

Declaration of Performance

N - 102020DKFV



Name and identification code

Product: Dekton®

Name and address of manufacturer

Company: Cosentino Industrial, S.A.U.

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

Updated

11/2023

**TECHNICAL
CONTENT**

EAD 090062-00-0404

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, 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: ETA 14/0413 of 18/01/2022.

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

Notified Body: 1220.

6. Performance declared: See table on next page.

Basic requirement	Essential characteristic				Performance	
Safety in case of fire	Reaction to fire	Dekton® without auxiliary mesh			A1	
		Dekton® with auxiliary mesh			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	
Safety and accessibility in use	Flexural strength				≥ 45 N/mm²	
	Resistance to axial tension	DKT1.1	12 mm	Centre Border Corner	≥ 3,000 N ≥ 1,000 N ≥ 1,000 N	
		DKT1.2		Centre Border Corner	≥ 3,000 N ≥ 1,000 N ≥ 1,000 N	
		DKT1.1	20 mm	Centre Border Corner	≥ 2,500 N ≥ 2,400 N ≥ 2,400 N	
		DKT1.2		Centre Border Corner	≥ 3,300 N ≥ 2,700 N ≥ 2,200 N	
		Resistance to shear load	DKT1.1	12 mm		≥ 3,900 N
			DKT1.2			≥ 6,900 N
			DKT1.1	20 mm		≥ 4,900 N
			DKT1.2			≥ 6,300 N
	Resistance to combined tension and shear load	DKT1.1	12 mm	60° angle 30° angle	≥ 900 N ≥ 900 N	
		DKT1.2		60° angle 30° angle	≥ 1,000 N ≥ 550 N	
		DKT1.1	20 mm	60° angle 30° angle	≥ 1,100 N ≥ 900 N	
		DKT1.2		60° angle 30° angle	≥ 1,400 N ≥ 1,100 N	
	Resistance of grooves	DKT2.1 DKT2.2 DKT3	12 mm		≥ 500 N	
		DKT2.1 DKT2.2 DKT3	20 mm		≥ 1,000 N	
	Resistance to vertical load	DKT2 and DKT3				< 0.15 mm after 4 h
	Resistance of cladding fixing	Fixing Type 2				≥ 3,500 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 By temperature			0.5 mm/m 6.5 µm/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) No 305/2011 under the sole responsibility of the manufacturer identified above. Signed by and in representation of the manufacturer by:



Valentín Tijeras
VP Global Product, R&D and Quality

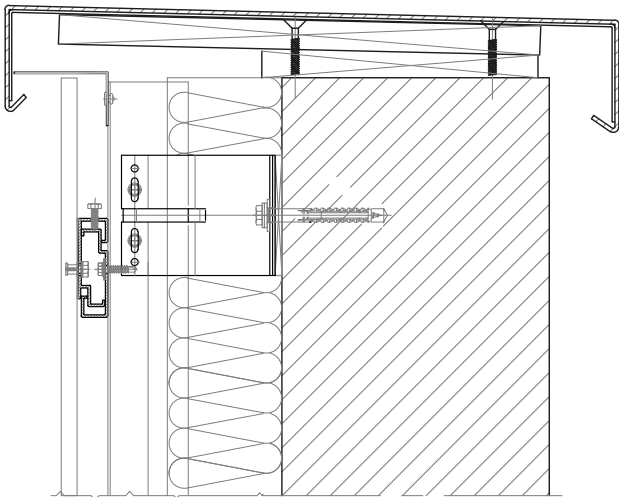
Place and date of issue:
Cantoria, 11/2023

Annex 1

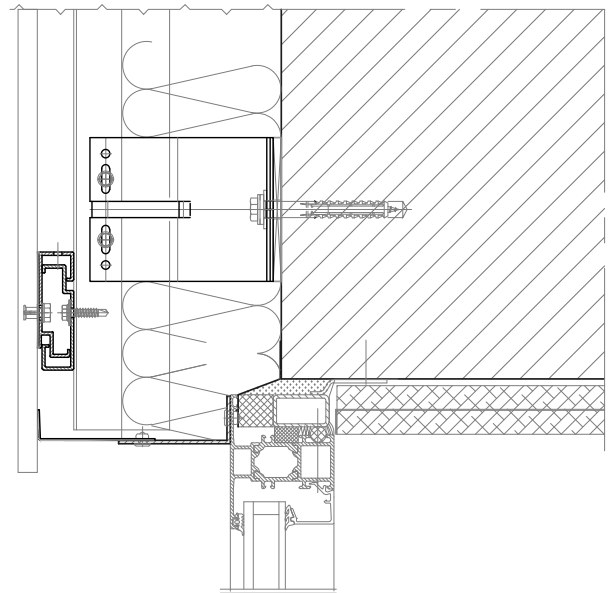
Drainability

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.

