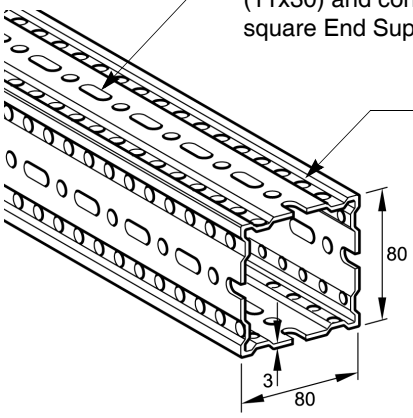
Installation Instructions and Technical Data

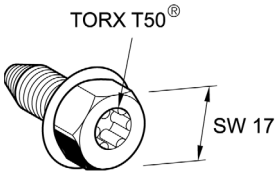
Beam section TP F 80



Only one Self-forming Screw FLS 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.

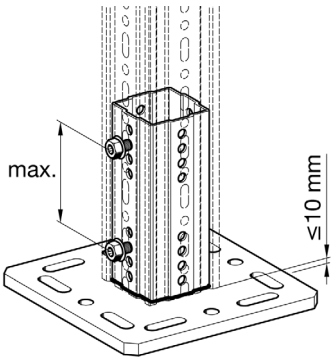
Self-forming Screws FLS 80 screws directly into the 9.1mm holes (perforations) running along the outer edges of each face of the Framo profile. All connecting Framo parts are fixed in this way, e.g. Cantilever Brackets AK F 80, End Support STA F 80, Channel Adaptor SA F 80 and Slide Sets GS F 80.

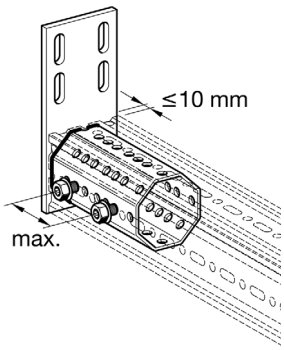
Self-forming Screw FLS F 80
Thread-forming bolt with locking-serration for all connections.



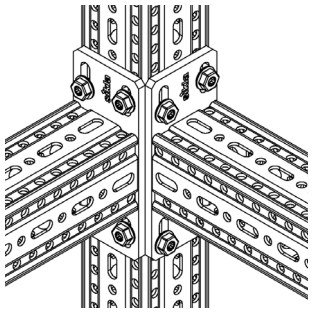
Attention!
- Torque 60 Nm !

Assembly of Beam Section TP F 80 with
WBD-End Support F 80 and End Support STA F 80:
For best performance the Self-forming Screw FLS 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.



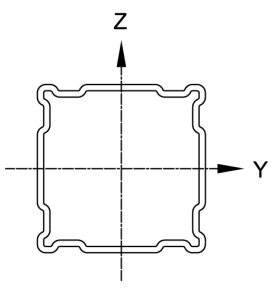


Assembly to Beam Section TP F 80, for instance Cantilever Bracket AK F 80 and others.
Oset hole-lines allow for connection at one level without collision of bolts inside the box section for all components with endplate (e.g. STA F 80, SA F 80).
4 Self-forming Screws are required to fix each end-plate.



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

Technische Daten

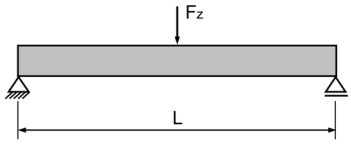


	Moment of inertia $I_y = I_z$ [in^4]	Section modulus $W_y = W_z$ [in^3]	Radius of inertia $i_y = i_z$ [in]	Torsional moment It [in^4]	Cross section A [in^2]	Weight G [lbf/ft]
Beam Section TP F 80	1.53	0.97	1.16	2.36	1.13	4.23

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

Sample Testing and Working Loads according to EN 13480-3

Beam Section TP F 80



L_{max} [in]	$F_{z,\ allowed}$ [lbf]
40	**3053**
60	**2035**
80	**1526**
100	**1217**
120	**1018**

