves	DKT1.1	20 mm	60° angle	≥ 1400 N
		DKT1.2	20 mm	30° angle	≥ 1100 N
12 mm		DKT2.1			
		DKT2.2			
		DKT3			
20 mm		DKT2.1			
	DKT2.2		≥ 1000 N		
	DKT3				
Resistance to vertical load	DKT2 and DKT3	< 0,15 mm after 4 h			
Resistance of cladding fixing	Fixing type 2	≥ 3500 N			
Impact resistance		See Annex 3			
Resistance to seismic actions		NPD			
General aspects relating to the performance of the product	Fatigue (pulsating load)	Fixing type 1	NPD		
	Dimensional stability	By humidity	0,05 mm/m		
		By temperature	0,007 mm/m·°C		
	Water absorption		< 0,5% (Group BIa)		
	Freeze-thaw		No defects		

The performance of the product identified above is in conformity with the declared performance.

This declaration of performance is issued, in accordance with regulation (EU) n1305/2011 under the sole responsibility of the manufacturer identified above.

Signed for and on behalf of the manufacturer by:

Miguel Segovia
Quality Director

Place and date of issue:
Cantoria 10/2020

Annex 1

Drainability

On the basis of the construction details, the available technical knowledge and experience and the installation criteria, it is considered that the water which penetrates into the air space or the condensation water can be drained out from the cladding without accumulation or moisture damage or leakage into the substrate.

A1.1 Construction details with cladding fixings type 1 - DKT1.1

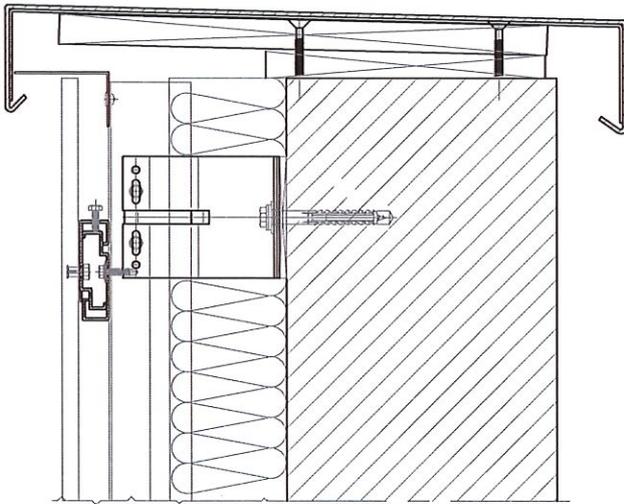


Figure A1.1a: Roof edge. DKT1.1.

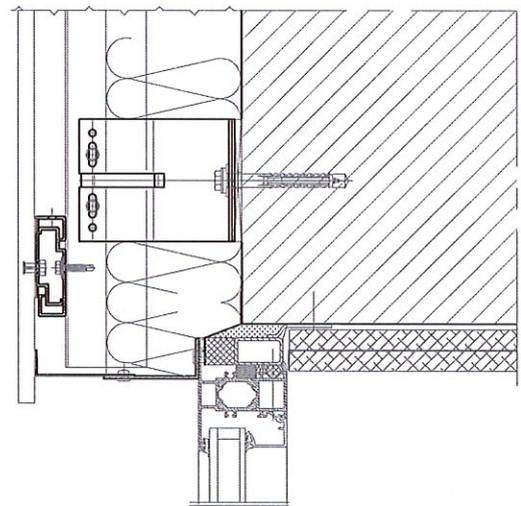


Figure A1.1b: Base edge. DKT1.1.

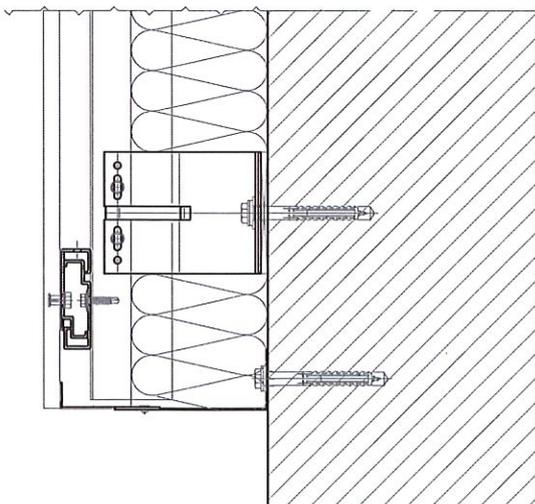


Figure A1.1c: Lintel. DKT1.1.

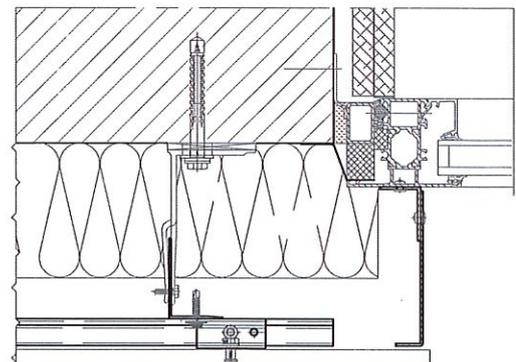


Figure A1.1d: Jamb. DKT1.1.