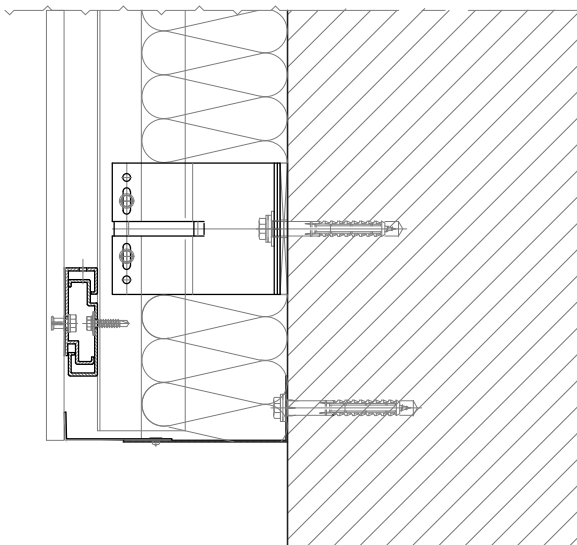
A1.1 Construction details with cladding fixings Type 1 - DKT1.1



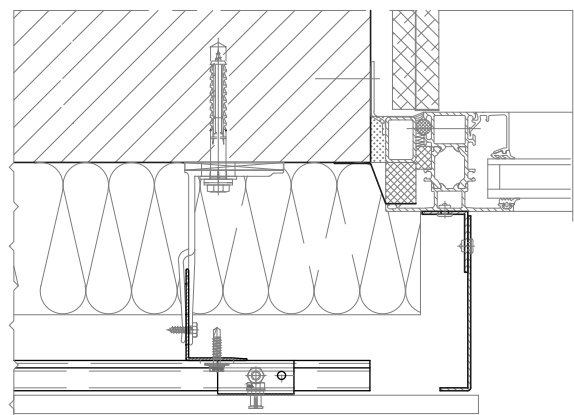
→ Figure A1.1a: Roof edge - DKT1.1.



→ Figure A1.1b: Base edge - DKT1.1.

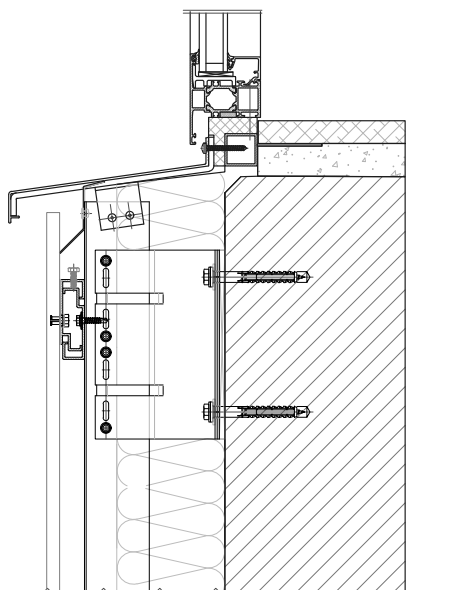


→ Figure A1.1c: Lintel - DKT1.1.

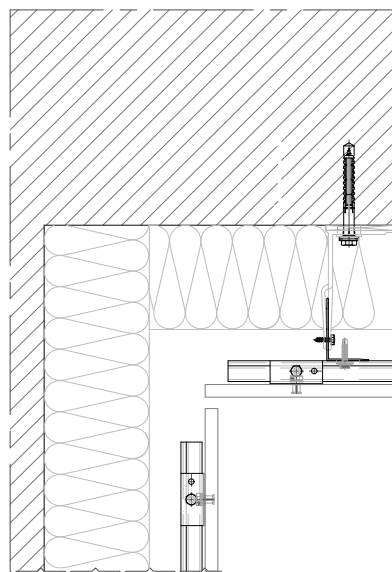


→ Figure A1.1d: Jamb - DKT1.1.

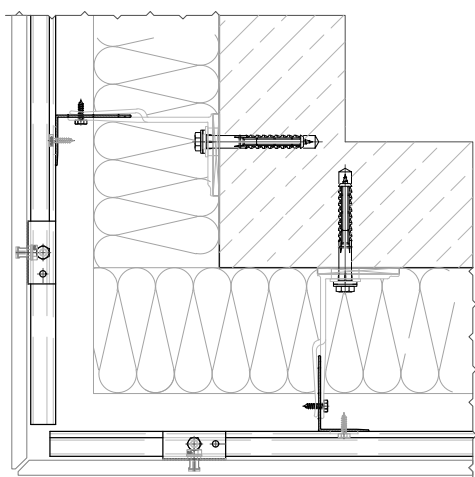
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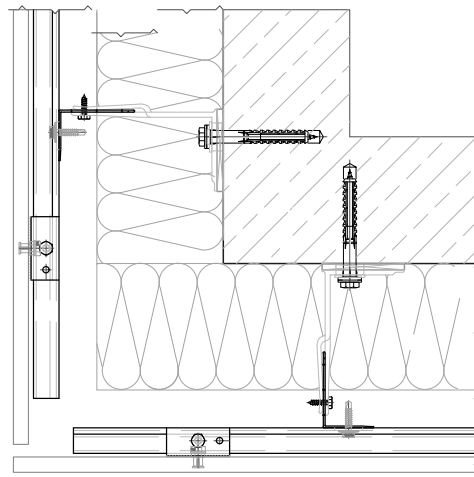
→ Figure A1.1e: Sill - DKT1.1.



→ Figure A1.1f: Internal corner - DKT1.1.



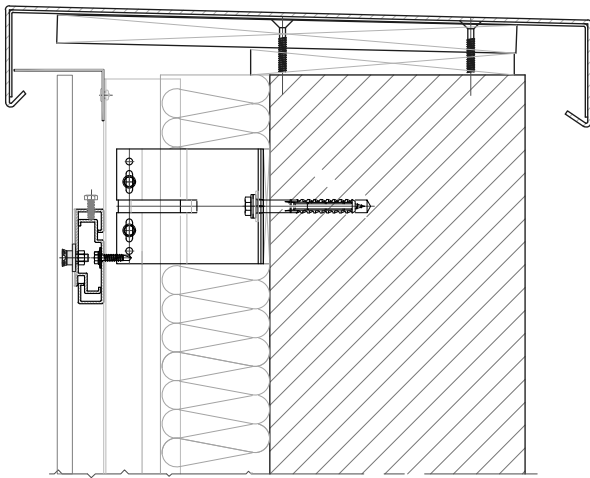
→ Figure A1.1g: External corner with angled edge - DKT1.1.