F_z as a dead load at L/2

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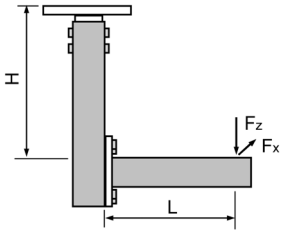
Combined Cantilever Arm

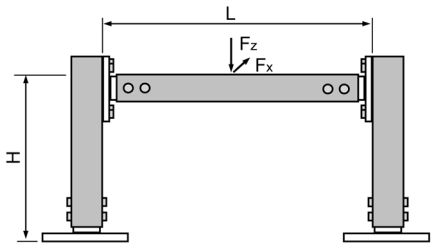


Combined Cantilever Arm from Beam Section TP F 80
1 x End Support WBD F 80
1 x Cantilever Bracket AK F 80
8 x Self-forming Screws FLS F 80

H_{max} [in]	L_{max} [in]	$F_{z,\ allowed}$ [lbf] for $F_x = 0$	$F_{z,\ allowed}$ [lbf] for $F_x = \mu_0 \cdot F_z$
20	12	**907**	**863**
	20	**553**	**509**
	28	**398**	**354**
40	12	**907**	**863**
	20	**553**	**509**
	28	**398**	**354**
60	12	**907**	**863**
	20	**553**	**509**
	28	**398**	**354**

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

Frame

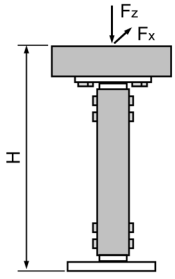


Frame from Beam Section TP F 80
2 x End Support WBD F 80
2 x End Support STA F 80
24 x Self-forming Screws FLS F 80

H_{max} [in]	L_{max} [in]	$F_{z,\ allowed}$ [lbf] for $F_x = 0$	$F_{z,\ allowed}$ [lbf] for $F_x = \mu_0 \cdot F_z$
40	40	**3583**	**2853**
	60	**2389**	**1902**
	80	**1792**	**1438**
60	40	**3517**	**2588**
	60	**2389**	**1902**
	80	**1792**	**1438**

F_z as a dead load 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

T-Support



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 Screws F 80

H_{max} [in]	$F_{z,\ allowed}$ [lbf] for $F_x = 0$	$F_{z,\ allowed}$ [lbf] for $F_x = \mu_0 \cdot F_z$
20	**2212**	**2212**
40	**2212**	**2212**
60	**2212**	**1659**

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
When load is out of centre, a proof of buckling forces is required.

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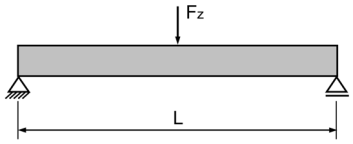
Working loads in accordance with Eurocode 3 (with Proof criteria)

Beam Section TP F 80



L_{max} [in]	$F_{z,\ allowed}$ [lbf]
40	**3075**
60	**2035**
80	**1548**
100	**1018**
120	**708**

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

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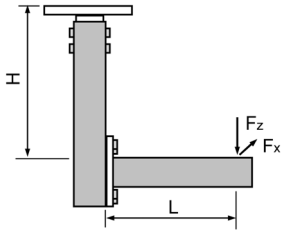
Combined Cantilever Arm

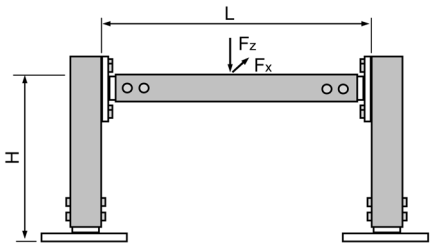


Combined Cantilever Arm from Beam Section TP F 80
1 x End Support WBD F 80
1 x Cantilever Bracket AK F 80
8 x Self-forming Screws FLS F 80

H_{max} [in]	L_{max} [in]	$F_{z,\ allowed}$ [lbf] for $F_x = 0$	$F_{z,\ allowed}$ [lbf] for $F_x = \mu_0 \cdot F_z$
20	12	**553**	**553**
	20	**332**	**332**
	28	**221**	**221**
40	12	**398**	**398**
	20	**243**	**243**
	28	**177**	**177**
60	12	**310**	**310**
	20	**199**	**199**
	28	**133**	**133**