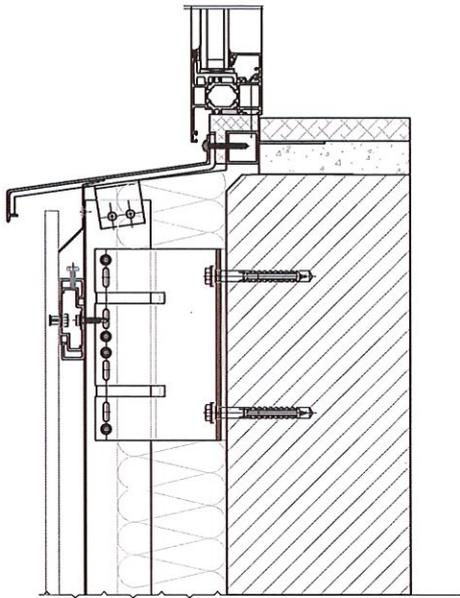


Figure A1.1e Sill. DKT1.1.

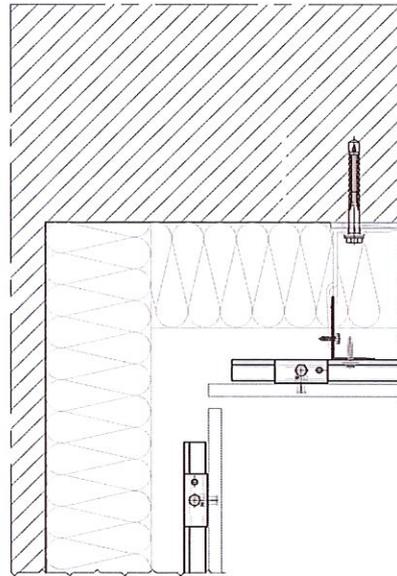


Figure A1.1f: External corner. DKT1.1.

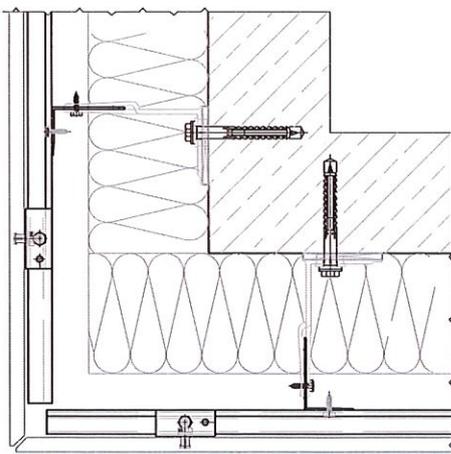


Figure A1.1g: External corner with angled edge. DKT1.1.

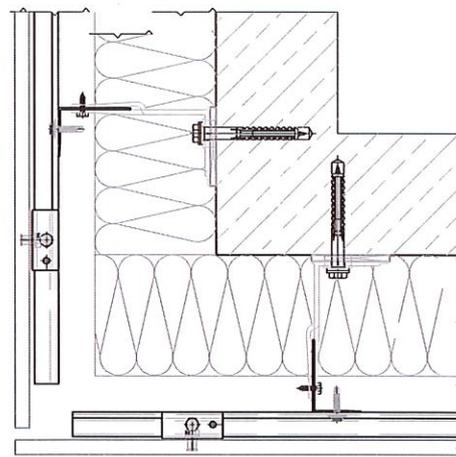


Figure A1.1h: Internal corner. DKT1.1.

Annex 1

A1.2 Construction details with cladding fixings type 1 - DKT1.2

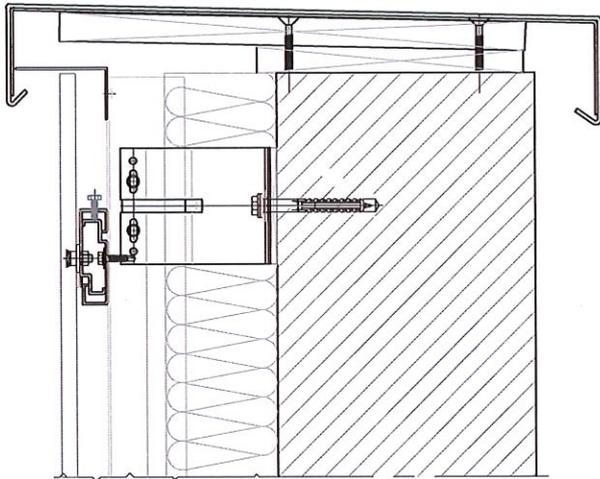


Figure A1.2a: Roof edge. DKT1.2.

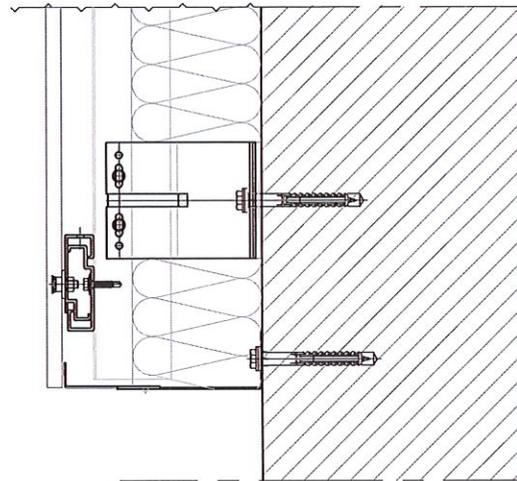


Figure A1.2b: Base edge. DKT1.2.

