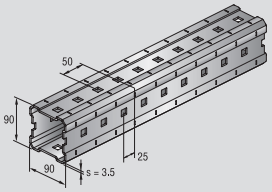
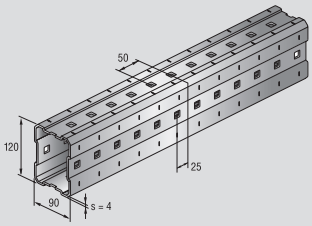
Technical Data
Heavy-Duty Supports MI

The enclosed pages are taken from the Installation Systems Catalogue 2015 for additional information please visit the technical library at www.hilti.co.uk or call our Technical Advisory Service on 0161 886 1144

February 2015

Technical data for girder MI / cross-section values inclusive torsion





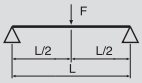
			MI-90	MI-120
Channel wall thickness	t	[mm²]	3.50	4.00
Cross-sectional area	A	[mm²]	1002.60	1375.70
Channel weight		[kg/m]	9.43	12.64
Material				
Yield strength	$f_{y,k}$	[N/mm²]	235.00	235.00
Permissible stress*	σ_{Zul}	[N/mm²]	152.60	152.60
Thrust-module		[N/mm²]	81000	81000
Surface				
Hot-dip galvanized	70	[µm]	•	•
Cross-section values Y-axis				
Axis of gravity	e_y	[mm]	45.00	60.00
Moment of inertia	I_y	[cm⁴]	115.34	265.78
Reaction modulus	W_y	[cm³]	25.63	44.30
Radius of gyration	i_y	[cm]	3.39	4.40
Cross-section values z-axis				
Axis of gravity	e_z	[mm]	45.00	45.00
Moment of inertia	I_z	[cm⁴]	115.34	173.58
Rection modulus	W_z	[cm³]	25.63	38.57
Radius of gyration	i_z	[cm]	3.39	3.55
Data to the torsion				
Torsional moment of inertia	ΣI_t	[cm⁴]	155.56	297.02
Torsional resistance moment	$W_t = 2 \times A_{Bredt}$ 1)	[cm³]	45.25	71.63

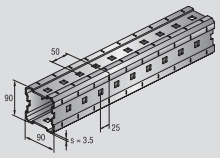
1) The permissible tension results out of $\sigma_D / \gamma_{G/Q}$ with $\gamma = 1.4$. σ_D results out of the higher yield strength regarding the cold forming according to DAST-RILI 016 from 1992: $\sigma D = f_{yk} / \gamma_M$ mit $\gamma_M = 1.1$

Single span carrier with uniaxial bending

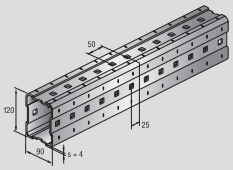
- F_1 at f = L/200
- F_2 at f=L/300
- F at σ_{zul} inclusive the own weight of the girder

1 Single load





MI-90



MI-120

Span width [cm]	F [kN]	f [mm] ≤ σ_{zul}	F1 [kN]	f [mm] ≤ L/200	F2 [kN]	f [mm] ≤ L/300	F [kN]	f [mm] ≤ σ_{zul}	F1 [kN]	f [mm] ≤ L/200	F2 [kN]	f [mm] ≤ L/300
25	58.75	< 0.1	–	–	–	–	101.32	< 0.1	–	–	–	–
50	30.75	0.3	–	–	–	–	53.13	0.2	–	–	–	–
75	20.67	0.8	–	–	–	–	35.73	0.6	–	–	–	–
100	15.54	1.3	–	–	–	–	26.86	1.0	–	–	–	–
125	12.43	2.1	–	–	–	–	21.50	1.6	–	–	–	–
150	10.34	3.0	–	–	–	–	17.90	2.3	–	–	–	–
175	8.85	4.1	–	–	–	–	15.32	3.1	–	–	–	–
200	7.72	5.4	–	–	–	–	13.38	4.0	–	–	–	–
225	6.85	6.8	–	–	–	–	11.87	5.1	–	–	–	–
250	6.14	8.4	–	–	6.06	8.3	10.66	6.3	–	–	–	–
275	5.56	10.2	–	–	4.97	9.2	9.66	7.7	–	–	–	–
300	5.08	12.2	–	–	4.14	10.0	8.83	9.1	–	–	–	–
325	4.67	14.3	–	–	3.49	10.8	8.12	10.7	–	–	–	–
350	4.31	16.6	–	–	2.97	11.7	7.51	12.4	–	–	7.03	11.7
375	4.00	19.1	3.92	18.8	2.55	12.5	6.98	14.3	–	–	6.07	12.5
400	3.73	21.8	3.41	20.0	2.20	13.3	6.52	16.3	–	–	5.28	13.3
425	3.50	24.6	2.98	21.3	1.91	14.2	6.10	18.4	–	–	4.62	14.2
450	3.30	27.6	2.62	22.5	1.66	15.0	5.74	20.7	–	–	4.07	15.0
475	3.10	30.8	2.31	23.8	1.45	15.8	5.41	23.1	–	–	3.60	15.8
500	2.90	34.2	2.05	25.0	1.27	16.7	5.11	25.6	4.98	25.0	3.20	16.7
525	2.70	37.8	1.82	26.3	1.11	17.5	4.80	28.2	4.47	26.3	2.85	17.5
550	2.60	41.6	1.61	27.5	0.97	18.3	4.60	31.0	4.01	27.5	2.54	18.3
575	2.50	45.5	1.44	28.8	0.85	19.2	4.50	34.0	3.62	28.8	2.27	19.2
600	2.30	49.7	1.28	30.0	0.74	20.0	4.10	37.1	3.27	30.0	2.03	20.0