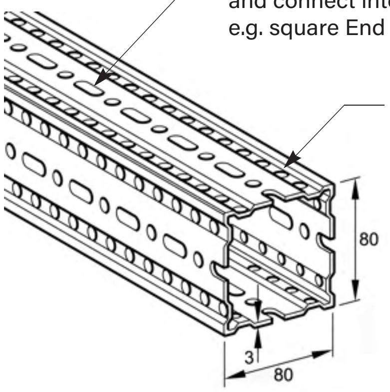
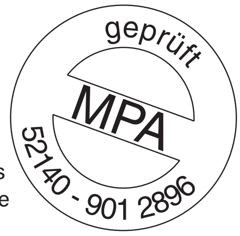
DRILLFAST

make it happen...

FRAMO 80
INSTALLATION GUIDELINES

Beam Section TP F 80





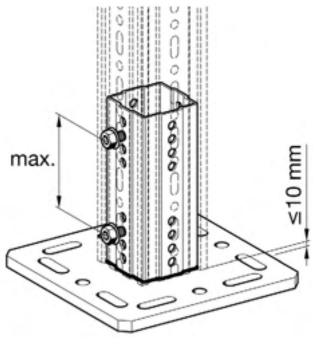
Self-forming screws FL 80 pass-through the elongated holes (11x30) and connect into the Framo elements within the box section.
e.g. square End Support to WBD F 80, octagonal End Support to STA F 80.

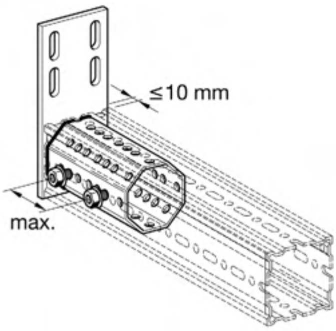
Self-forming screws FL 80 screws directly into the 9.1mm holes (perforations) running along the outer edges of each face of the Framo profile. All connecting Framo parts are fixed in this way.
e.g. Cantilever Brackets AK F 80, End Support STA F 80, Channel Adaptor SA F 80 and Slide Sets GS F 80.

Self-forming Screw FLS F 80
Thread-forming bolt with locking-serration for all connections.

Attention!
=> Maximum applied torque no more than 60Nm!

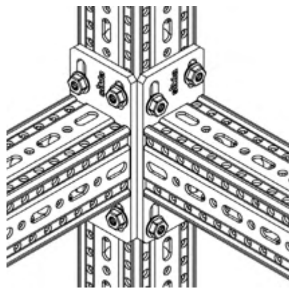
Assembly of Beam Section TP F80 with
WBD-End Support F 80 and End Support STA F 80:
For best performance the Self-forming Screw F 80 must be applied to both sides in greatest possible distance apart
2 x 2 Screws opposite one another.
Distance between end of section and endplate: ≤ 10 mm.



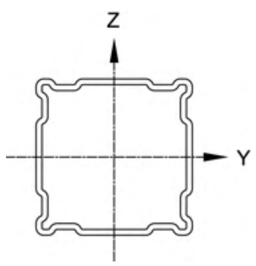


Assembly to Beam Section TP F 80, for instance Cantilever Bracket AK F 80 and others.
Offset hole-lines allow for connection at one level without collision of bolts inside the box section for all componentswith endplate(e.g. STAF 80, SAF 80).
Self forming screws are required to fix each end-plate.

Each connection to the section requires 4 screws.
Plugged through the elongated hole, these will screw into the circular hole of the section underneath.



Technical Data

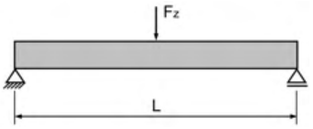


	Moment of Inertia $I_y = I_z$ [cm⁴]	Section Modulus $W_y = W_z$ [cm³]	Radiusof Inertia $i_y = i_z$ [cm]	Torsional Moment It [cm⁴]	Cross Section A [cm²]	Weight G [kg/m]
Beam Section TP F 80	63.49	15.87	3.02	98.22	6.95	6.40

Beam Section TP F 80, Steel, Hot-dipped-galvanised according to EN ISO 1461 tZn o.
All structural data takes perforation into account.