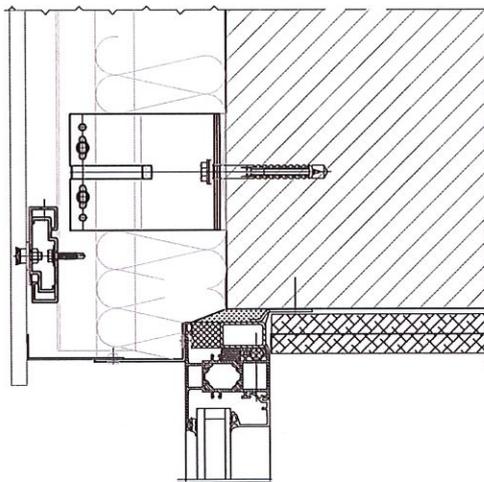


Figure A1.2c: Lintel. DKT1.2.

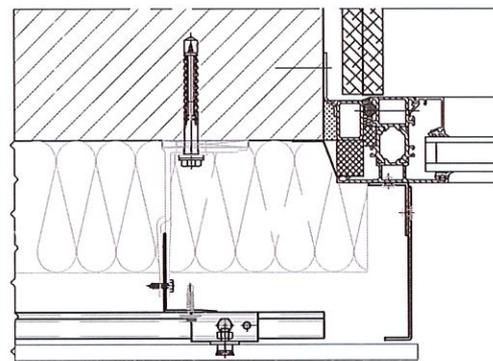


Figure A1.2d: Jamb. DKT1.2.

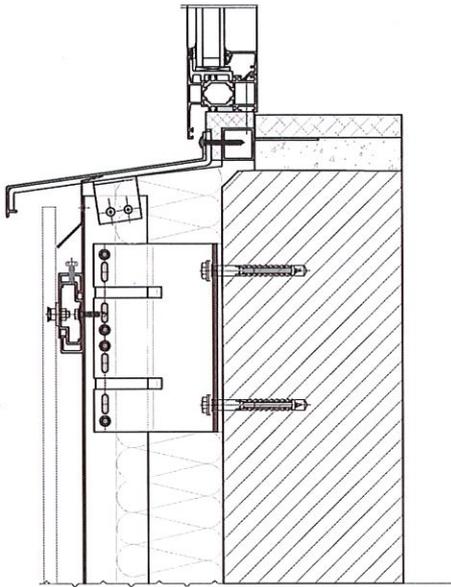


Figure A1.2e: Sill. DKT1.2.

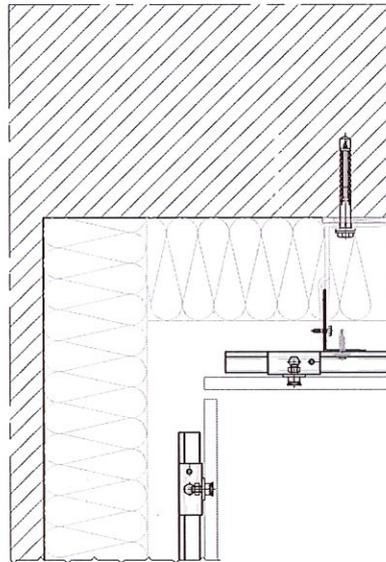


Figure A1.2f: Internal corner. DKT1.2.

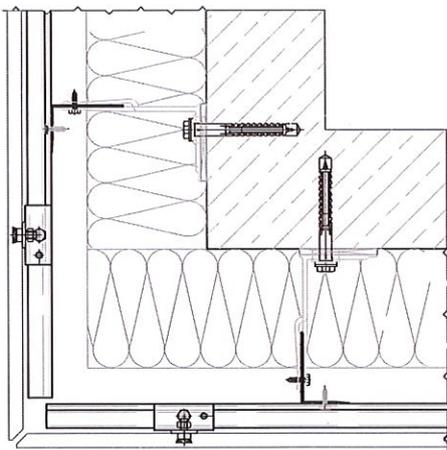


Figure A1.2g: External corner with angled edge. DKT1.2.

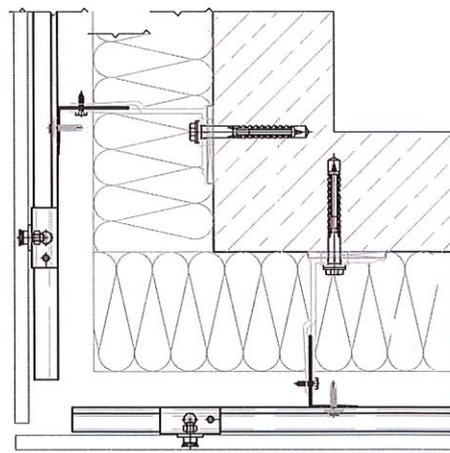


Figure A1.2h: External corner. DKT1.2.

Annex 1

A1.3 Construction details with cladding fixings type 2 - DKT2.1 y DKT2.2

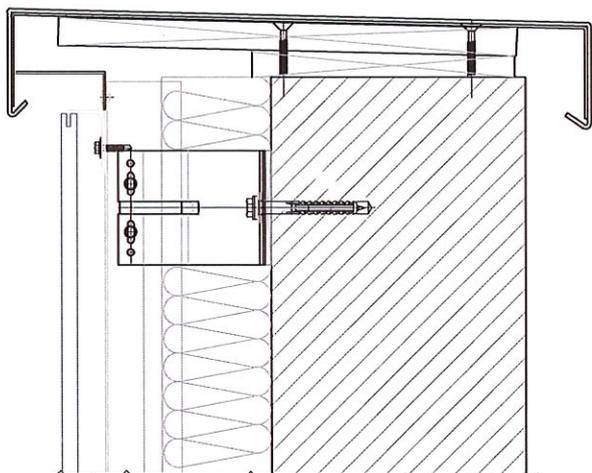


Figure A1.3a: Roof edge. DKT2.1 y DKT2.2.

