

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

			MI-90	MI-120
Channel wall thickness	t	[mm ²]	3.5	4.0
Cross-sectional area	A	[mm ²]	1057.4	1456.24
Channel weight		[kg/m]	9.43	12.64
Material				
yield strength	f _{y,k}	[N/mm ²]	235.0	235.0
permissible stress*	σ _{perm}	[N/mm ²]	167.9	167.9
E-module		[N/mm ²]	210000	210000
thrust-module		[N/mm ²]	81000	81000
Surface				
hot dip galvanized	70	[μm]	•	•
Cross-section values Y-axis				
Axis of gravity	e _y	[mm]	45.0	60,0
moment of inertia	I _y	[cm ⁴]	120.75	280.72
Permtion modulus	W _y	[cm ³]	26.83	46.79
Radius of gyration	i _y	[cm]	3.38	4.39
Cross-section values z-axis				
Axis of gravity	e _z	[mm]	45.00	45.00
moment of inertia	I _z	[cm ⁴]	120.75	181.65
Permtion modulus	W _z	[cm ³]	26.83	40.37
Radius of gyration	i _z	[cm]	3.38	3.53
Data to the torsion				
torsional moment of inertia	Σ I _t	[cm ⁴]	164.82	314.97
torsional resistance moment	W _t	[cm ³]	38.82	71.69

1) The permissible tension results out of σ₀ / γ_{SGO} with γ = 1,4. σ₀ σD = f_{y,k} / γ_M mit γ_M = 1,0