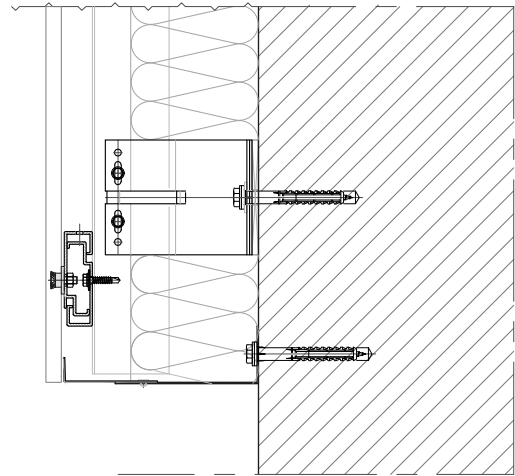
→ Figure A1.1h: External corner - DKT1.1.

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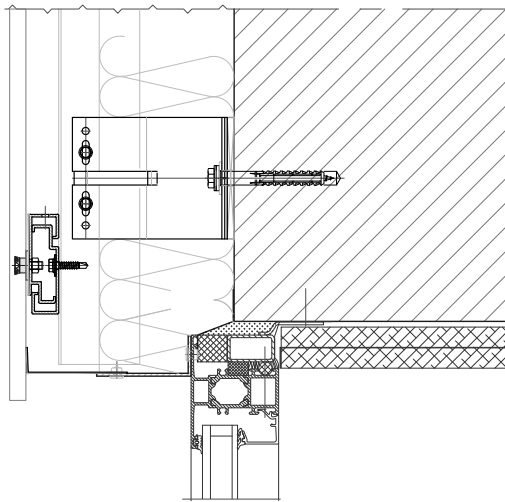
A1.2 Construction details with cladding fixing Type 1 - DKT1.2



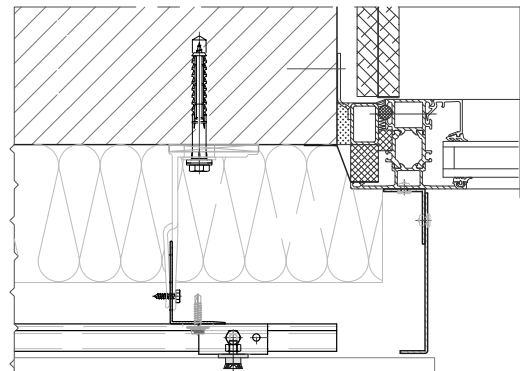
→ Figure A1.2a: Roof edge - DKT1.2.



→ Figure A1.2b: Base edge - DKT1.2.

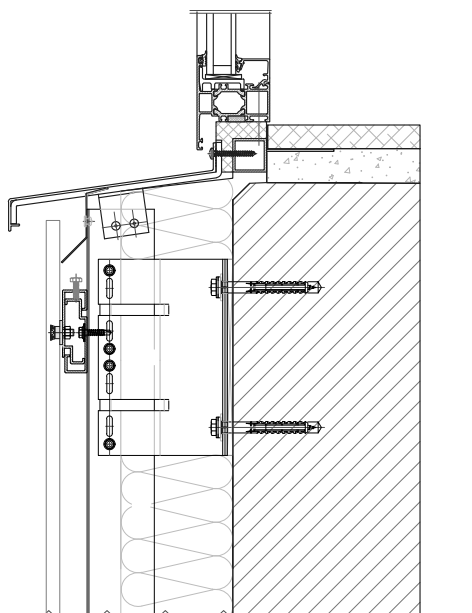


→ Figure A1.2c: Lintel - DKT1.2.

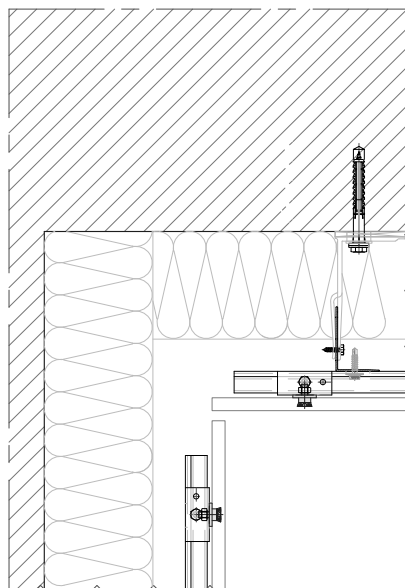


→ Figure A1.2d: Jamb - DKT1.2.