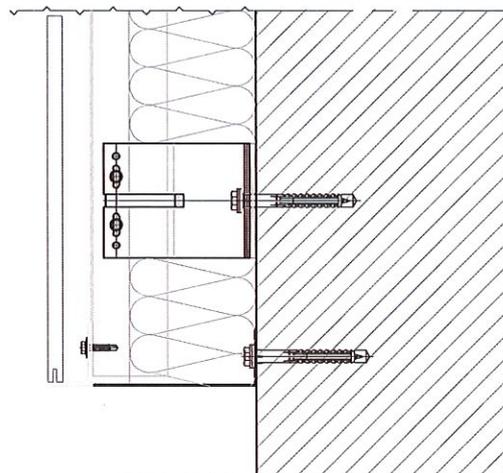


Figure A1.3b: Base edge. DKT2.1 y DKT2.2.

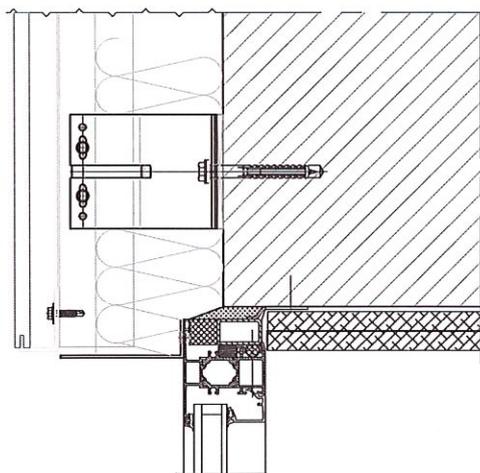


Figure A1.3c: Lintel. DKT2.1 y DKT2.2.

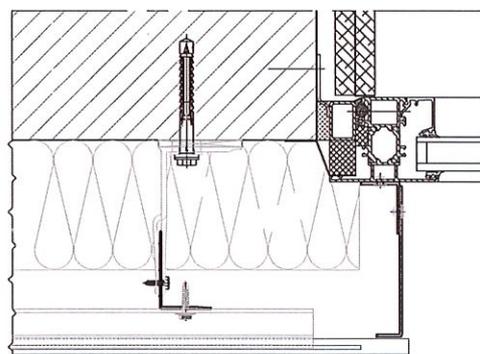


Figure A1.3d: Jamb. DKT2.1 y DKT2.2.

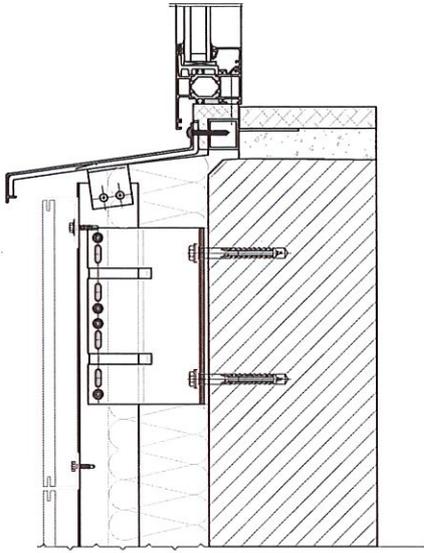


Figure A1.3e: Sill. DKT2.1 y DKT2.2.

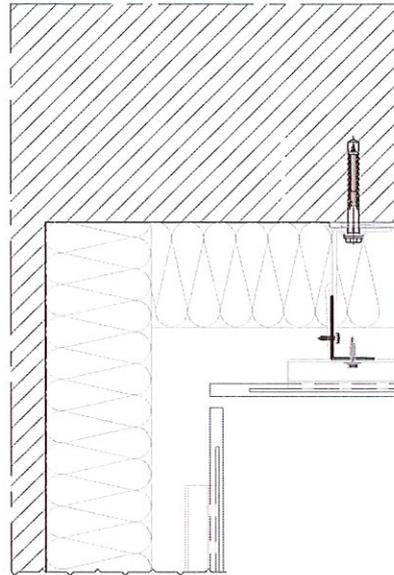


Figure A1.3f: Internal corner. DKT2.1 y DKT2.2.

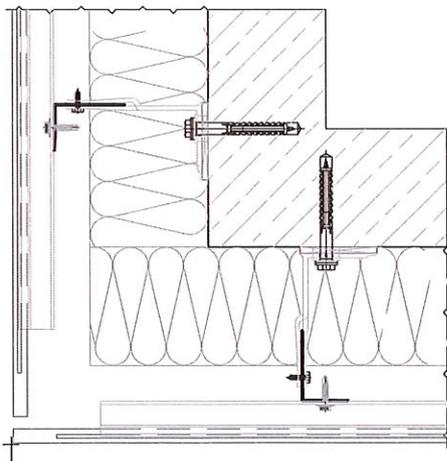


Figure A1.3g: External corner with angled edge. DKT2.1 y DKT2.2.