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

Frame

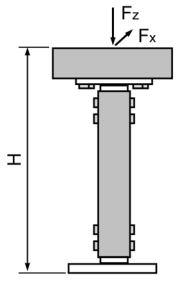


Frame from Beam Section TP F 80
2 x End Support WBD F 80
2 x End Support STA F 80
24 x Self-forming Screws FLS F 80

H_{max} [in]	L_{max} [in]	$F_{z,\ allowed}$ [lbf] for $F_x = 0$	$F_{z,\ allowed}$ [lbf] for $F_x = \mu_0 \cdot F_z$
40	40	**4424**	**3805**
	60	**3207**	**2566**
	80	**2433**	**1924**
60	40	**4424**	**2035**
	60	**3207**	**1969**
	80	**2433**	**1902**

F_z as a dead load 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

T-Support



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 Screws F 80

H_{max} [in]	$F_{z,\ allowed}$ [lbf] for $F_x = 0$	$F_{z,\ allowed}$ [lbf] for $F_x = \mu_0 \cdot F_z$
20	**2212**	**2212**
40	**2212**	**885**
60	**2212**	**509**

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 is out of centre, a proof of buckling forces is required.

Technicla 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 are based on the results of the MPA-Report No. 52140-901 2896.
(Material Pruefanstalt / Germany)

Working loads
In addition to the weight we have considered the friction force Fx in anticipation of an appropriate frame-design. The friction cofficient 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.

Generaly 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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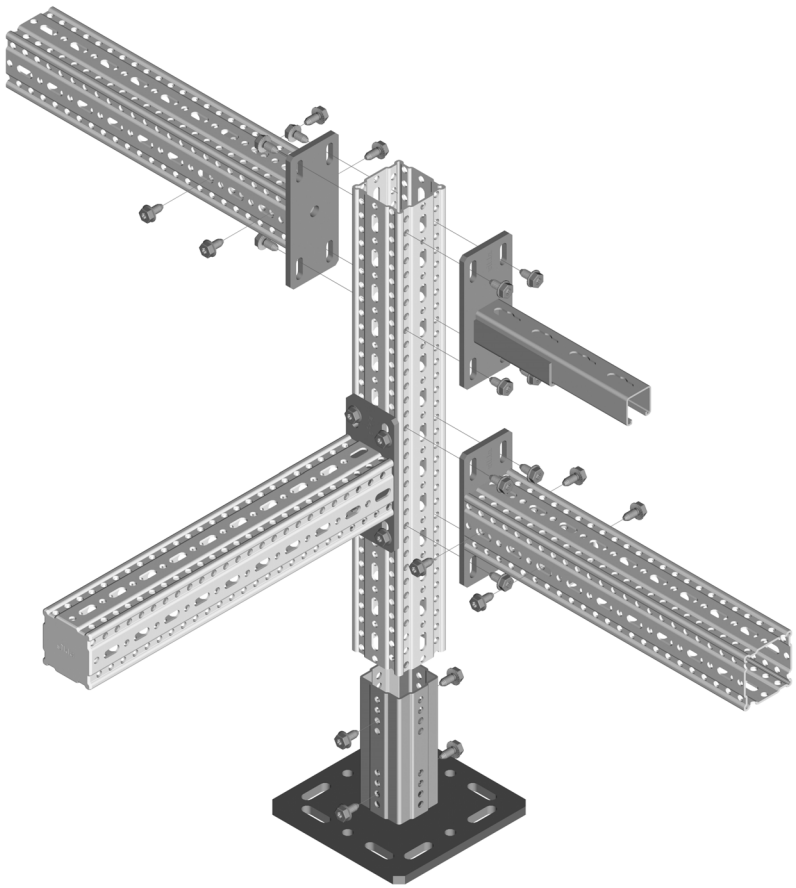

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