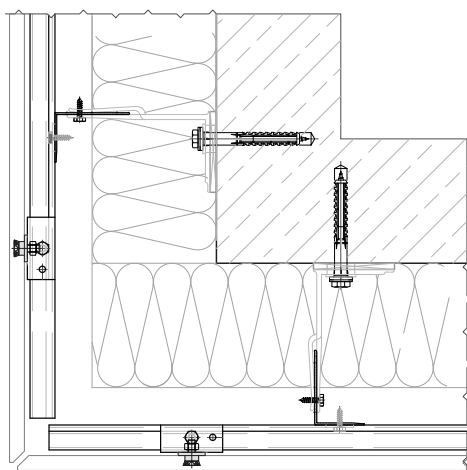
Annex 1



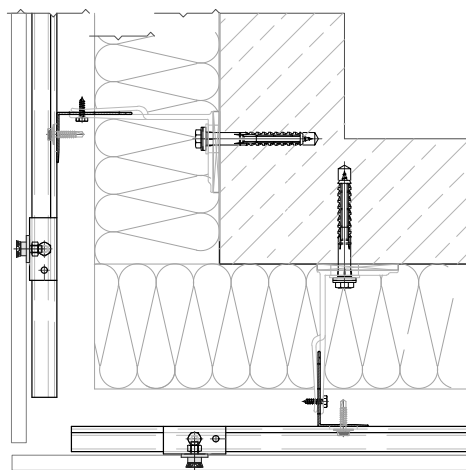
→ Figure A1.2e: Sill - DKT1.2.



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



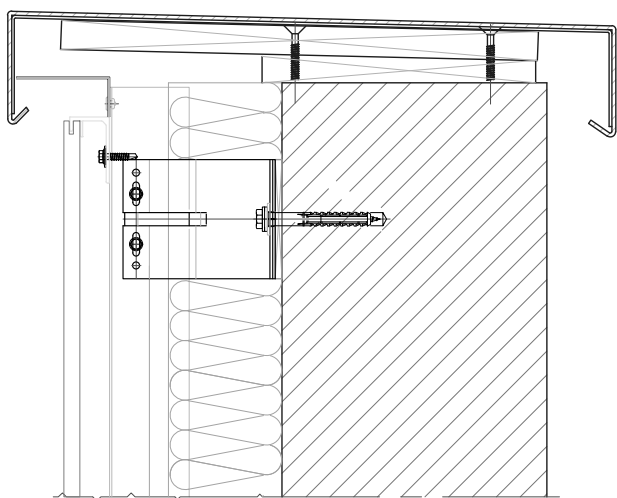
→ Figure A1.2g: External corner with angled edge - DKT1.2.



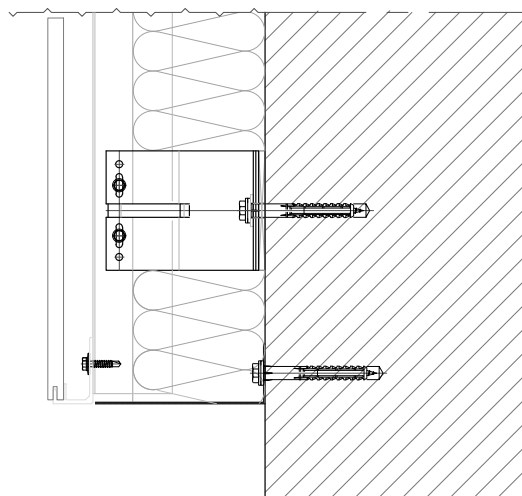
→ Figure A1.2h: External corner - DKT1.2.

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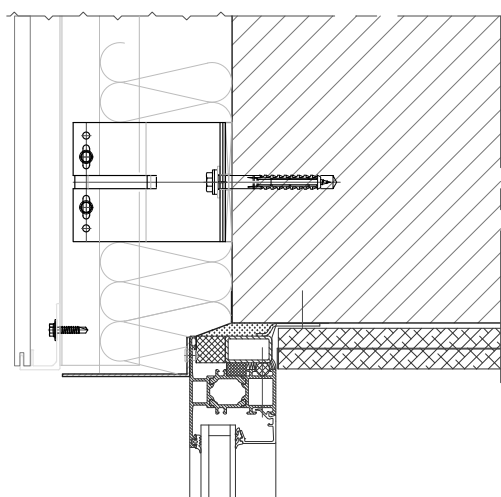
A1.3 Construction details with cladding fixings Type 2 - DKT2.1 and DKT2.2



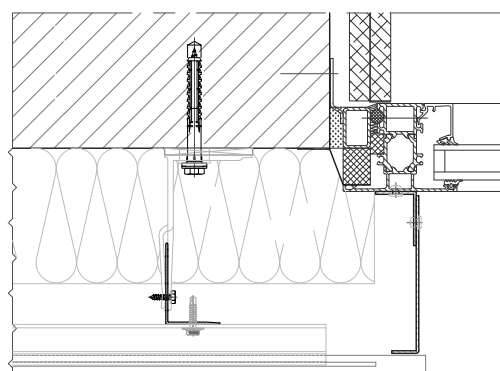
→ Figure A1.3a: Roof edge - DKT2.1 and DKT2.2.



→ Figure A1.3b: Base edge - DKT2.1 and DKT2.2.

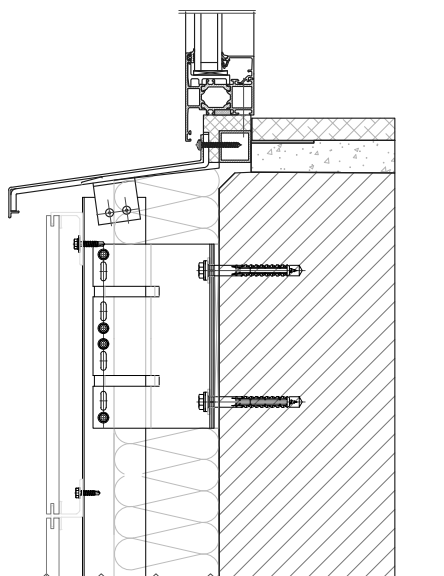


→ Figure A1.3c: Lintel - DKT2.1 and DKT2.2.

