

DECLARATION OF PERFORMANCE
No Sikla 0120-A
REGULATION (EU) No 305/2011

EN

Unique identification code of the product-type	Self Forming Screw FLS F
Intended use	Self forming screw for metal members and sheeting
Manufacturer	Sikla Holding GmbH - Ägydiplatz 3 4600 Thalheim bei Wels - Austria
System of AVCP	System 2+
European Assessment Document:	EAD 330046-01-0602
European Technical Assessment	ETA-21/0936
Technical Assessment Body	LUXIB, Luxembourg
Notified body	Karlsruher Institut für Technologie (KIT) - NB 0769


Essential characteristics	Performance
Mechanical resistance and stability (BWR1)	
Shear resistance of the connection	See Annex 4
Tension resistance of the connection	See Annex 5
Design resistance in combination of tension and shear forces (interaction)	See Annex 2
Check of deformation capacity in case of constraining forces due to temperature	NPD
Durability	NPD
Safety in case of fire (BWR2)	
Reaction to fire	Performance Class A1 in accordance with EC decision 96/603/EC (as amended)

The performance of the product identified above is in conformity with the set of declared performances. This declaration of performance is issued, in accordance with Regulation (EU) No 305/2011, under the sole responsibility of the manufacturer identified above.

Signed for and on behalf of the manufacturer by:

Villingen-Schwenningen,
24.07.2024


Günter Brugger | Head of IPRM


Achim Münch | Head of QM

Recommendations for design

The design values of tension and shear resistance shall to be determined by

$$N_{Rd} = \frac{N_{Rk}}{\gamma_M} \qquad V_{Rd} = \frac{V_{Rk}}{\gamma_M}$$

The characteristic values $N_{R,k}$ and $V_{R,k}$ are given in Annex 4 and 5.
The recommended partial safety factor is $\gamma_M = 1.33$, if no partial safety factor is given in national regulations or national Annexes to Eurocode 3.

In case of combined tension and shear forces the following interaction equation is taken into account:

$$\frac{N_{Ed}}{N_{Rd}} + \frac{V_{Ed}}{V_{Rd}} \leq 1$$

Installation conditions

The installation is carried out according to the manufacturer's instructions.
The FLS F is always fixed rectangular to the surface of the metal member or sheeting.

The following figure 2 shows the correct installation.

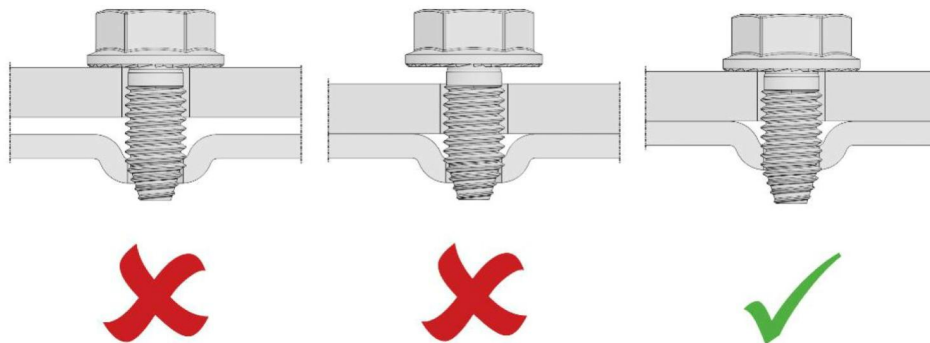
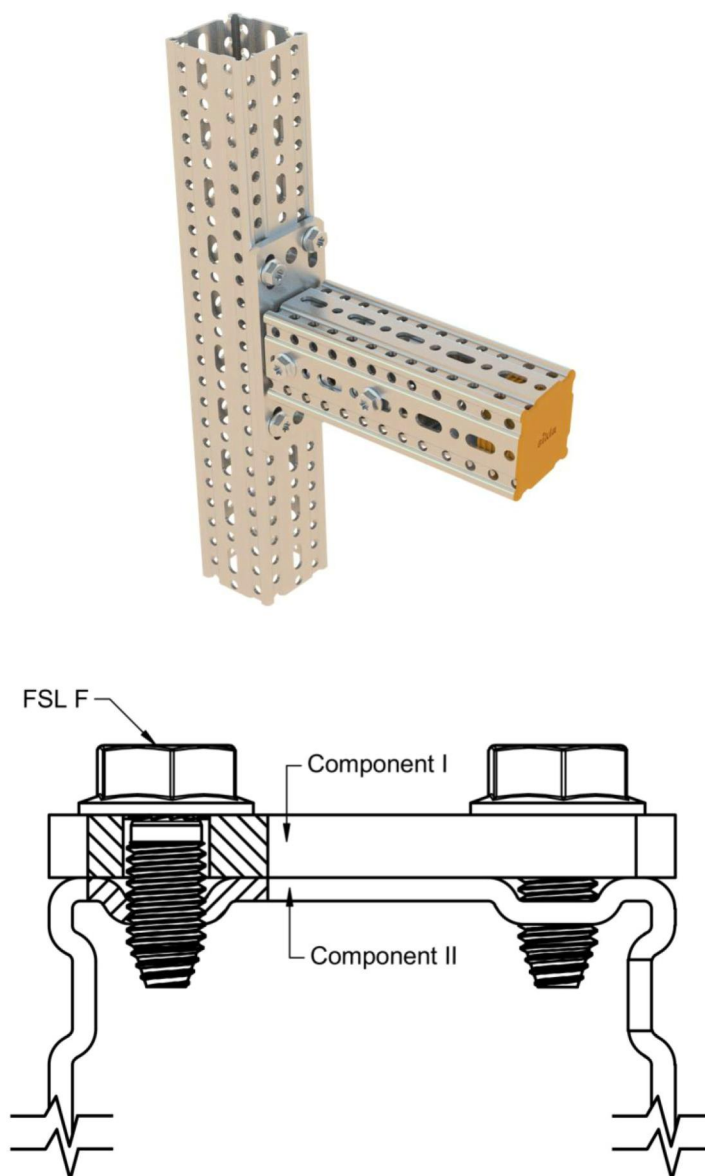