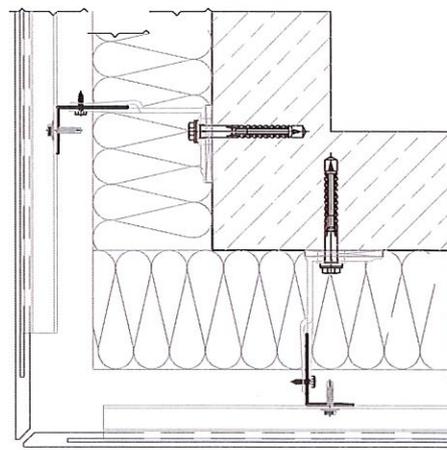


Figure A1.3h: External corner. DKT2.1 y DKT2.2.

Annex 1

A1.4 Construction details with cladding fixings type 3 - DKT3

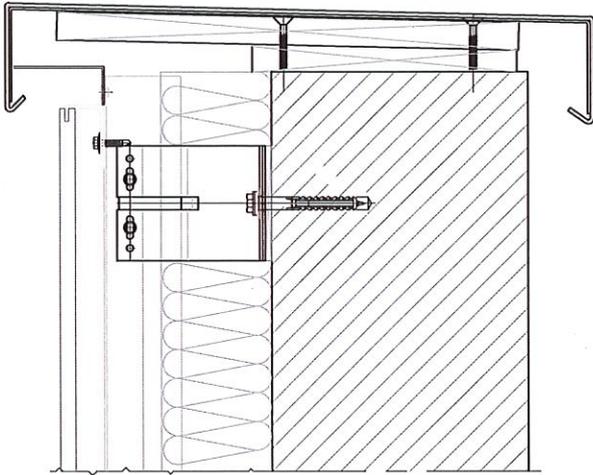


Figure A1.4a: Roof edge. DKT3.

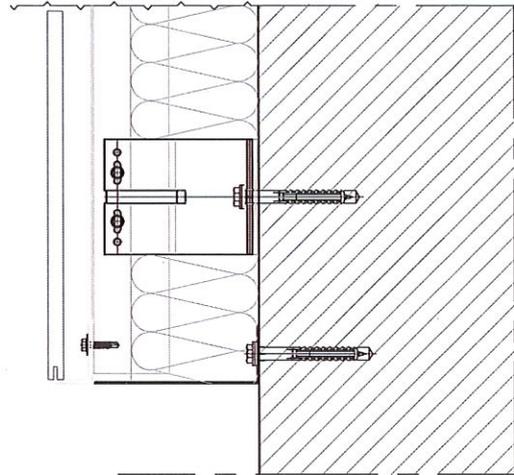


Figure A1.4b: Base edge. DKT3.

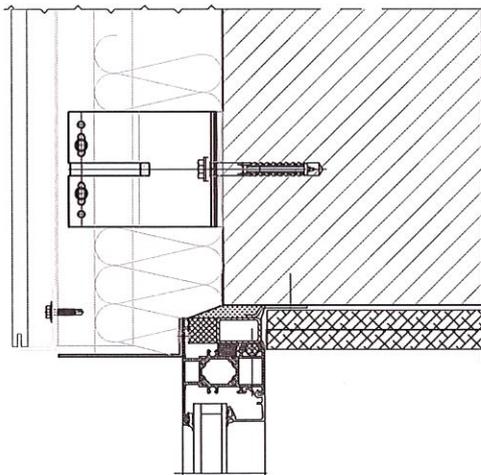


Figure A1.4c: Lintel. DKT3.

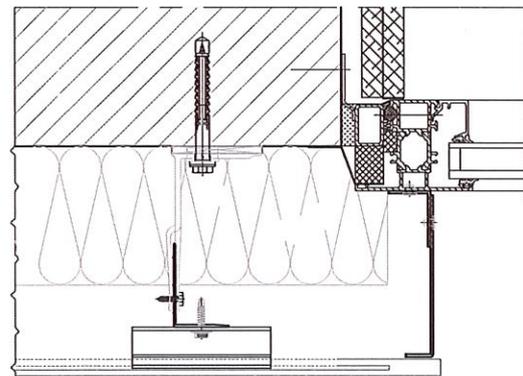


Figure A1.4d: Jamb. DKT3.

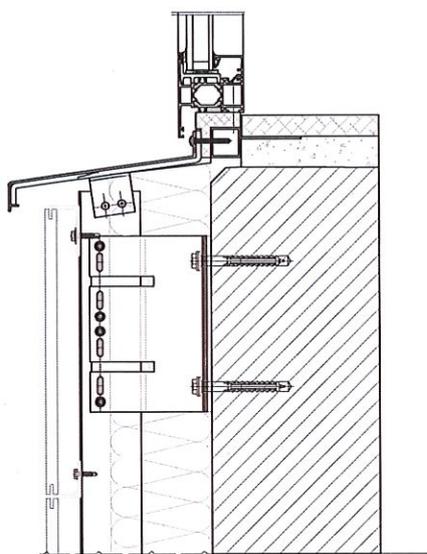


Figure A1.4e: Sill. DKT3.

