EN

DECLARATION OF PERFORMANCE

DoP No. SD-5 0672-CPR-0426

1. Unique identification code of the product-type:
External Thermal Insulation Composite Systems (ETICS) Anchor SD-5

2. Type, batch or serial number as required pursuant to Article 11(4):
See ETA-14/0398 (30.08.2016), annex A.
Batch number: see packaging of the product.

3. Intended use or uses of the construction product, in accordance with the applicable harmonised technical specification:

Generic type	33: nailed-in anchor for fixing of external thermal insulation composite systems (ETICS) with rendering on concrete and masonry anchor length (assembly of plate, sleeve and nail): 100mm – 300mm, it may be combined with additional slip-on plates HDT 90 or HDT 140
For use in	Concrete (C12/15 to C50/60 Solid masonry of clay or limestone Hollow masonry of clay or limestone Lightweight aggregate concrete Autoclaved aerated concrete
Option / Category	Base material categories: A, B, C, D, E
Loading	transmission of wind suction loads, only as multiple fixing
Materials	SD-5 plate: polypropylene SD-5 sleeve: polyethylene SD-5 pin: glass fiber reinforced polyamide
Temperature range (if applicable)	Ambient temperature during installation: 0°C to +40°C Application temperature: 0°C to +40°C (maximum short term temperature: 40°C, maximum long term temperature 24°C)

4. Name, registered trade name or registered trade mark and contact address as required pursuant to Article 11(5):
Hilti Corporation, Business Unit Anchors, 9494 Schaan, Fürstentum Liechtenstein

5. Where applicable, name and contact address of the authorised representative whose mandate covers the tasks specified in Article 12(2): -

6. System or systems of assessment and verification of constancy of performance of the construction product as set out in Annex V:
System 2+

7. In case of the declaration of performance concerning a construction product covered by a harmonised standard: -

8. In case of the declaration of performance concerning a construction product for which a European Technical Assessment has been issued:
Zavod za Gradbeništvo Slovenije (Slovenian National Building and Civil Engineering Institute) issued European Technical Assessment ETA-14/0398 (30.08.2016) on the basis of EAD 330335-00-0604, edition May 2016. The notified body 0672-CPR performed third party tasks as set out in Annex V under System 2+ and issued certificate of conformity 0672-CPR-0426.

9. Declared performance:

Essential characteristics	Design method	Performance	Harmonized Technical Specification
Installation parameters	-	ETA-14/0398 annex B1	EAD 330335-00-0604
minimum spacing and minimum edge distance	-	ETA-14/0398 annex B2	
characteristic resistance for tension	EAD 330335-00-0604	ETA-14/0398 annex C1	
displacement for serviceability limit state	EAD 330335-00-0604	ETA-14/0398 annex C2	
point of thermal transmittance	-	ETA-14/0398 annex C2	TR 025
plate stiffness	-	ETA-14/0398 annex C2	TR 026

10. The performance of the product identified in points 1 and 2 is in conformity with the declared performance in point 6. This declaration of performance is issued under the sole responsibility of the manufacturer identified in point 4.

Signed for and on behalf of the manufacturer by:

Raimund Zaggl
Business Unit Head
Business Unit Anchors

Seppo Perämäki
Head of Quality
Business Unit Anchors

Hilti Corporation
Schaan, September 2016

Table B1: Installation parameters

				SD-5
Nominal drill bit diameter	d_0	=	[mm]	8
Drill bit cutting diameter	d_{cut}	≤	[mm]	8,45
Depth of drilled hole to deepest point	h_1	≥	[mm]	40
Overall embedment depth	h_{nom}	≥	[mm]	30

Table B2: Minimum thickness of base material, edge distance and anchor spacing

				SD-5
Minimum thickness of base material	h_{min}	=	[mm]	100
Minimum spacing	s_{min}	=	[mm]	100
Minimum edge distance	c_{min}	=	[mm]	100

Table C1: Characteristic resistance to tension loads N_{Rk}

Base material	**Bulk density class [kg/dm³]**	**Minimum compressive strength [N/mm²]**	**Remarks**	**Drilling method**	**N_{Rk} [kN]**
Concrete **C12/15 - C50/60** acc. EN 206-1				hammer	**0,90**
Solid clay brick **Mz 12/2,0** acc. DIN 105-100 / EN 771-1	2,0	12	cross section vertically to resting area reduced by perforation up to 15%	hammer	**0,90**
Solid limestone brick **KS 12/1,8** acc. DIN V 106 / EN 771-2	1,8	12	cross section vertically to resting area reduced by perforation up to 15%	hammer	**0,90**
Vertically perforated clay brick **HLZ 20/1,6** acc. DIN 105-100 / EN 771-1	1,6	20	cross section vertically to resting area reduced by perforation more than 15% and less than 50%	rotating	**0,75**[1)]
Perforated sand-lime brick **KSL 12/1,4** acc. DIN 105-100 / EN 771-1	1,4	12	cross section vertically to resting area reduced by perforation more than 15% and less than 50%	rotating	**0,75**[1)]
Lightweight aggregate concrete **LAC** acc. DIN EN 1520	1,4	4		hammer	**0,60**
Autoclaved aerated concrete **PP4** acc. EN 772-4	0,5	4		rotating	**0,40**

[1)] the value is applicable for web thickness ≥ 20 mm, else job site tests are necessary

Table C2: Point thermal transmittance

Anchor type	Insulation thickness h_D [mm]	Point thermal transmittance [W/K]
SD-5	60 - 260	0,000

Table C3: Plate stiffness acc. EOTA Technical Report TR 026

Anchor type	Plate dimension	Capacity of plate [kN]	Plate stiffness [kN/mm]
SD-5	hexagon 60mm/65mm	1,4	0,6

Table C4: Displacements

Base material	Bulk density class [kg/dm³]	Minimum compressive strength [N/mm²]	Tension load N [kN]	Displacement δ_m (N) [mm]
Concrete **C12/15 - C50/60** (acc. EN 206-1)			0,3	0,25
Solid clay brick **Mz 12/2,0** (acc. DIN 105-100 / EN 771-1)	2,0	12	0,3	0,25
Solid limestone brick **KS 12/1,8** (acc. DIN V 106 / EN 771-2)	1,8	12	0,3	0,25
Vertically perforated clay brick **HLZ 20/1,6** (acc. DIN 105-100 / EN 771-1)	1,6	20	0,25	0,19
Perforated sand-lime brick **KSL 12/1,4** (acc. DIN 105-100 / EN 771-1)	1,4	12	0,25	0,57
Lightweight aggregate concrete **LAC** (acc. DIN EN 1520)	1,4	4	0,2	0,12
Autoclaved aerated concrete **PP4** (acc. EN 771-4)	0,5	4	0,13	0,08