Figure 2:

Self tapping screw FLS F	Annex 2
Design recommendations Installation conditions	

Installation situation

The following figure shows typical installation situation of the screw FLS F used to connect metal members of the system siFramo of Sikla Holding GmbH.



Self forming screw FLS F

Installation situation

Annex 3

Characteristic values V_{Rk} (essential characteristics)

	Component I	Component II
Pre-drilling diameter	elongated hole \varnothing 11x15 mm (t = 3.0 mm) \varnothing 11x20 mm (t = 8.0 mm)	\varnothing 9.10 mm
Steel grade	S355 MC according EN 10149-2:2013	S355 MC according EN 10149-2:2013
Nominal thickness t	t = 3.0 mm or t = 8.0 mm	3.0 mm
Tightening torque	50 Nm	
V_{Rk}	15.86 kN	

	Component I	Component II
Pre-drilling diameter	elongated hole \varnothing 11x20 mm (t = 4.0 mm) \varnothing 11x20 mm (t = 8.0 mm)	\varnothing 9.10 mm
Steel grade	S355 MC according EN 10149-2:2013	S355 MC according EN 10149-2:2013
Nominal thickness	t = 4.0 mm or t = 8.0 mm	4.0 mm
Tightening torque	50 Nm	
V_{Rk}	21.27 kN	

Component II shall only be loaded elastically.

Self forming screw FLS F	Annex 4
Characteristic values of shear resistance V_{Rk}	

Characteristic values N_{Rk} (essential characteristics)

	Component I	Component II
Pre-drilling diameter	elongated hole \varnothing 11x20 mm (t = 8.0 mm)	\varnothing 9.10 mm
Steel grade	S355 MC according EN 10149-2	S355 MC according EN 10149-2
Nominal thickness	\varnothing 11x20 mm 8.0 mm	3.0 mm
Tightening torque	50 Nm	
N_{Rk}	9.50 kN	

	Component I	Component II
Pre-drilling diameter	elongated hole \varnothing 11x20 mm (t = 8.0 mm)	\varnothing 9.10 mm
Steel grade	S355 MC according EN 10149-2	S355 MC according EN 10149-2
Nominal thickness	\varnothing 11x20 mm 8.0 mm	4.0 mm
Tightening torque	50 Nm	
N_{Rk}	16.51 kN	

Component II shall only be loaded elastically.

Informative suggestion for design:

If the degree of elastic tension utilisation in component II is more than 50% in the area of the screw, the characteristic values of tension resistance shall be reduced by 10%.

Self forming screw FLS F	Annex 5
Characteristic values of tension resistance N_{Rk}	