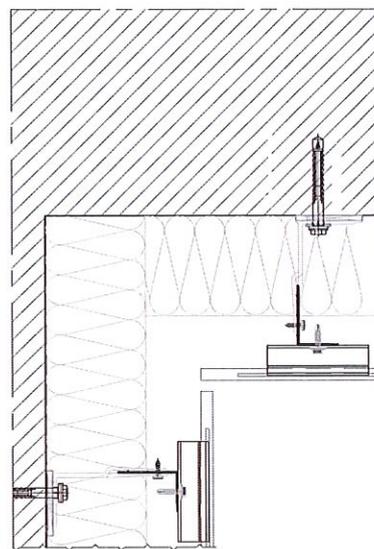


Figure A1.4f: Internal corner. DKT3.

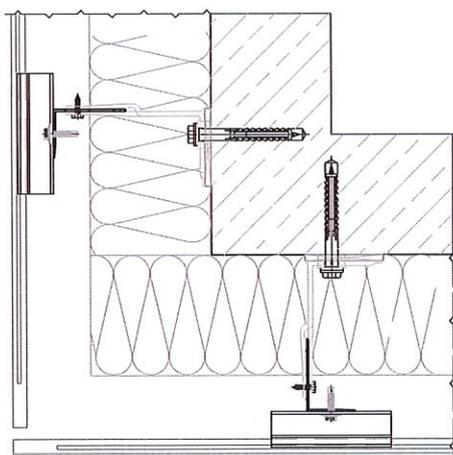


Figure A1.4g: External corner with angled edge. DKT3.

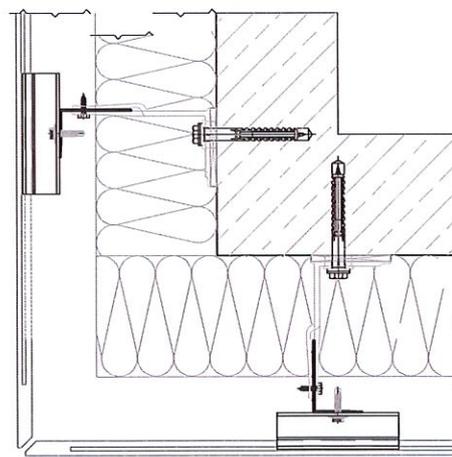


Figure A1.4h: External corner. DKT3.

Annex 2

Wind load resistance

Wind load resistance has been determined considering the wind resistance tests and the mechanical resistance of components.

The most critical cases for each cladding element thickness have been tested (maximum area and maximum distance between cladding fixings). Test results are given in following table.

For other assembled systems, wind load resistance obtained by calculation based on the mechanical resistance of the kit components should not be higher than the maximum load obtained in the tests.

Family of the kit	System	Dekton thickness	Maximum load Q (Pa)
Family B	DKT1.1	12 mm	8200
	DKT1.2		6300
	DKT1.1	20 mm	9500
	DKT1.2		8200
Family C	DKT2.1	12 mm	2000
	DKT2.2		2000
	DKT3	20 mm	2000
	DKT3		2800

Annex 3

Impact resistance

Cladding element	Cladding fixing	Impact resistance	Degree of exposure in use (*)
Dekton® 12mm and 20mm	DKT1	Hard body (0,5 kg) 3 impacts of 1 J Soft body (3,0 kg) 3 impacts of 10 J	Category IV
Dekton® 12mm and 20mm	DKT2	Hard body (0,5 kg) 3 impacts of 3 J Soft body (3,0 kg) 3 impacts of 10 J	Category III
Dekton® 12mm	DKT3	Hard body (0,5 kg) 3 impacts of 1 J Soft body (3,0 kg) 3 impacts of 10 J	Category IV
Dekton® 20mm	DKT3	Hard body (0,5 kg) 3 impacts of 3 J Soft body (3,0 kg) 3 impacts of 10 J	Category III

(*) Category I: This category means that the degree of exposure in use should be a zone readily accesible to the public at ground level and vulnerable to hard body impacts but not subjected to abnormally rough use..

Category II: This category means that the degree of exposure in use should be a zone liable to impacts from thrown or kicked objects, but in public locations where the height of the kit will limit the size of the impact; or at lower levels where access to the building is primarily to those with some incentive to exercise care.

Category III: This category means that the degree of exposure in use should be a zone not likely to be damaged by normal impacts caused by people or by thrown or kicked objects.

Category IV: This category means that the degree of exposure in use should be a zone out of reach from ground level.

Annex 4

Cladding fixings

A4.1 Cladding fixings type 1. Specific anchor made of stainless steel to be placed in an undercut drill hole.
System trade name DKT1.

Geometric characteristics and material properties of the specific anchor that has been used in the tests for the assessment of DEKTON® are given in the following table:

Characteristic		Reference	Value		
System			DKT1.1	DKT1.2	DKT1.2
Type of specific anchor		---	Undercut anchor		
Trade name		---	KEIL	FISCHER	FISCHER
			KH 8,5	FPZ II 11x6 M6/T/10PA	FPZ II 11x8 M6/T/12PA
For use in DEKTON® thickness (mm)		---	12	12	20
Form and dimensions			See figure A2.1a	See figure A2.1b	
Anchorage depth, h_s (mm)			8,5	$5,5 = (\alpha = 8) - 2,5$	$8,5 = (\alpha = 11) - 2,5$
Panel thickness, h (mm)			$\geq 11,0$	$\geq 10,0$	$\geq 20,0$
Diameter of drill hole, d_o (mm)			7,0	11,0	
Diameter of undercut, d_i (mm)			9,0	13,5	
Screw length, c		ETA 03/0055 ETA 06/0253	See note (1)	---	
Bolt projection length, b		ETA 11/0465	---	10,0	
Thread diameter			M6	M6	
Installation torque moment, T_{inst} (N-m)			$2,5 \leq T_{inst} \leq 4,0$	$T_{inst} \leq 5,0$	
Distance anchor - panel edge (mm)			$100 \leq b \leq 200$	$100 \leq b \leq 200$	
Maximum distance anchor - anchor			≤ 700 (between columns) ≤ 620 (between rows)	≤ 700 (between columns) ≤ 620 (between rows)	
Anchor sleeve		EN 10088-1 EN 10088-2	See note (2)	---	
Screw			See note (3)	---	
Type of material		Cone bolt EN 10088-1 EN 10088-2 Expansion part EN 10088-3	---	Stainless steel	
Shim washer		---	---	Polyamide 6.6	
Hexagonal nut		EN 755 EN 10088	---	Aluminium, optional A4 stainless steel	

(1) Without washer: $h_s + 3 \text{ mm} + t_{fix}$; with washer: $h_s + 7,5 \text{ mm} + t_{fix}$ (with washer).

(2) Stainless steel 1.4404 (X2CrNiMo17-12-2).

(3) Stainless steel: 1.4401 (X5CrNiMo17-12-2), 1.4404 (X2CrNiMo17-12-2) or 1.4578 (X3CrNiCuMo 17-11-3-2).

Annex 4

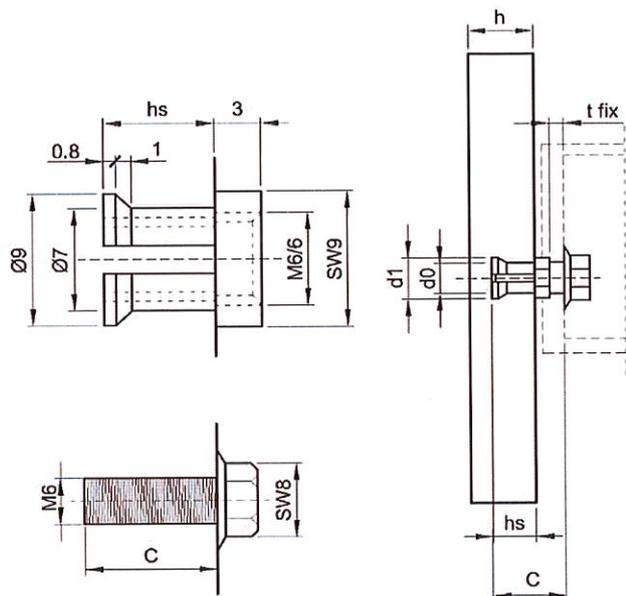


Figura A4.1a: KEIL KH undercut anchor. Anchor sleeve and hexagonal screw (DKT1.1).

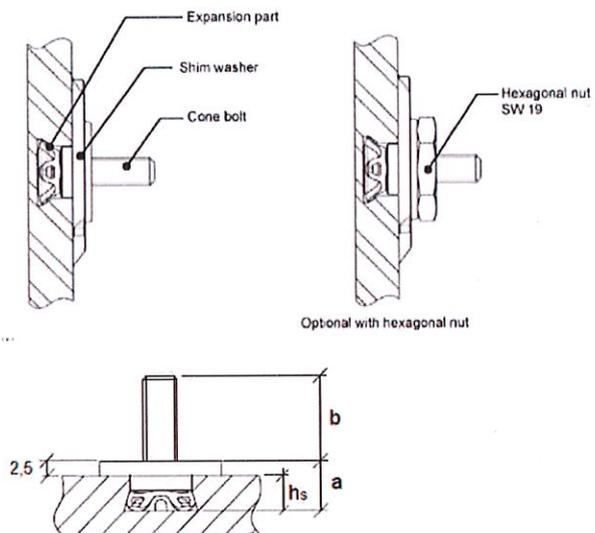


Figura A4.1b: FISCHER FZP II undercut anchor (DKT1.2).

Anexo 4

A4.2 Cladding fixings type 2. Horizontal rail profiles made of aluminium alloy. System trade name DKT2..

Geometric characteristics and material properties of the horizontal rail profiles (middle profile and lower/upper profile) considered for the assessment of DEKTON® are given in the table A2.2. Two models are considered, DKT2.1 and DKT2.2:

Characteristic	Reference	Value		
Geometric characteristics	System	DKT2.1 y DKT3 DKT2.2		
	Form and dimensions	See figures A3.2a See figures A3.2b		
	Weight per linear metre	0,725 kg/m 0,678 kg/m		
	Standard length	6,0 m		
	Cross section	Middle profile	268,0 mm ²	
		Lower/upper profile	250,9 mm ²	
	Inertia of profile section	I_{xx}	Middle profile	2,03 cm ⁴
			Lower/upper profile	1,78 cm ⁴
		I_{yy}	Middle profile	2,89 cm ⁴
			Lower/upper profile	2,49 cm ⁴
Material properties	Type of material	Aluminium alloy AW 6063 T66 Aluminium alloy AW 6063 T5		
	Durability class	B		
	Specific gravity (unit mass)	2700 kg/m ³		
	Elastic limit $R_{p0,2}$	≥ 200 N/mm ² ≥ 130 N/mm ²		
	Elongation	EN 1999-1-1 EN 755-2 $\geq 8\%$		
	Tensile strength R_m	≥ 245 N/mm ² ≥ 175 N/mm ²		
	Modulus of elasticity (at 20 °C)	70000 N/mm ²		
	Poisson coefficient	0,3		
	Thermal expansion coefficient between 50 °C and 100 °C	23,0 $\mu\text{m}/\text{m}\cdot\text{°C}$		