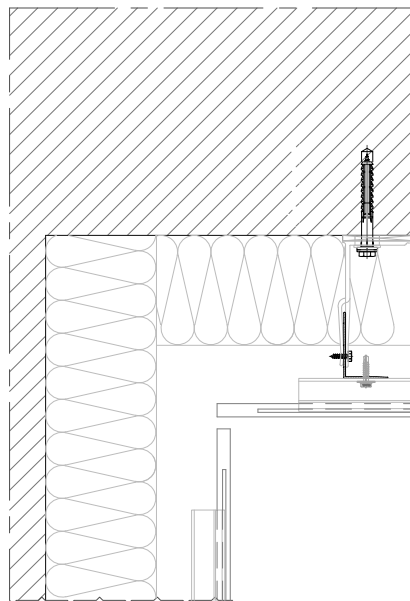


→ Figure A1.3d: Jamb - DKT2.1 and DKT2.2.

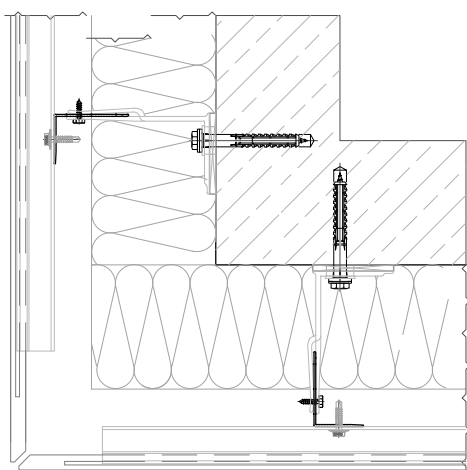
Annex 1



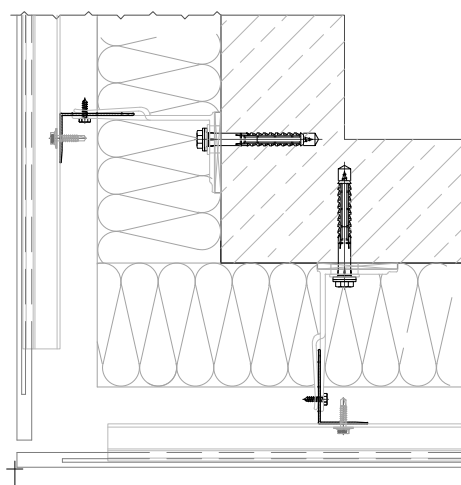
→ Figure A1.3e: Sill - DKT2.1 and DKT2.2.



→ Figure A1.3f: Internal corner - DKT2.1 and DKT2.2.



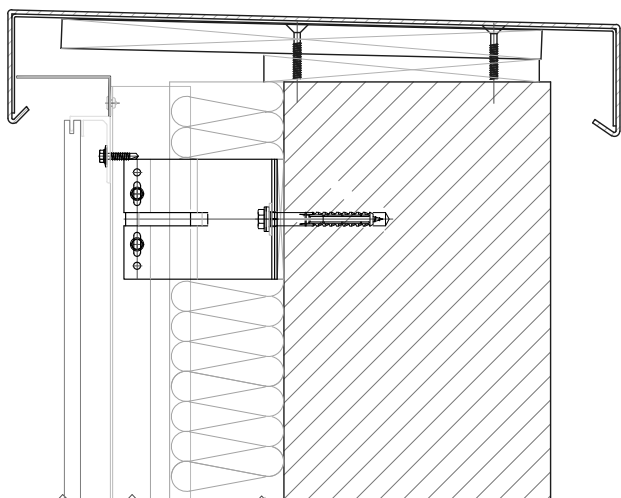
→ Figure A1.3g: External corner with angled edge - DKT2.1 and DKT2.2.



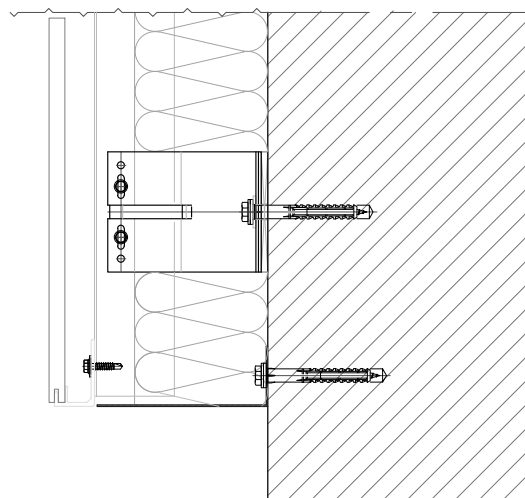
→ Figure A1.3h: External corner - DKT2.1 and DKT2.2.