Working loads in accordance with Eurocode 3 (with Proof criteria)

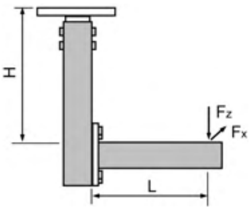
Beam Section TP F 80



L_{max} [mm]	$F_{z, zul}$ [kN]
1000	13,9
1500	9,2
2000	7,0
2500	4,6
3000	3,2

F_z as a dead load at L/2
max. bending L/200

Combined Cantilever Arm

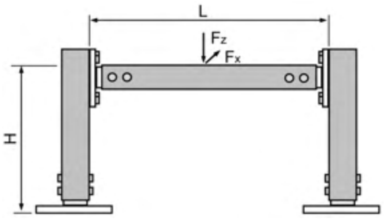


H_{max} [mm]	L_{max} [mm]	$F_{z, allowed}$ [kN] for	
		$F_x = 0$	$F_x = \mu_0 \cdot F_z$
500	300	2,5	2,5
	500	1, 5	1,5
	700	1, 0	1,0
1000	300	1, 8	1,8
	500	1, 1	1,1
	700	0,8	0,8
1500	300	1, 4	1,4
	500	0,9	0,9
	700	0,6	0,6

F_z as a dead load at distance L, F_x as a variable load at distance L from pipe expansion/friction
Friction Coefficient $\mu_0 = 0.2$ for friction in longitudinal direction
max. deviation H/100;L/100

Combined Cantilever Arm from
Beam Section TP F 80
1 x End Support WBD F 80
1 x Cantilever Bracket AK F 80
8 x Self-forming Screw FLS F 80

Frame

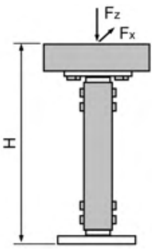


H_{max} [mm]	L_{max} [mm]	$F_{z, allowed}$ [kN] for	
		$F_x = 0$	$F_x = \mu_0 \cdot F_z$
1000	1000	20,0	17,2
	1500	14, 5	11,6
	2000	11, 0	8,7
1500	1000	20,0	9,2
	1500	14, 5	8,9
	2000	11, 0	8,6

F_z as a dead load at L/2, F_x as a variable load at L/2 from pipe expansion/friction.
Friction Coefficient $\mu_0 = 0.2$ for friction in longitudinal direction
max. deviation H/100; max. bending L/200

Frame from
Beam Section TP F 80
2 x End Support WBD F 80
2 x End Support STA F 80
24 x Self-forming Screw FLS F80

T-support



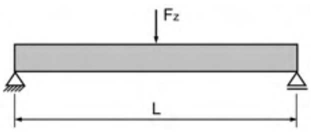
H_{max} [mm]	$F_{z, allowed}$ [kN] for	
	$F_x = 0$	$F_x = \mu_0 \cdot F_z$
500	10,0	10,0
1000	10,0	4,0
1500	10,0	2,3

F_z as a dead load, F_x as a variable load from pipe expansion/friction.
Friction coefficient $\mu_0 = 0.2$ for friction in longitudinal direction
max. deviation H/100
When load off-centre, a proof of buckling forces is required.