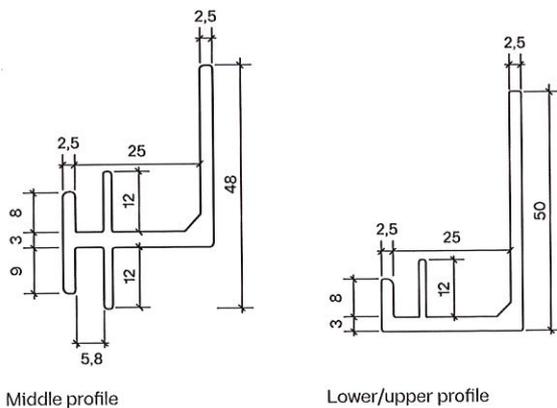


Figure A4.2a: Cross-section. DKT2.1 y DKT3.

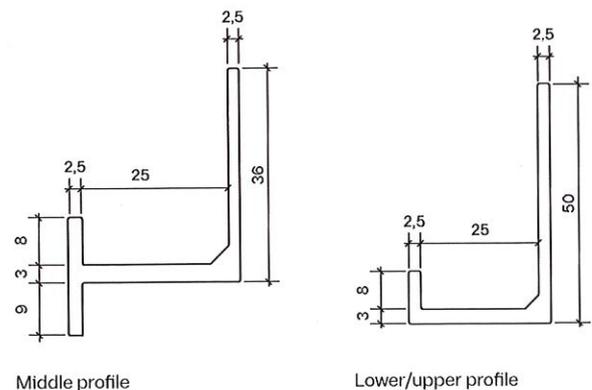


Figure A4.2b: Cross-section. DKT2.2.

Anexo 4

A4.3 Cladding fixings type 3. Small rails made of aluminium alloy. System trade name DKT3.

Cladding fixings type 3 considered for the assessment of DEKTON® are small rails which have the same cross-section (see figures A2.2a) and the same material properties (see table A2.2) that the cladding fixings type 2 DKT2.1 system.

Specific form and dimensions of the small rails are given in figures A2.3.

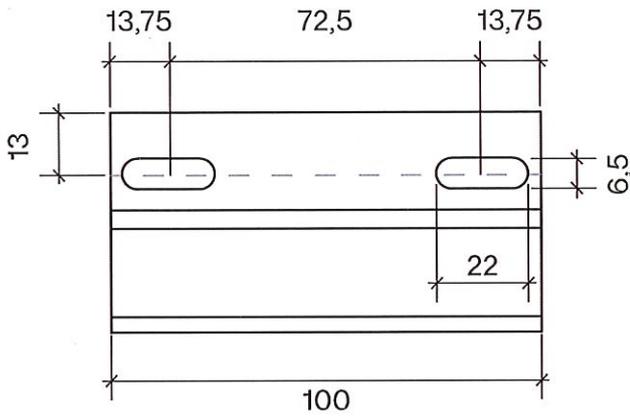


Figure A4.3a: Middle small rail with oblong holes. Frontal view.

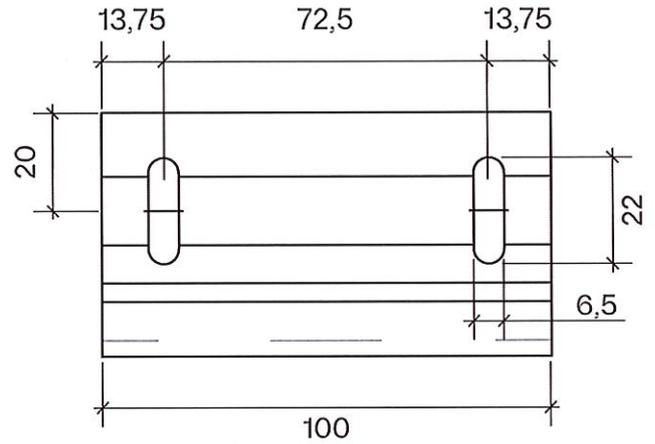


Figure A4.3b: Lower/upper small rail. Frontal view.

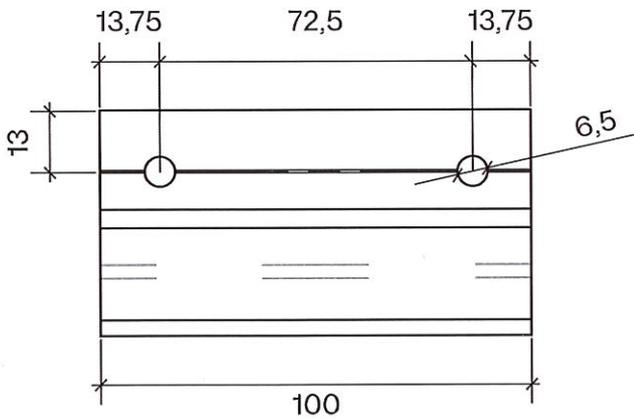


Figure A4.3c: Middle small rail with circular holes. Frontal view.