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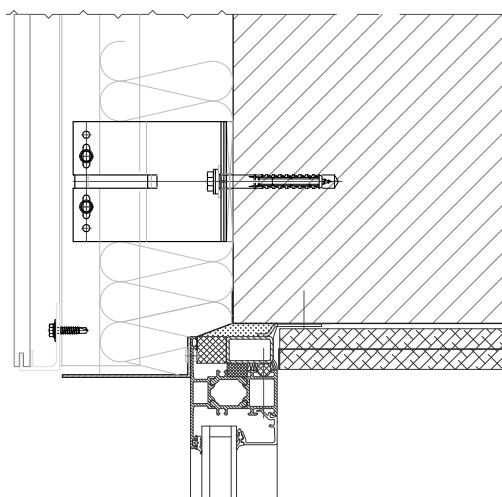
A1.4 Construction details with cladding fixings Type 3 - DKT3



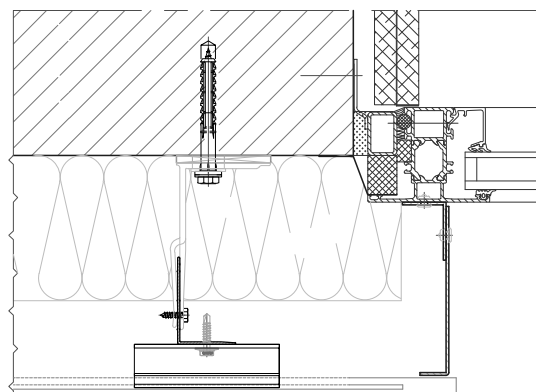
→ Figure A1.4a: Roof edge - DKT3.



→ Figure A1.4b: Base edge - DKT3.

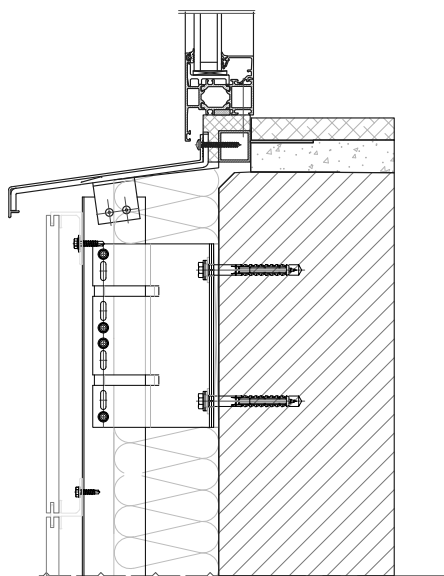


→ Figure A1.4c: Lintel - DKT3.

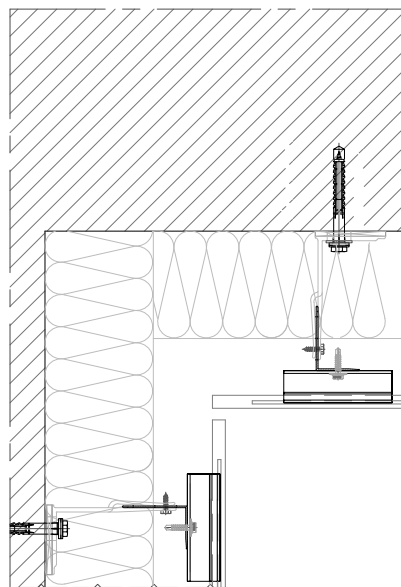


→ Figure A1.4d: Jamb - DKT3.

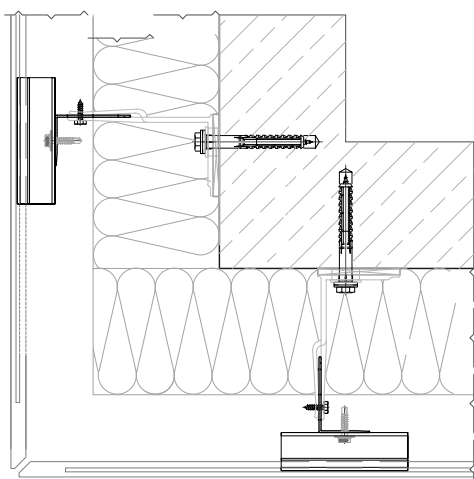
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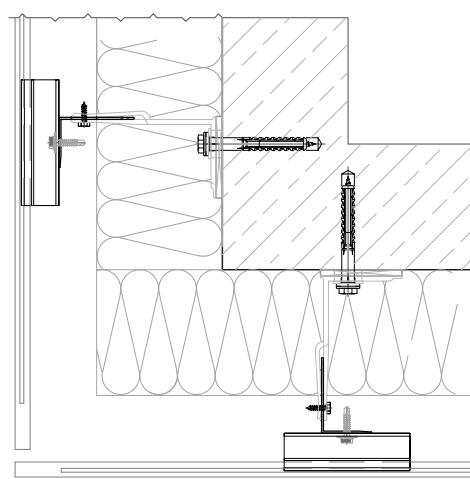
→ Figure A1.4e: Sill - DKT3.



→ 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 the 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	8,200
	DKT1.2		6,300
	DKT1.1	20 mm	9,500
	DKT1.2		8,200
Family C	DKT2.1	12 mm	2,000
	DKT2.2		2,000
	DKT3	12 mm	2,000
	DKT3	20 mm	2,800

Annex 3

Impact resistance

Cladding element	Cladding fixing	Impact resistance	Degree of exposure in use*
Dekton® 12 mm and 20 mm	DKT1	Hard body (0.5 Kg) - 3 impacts of 1 J	Category IV
		Soft body (3.0 Kg) - 3 impacts of 10 J	
Dekton® 12 mm and 20 mm	DKT2	Hard body (0.5 Kg) - 3 impacts of 3 J	Category III
		Soft body (3.0 Kg) - 3 impacts of 10 J	
Dekton® 12 mm	DKT3	Hard body (0.5 Kg) - 3 impacts of 1 J	Category IV
		Soft body (3.0 Kg) - 3 impacts of 10 J	
Dekton® 20 mm	DKT3	Hard body (0.5 Kg) - 3 impacts of 3 J	Category III
		Soft body (3.0 Kg) - 3 impacts of 10 J	