T-support from
Beam Section TP F80
1 x End Support WBD F 80
1 x End Support STA F 80
12 x Self-forming Screw F 80

Sample Testing and Working Loads according to EN 13480-3

Beam Section TP F 80

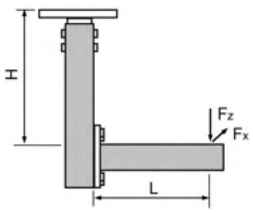


L_{max} [mm]	$F_{z,zul}$ [kN]
1000	13,8
1500	9,2
2000	6,9
2500	5,5
3000	4,6

F_z as a dead load at L/2

geprüft MPA 52140 - 901 2896

Combined Cantilever Arm

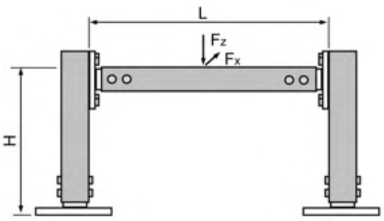


H_{max} [mm]	L_{max} [mm]	$F_{z,allowed}$ [kN] for $F_x = 0$	$F_{z,allowed}$ [kN] for $F_x = \mu_0 \cdot F_z$
500	300	4,1	3,9
	500	2,5	2,3
	700	1,8	1,6
1000	300	4,1	3,9
	500	2,5	2,3
	700	1,8	1,6
1500	300	4,1	3,9
	500	2,5	2,3
	700	1,8	1,6

F_z as a dead load at distance L; F_x as variable load at distance L resulting from pipe expansion/friction
Friction coefficient μ_0 = 0.2 for friction in longitudinal direction.

Combined Cantilever Arm from
Beam Section TP F 80
1 x End Support WBD-F 80
1 x Cantilever Bracket AK F 80
8 x Self-forming Screw FLS F 80

Frames

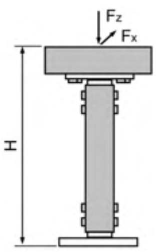


H_{max} [mm]	L_{max} [mm]	$F_{z,allowed}$ [kN] for $F_x = 0$	$F_{z,allowed}$ [kN] for $F_x = \mu_0 \cdot F_z$
1000	1000	16,2	12,9
	1500	10,8	8,6
	2000	8,1	6,5
1500	1000	15,9	11,7
	1500	10,8	8,6
	2000	8,1	6,5

F_z as dead at L/2; F_x as variable load at L/2 from pipe expansion/friction
Friction Coefficient μ_0 = 0,2 for friction in longitudinal direction.

Frame from
Beam Section TP F 80
2 x End Support WBD F 80
2 x End Support STA F 80
24 x Self-forming screw FLS F80

T-Support



H_{max} [mm]	$F_{z,allowed}$ [kN] for $F_x = 0$	$F_{z,allowed}$ [kN] for $F_x = \mu_0 \cdot F_z$
500	10,0	10,0
1000	10,0	10,0
1500	10,0	7,5

F_z as dead load; F_x as variable load from pipe expansion/friction
Friction Coefficient μ_0 = 0.2 for fricition in longitudinal direction.
When load off-centre, a proof of buckling forces is required.

T-Support from
Beam Section TP F 80
1 x End Support WBD F 80
1 x End Support STA F 80
12 x Self-forming Screw F 80

Technical Information

Application
This 'Installation Guidelines' is supposed to provide recommendations for supporting frames within industrial pipework and plant engineering, both according to EN 13480-3 and for the design and dimensioning of secondary steel constructions

All data is based on the results of the MPA-Report No. 52140-901 2896. (Material Pruefanstalt/ Germany)

Working Loads
In addition to the weightwe have considered the friction force Fx in anticipation of an appropriate frame-design. The friction coefficient of 0.2 is valid for all SIKLA Slide Sets on the hot-dipped-galvanised surface of Framo 80 beam sections.

Recyclebility of Products
Products must only be re-used if the recommended working loads have not been previously exceeded and if the coating has not been discernibly damaged.

General Remarks
Load data applies to predominantly static, not dynamic, stress at room temperature.
The resulting permissible working loads and values are to be understood as the practical load capacity.
A proof for anchors and fixings used for connection to the primary building structure must be carried out separately.
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SIKLA United Kingdom
Canon Industrial Park
4 Canons Road
Milton Keynes MK12 5TL

Tel + 44 (0) 1908 227406
Fax + 44 (0) 1908 220968

www.sikla.co.uk
miltonkeynes@sikla.co.uk