

DECLARATION OF PERFORMANCE
DoP No. SIKLA 720 - en

1. Unique identification code of the product-type: **SIKLA Screwbolt TSM**
2. Type, batch or serial number or any other element allowing identification of the construction product as required pursuant to Article 11(4):

ETA-16/0656, Annex A3
Batch number: see packaging of the product.

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

generic type	concrete screw
for use in	cracked or uncracked concrete C20/25 - C50/60 (EN 206), for multiple use for non-structural applications in concrete and prestressed hollow core slabs
option	ETAG 001-06
loading	static or quasi-static
material	<u>galvanised steel or steel with zinc flake coating:</u> dry internal conditions only covered sizes: BSZ 5, BSZ 6 <u>stainless steel (marking A4):</u> internal and external use without particular aggressive conditions covered sizes: BSZ 5, BSZ 6 <u>highly corrosion resistant steel (marking HCR):</u> internal and external use with particular aggressive conditions covered sizes: BSZ 5, BSZ 6
temperature range (if applicable)	--

Name, registered trade name or registered trade mark and contact address of the manufacturer as required pursuant to Article 11(5):

Sikla Holding GmbH
Kornstraße 4
4614 Marchtrenk
Austria

- 4.
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:

issued **Deutsches Institut für Bautechnik, Berlin**
 on the basis of **ETA-16/0656**
ETAG 001-6

The notified body 1343-CPR performed under system 2+:

- (i) initial inspection of the manufacturing plant and of factory production control;
- (ii) continuous surveillance, assessment and evaluation of factory production control.

and issued: Certificate of constancy of performance 1343-CPR-M 557-5/11.14

9. Declared performance:

Essential Characteristics	Design Method	Performance	Harmonized Technical Specification
characteristic resistance for tension	ETAG 001, Annex C CEN/TS 1992-4	Annex C1	ETAG 001
characteristic resistance for shear	ETAG 001, Annex C CEN/TS 1992-4	Annex C1	
Characteristic resistance in precast prestressed hollow core slabs	ETAG 001, Annex C	Annex C2	
characteristic resistance under fire exposure	TR 020 CEN/TS 1992-4	Annex C3	

Where pursuant to Article 37 or 38 in the Specific Technical Documentation has been used, the requirements with which the product complies: --

10. The performance of the product identified in points 1 and 2 is in conformity with the declared performance in point 9.

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:

Silka Holding GmbH
 Kornstrasse 4
 A-4614 Marchtrenk

Dieter Klauß
 (Geschäftsführer)
 VS – Schweningen, 08.05.2017



Table C1: Characteristic values for tension loads

Anchor size			TSM 5	TSM 6	
Nominal embedment depth	h_{nom}	[mm]	35	35	55
Installation safety factor	$\gamma_2 = \gamma_{inst}$	[-]	1,2	1,2	1,0
Steel failure					
Characteristic tension resistance	$N_{Rk,s}$	[kN]	8,7	14,0	
Pull-out					
Characteristic resistance in cracked and uncracked concrete C20/25	$N_{Rk,p}$	[kN]	1,5	1,5	7,5
Increasing factor for $N_{Rk,p}$ for concrete strength > C20/25	ψ_C	[-]	$\left(\frac{f_{ck,cube}}{25}\right)^{0,5}$		
Concrete cone failure					
Effective anchorage depth	h_{ef}	[mm]	27	27	44
Spacing (Edge distance)	$s_{cr,N}$ ($C_{cr,N}$)	[mm]	$3 h_{ef}$ ($1,5 h_{ef}$)		
Factor for concrete (according CEN/TS 1992-4)	cracked	k_{cr}	7,2		
	uncracked	k_{ucr}	10,1		
Splitting					
Spacing	$s_{cr,sp}$	[mm]	120	120	160
Edge distance	$C_{cr,sp}$	[mm]	60	60	80

Table C2: Characteristic values for shear loads

Anchor size			TSM 5	TSM 6	
Nominal embedment depth	h_{nom}	[mm]	35	35	55
Installation safety factor	$\gamma_2 = \gamma_{inst}$	[-]	1,0	1,0	
Steel failure without lever arm					
Characteristic shear resistance	$V_{Rk,s}$	[kN]	4,4	7,0	
Factor of ductility acc. to CEN/TS 1992-4	k_2	[-]	0,8	0,8	
Steel failure with lever arm					
Characteristic bending moment	$M^0_{Rk,s}$	[Nm]	5,3	10,9	
Concrete pry-out failure					
Factor k acc. to ETAG 001, Annex C or k_3 acc. to CEN/TS 1992-4	$k_{(3)}$	[-]	1,0	1,0	
Concrete edge failure					
Effective length of anchor	$l_f = h_{ef}$	[mm]	27	27	44
Outside diameter of anchor	d_{nom}	[mm]	5	6	

Fehler! Verweisquelle konnte nicht gefunden werden.

Performance
Characteristic values for **tension and shear loads**

Annex C1

Table C3: Characteristic values of resistance in **precast prestressed hollow core slabs** C30/37 to C50/60

Anchor size			TSM 6		
Installation safety factor	$\gamma_2 = \gamma_{inst}$	[-]	1,2		
Flange thickness	d_b	[mm]	≥ 25	≥ 30	≥ 35
Characteristic resistance for all directions	F_{RK}	[kN]	1	2	3
Characteristic bending moment	$M^0_{RK,s}$	[Nm]	10,9		
Edge distance	$c_{cr} = c_{min}$	[mm]	100		
Spacing	$s_{cr} = s_{min}$	[mm]	100		

Fehler! Verweisquelle konnte nicht gefunden werden.

Performance
Characteristic values of resistance in **precast prestressed hollow core slabs**

Annex C2

Table C4: Characteristic values of resistance under fire exposure ¹⁾

Anchor size			TSM 6				
			Steel, zinc plated		Stainless steel A4 / HCR		
Nominal embedment depth	h_{nom}	[mm]	35	55	35	55	
Steel failure (tension and shear resistance)							
Characteristic resistance	R30	$N_{Rk,s,fi}$ = $V_{Rk,s,fi}$	[kN]	0,9		1,2	
	R60			0,8		1,2	
	R90			0,6		1,2	
	R120			0,4		0,8	
Steel failure with lever arm							
Characteristic bending moment	R30	$M^0_{Rk,s,fi}$	[Nm]	0,7		0,9	
	R60			0,6		0,9	
	R90			0,5		0,9	
	R120			0,3		0,6	
Spacing	$s_{cr,fi}$	[mm]	4 h_{ef}				
Edge distance	$c_{cr,fi}$	[mm]	2 h_{ef}				

¹⁾ The values are not for use in precast prestressed hollow core slabs

The characteristic resistance for pull-out, concrete cone failure, concrete pry-out and concrete edge failure shall be calculated according to TR 020 / CEN/TS 1992-4.

Fehler! Verweisquelle konnte nicht gefunden werden.

Performance
Characteristic values of resistance under fire exposure

Annex C3