→ (*) Category I: This category means that the degree of exposure in use should be a zone readily accessible 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:

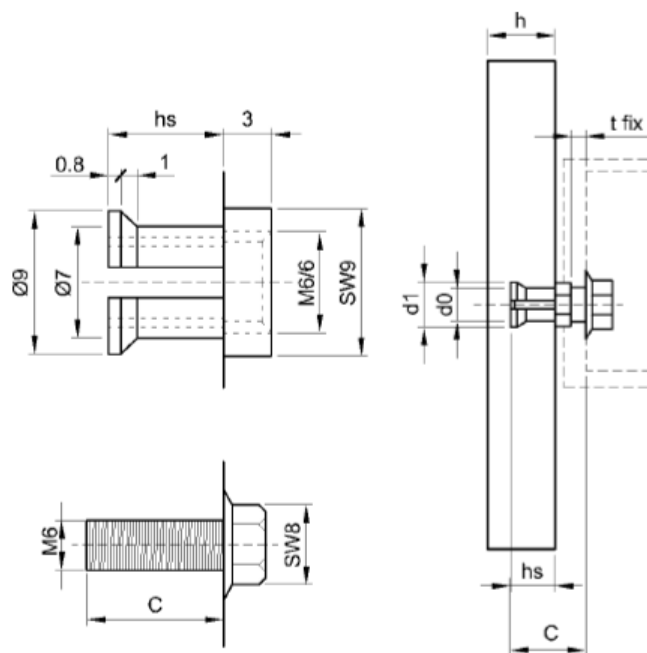
Characteristic			Reference	Value		
				DKT1.1	DKT1.2	DKT1.2
Type of specific anchor			-	Undercut anchor		
Trade name			-	KEIL	FISCHER	FISCHER
				KH 8.5	FPZ II 11x6 M6/T/10PA	FPZ II 11x8 M6/T/12PA
For use in DEKTON® thickness (mm)			-	12	12	20
Form and dimensions			-	See Figure A4.1a	See Figure A4.1b	
Anchor installation	Anchorage depth, h _s (mm)		ETA 03/0055 ETA 06/0253 ETA 11/0465	8.5	5.5 = (a = 8) - 2.5	8.5 = (a = 11) - 2.5
	Panel thickness, h (mm)			≥ 11.0	≥ 10.0	≥ 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			See note (1)	-	
	Bolt projection length, b (mm)			-	10.0	
	Thread diameter			M6	M6	
	Installation torque moment, T _{inst} (N · m)			2.5 ≤ T _{inst} ≤ 4.0	T _{inst} ≤ 5.0	
	Distance anchor - panel edge (mm)			100 ≤ b ≤ 200	100 ≤ b ≤ 200	
	Maximum distance anchor - anchor			≤ 700 (between columns) ≤ 620 (between rows)	≤ 700 (between columns) ≤ 620 (between rows)	
Material properties	Type of material	Anchor sleeve	EN 10088-1	See note (2)	-	
		Screw	EN 10088-2	See note (3)	-	
		Cone bolt	EN 10088-1	-	Stainless steel	
		Expansion part	EN 10088-2 EN 10088-3			
		Shim washer	-	-	Poliamide 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: $h_s + 7.5 \text{ mm} + t_{fix}$.

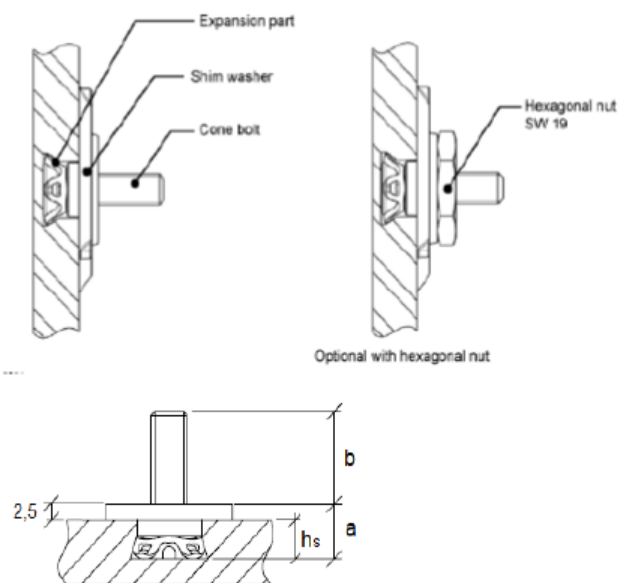
→ (2) Stainless steel: 1.4404 (X2CrNiMo 17-12-2).

→ (3) Stainless steel: 1.4401 (X5CrNiMo 17-12-2), 1.4404 (X2CrNiMo 17-12-2) or 1.4578 (X3CrNiCuMo 17-11-3-2).

Annex 4



→ Figure A4.1a: KEIL KH undercut anchor - Anchor sleeve and hexagonal screw - DKT1.1.



→ Figure A4.1b: FISCHER FZP II undercut anchor - DKT1.2.

