Technical data for channel profiles MM (zinced)
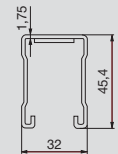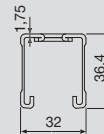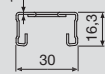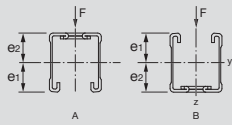
Definition of axes			MM-C-16	MM-C-30	MM-C-36	MM-C-45
Channel wall thickness	t	[mm]	1,0	1,0	1.75 / 1.0	1,75
Cross-sectional area	A	[mm²]	69.75	96.35	159,73	220,58
Channel weight		[g/m]	565,0	779,0	1287,0	1762,0
Delivered length		[m]	2	2	2/3	3/6
Material						
Permissible stress	δ_{perm}	[N/mm²]	188.3	188.3	188.3	188.3
E-Modul		[N/mm²]	210000	210000	210000	210000
Surface						
sendzimir galvanised			•	•	•	•
Cross-section values Y-axis						
Axis of gravity A [1]	e_1	[mm]	9.18	16.43	19.41	23.80
Axis of gravity B	e_2	[mm]	7.12	13.87	16.99	21.60
Moment of inertia	I_y	[cm⁴]	0.24	1.16	3.02	5.30
Permtion modulus A	W_{y1}	[cm³]	0.26	0.71	1.56	2.23
Permtion modulus B	W_{y2}	[cm³]	0.34	0.83	1.77	2.46
Radius of gyration	i_y	[cm]	0.59	1.10	1.38	1.55
Permissible moment [2]	M_y	[Nm]	49.8	133.0	293.2	419.6
Z-axis						
Moment of inertia	I_z	[cm⁴]	1.09	1.51	2.74	4.04
Permtion modulus	W_z	[cm³]	0.67	1.01	1.71	2.53
Radius of gyration	i_z	[cm]	1.20	1.25	1.31	1.35

• The permissible stress σ_D / $\gamma_{G/Q}$ where γ = 1,4. σ_D results from the higher yield strength (point) resulting from cold forming as per EN 1993-1-3: 2010-12: $\sigma_D = f_{yk} / \gamma_M$ where $\gamma_M = 1,1$.

1) For the arithmetical bending dimensioning is the smaller value (W_{y1}, W_{y2}) decisive to ($W_{y1} = I_{y/e1}$ bzw. $W_{y2} = I_{y/e2}$).

2) $M_y = \delta_{perm}$ x min. (W_{y1}, W_{y2})

Channel selection:

• The given data is based on a single span (simply-supported beam) bearing a single load, F(N), at mid span, L/2.

• If several loads are acting on a single span (simply-supported beam), these may be summated and regarded as a single load acting at mid span. By taking this approach, the design calculation is on the safe side. (→ Channel selection table).

• The permissible stress in the steel and the max. deflection, L/200, are not exceeded with the given max. span widths, L (mm).

• The channel's own weight has been considered.