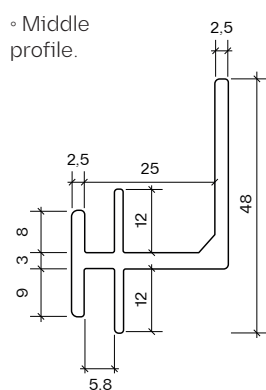
Annex 4

A4.2 Cladding fixings Type 2

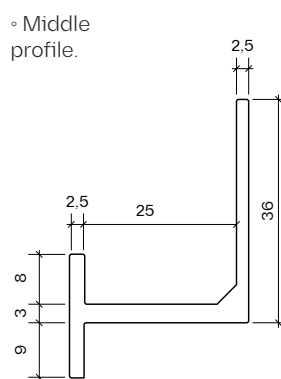
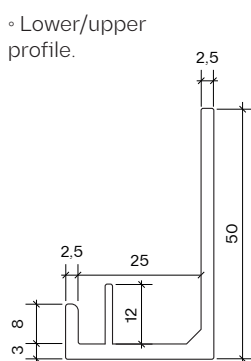
Horizontal rail profiles made of aluminium alloy. System trade name: DKT2.

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 following table. Two models are considered: DKT2.1 and DKT2.2.

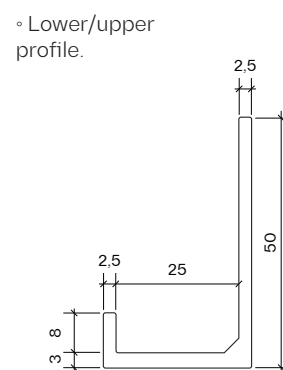
Characteristic			Reference	Value		
				DKT2.1 and DKT3	DKT2.2	
Geometric characteristics	Form and dimensions		-	See Figure A4.2a	See Figure A4.2b	
	Weight per liner metre			0.725 Kg/m	0.678 Kg/m	
	Standard length			6.0 m		
	Cross section	Middle profile		268.0 mm ²		
		Lower/upper profile		250.9 mm ²		
	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		EN 1999-1-1 EN 755-2	Aluminium alloy AW 6063 T66	Aluminium alloy AW 6063 T5	
	Durability class			B		
	Specific gravity (unit mass)			2,700 Kg/m ³		
	Elastic limit, R _{p0.2}			≥ 200 N/mm ²	≥ 130 N/mm ²	
	Elongation			≥ 8%		
	Tensile strength, R _m			≥ 245 N/mm ²	≥ 175 N/mm ²	
	Modulus of elasticity (at 20 °C)			70,000 N/mm ²		
	Poisson coefficient			0.3		
	Thermal expansion coefficient between 50 °C and 100 °C			23.0 µm/m · °C		



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



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



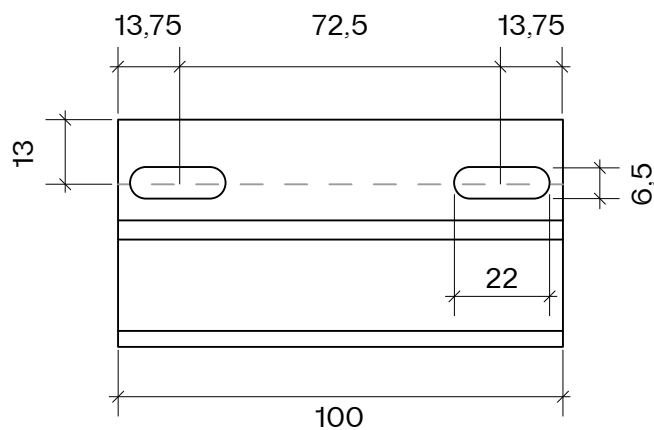
Annex 4

A4.3 Cladding fixings Type 3

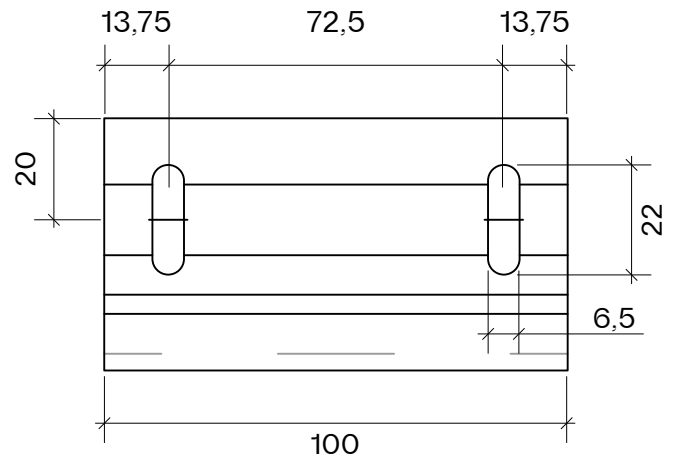
Small rails made of aluminium alloy. System trade name: DKT3.

Cladding fixings Type 3 considered for the assessment of DEKTON® are small rails which have the same cross-section (see Figures A3) and the same material properties that the cladding fixings Type 2 of DKT2.1 system.

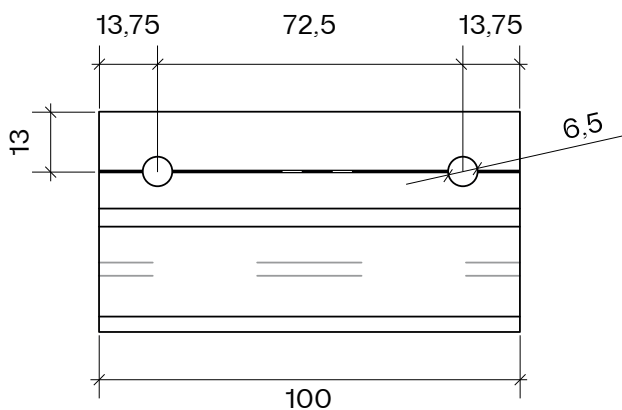
Specific form and dimensions of the small rails are given in Figures A4.3.



→ 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.