MPR-Installation channels BV

stainless steel

Application

- Fast and efficient attachment of piping and pipe routes
- Also ideal as support structure for air ducts

Your advantages

- Back perforation matched to the spacings in the bulb flats used in shipbuilding
- Meshing into the channel slot for positive-fit attachment of add-on parts
- High bending stiffness due to the cross-section design
- For secure fastening that is adjustable laterally and vertically
- For setting up structures with correctly measured static loads by means of diverse connection components
- Strong, square C-section combines compact design with optimum load-bearing capacity
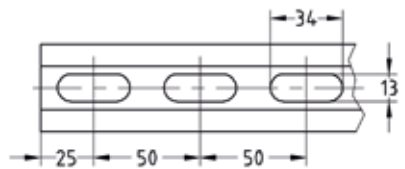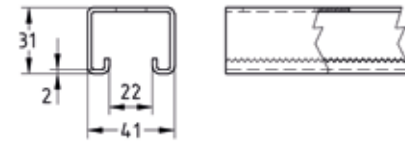
Profile 41/31/2.0
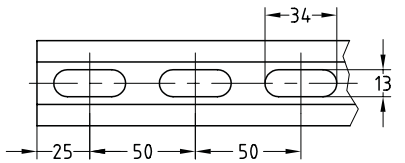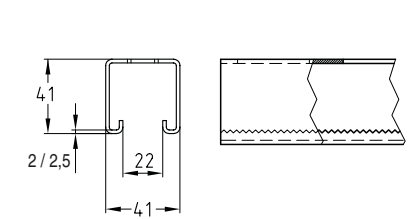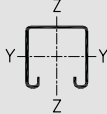

Profile 41/41/2.0, 41/41/2.5

Features

Profile	Length [mm]	Material	Part no.	Sales unit	Pack unit
41/31/2.0 BV	3,000	V4A	**165782**	1	Pieces
	6,000		**165783**		
41/41/2.5 BV	3,000		**155003**		
	6,000		**155004**		

⚠ We also manufacture MPR-Installation channels BV in other material/surface variants on request.
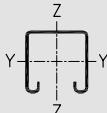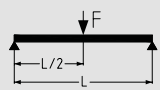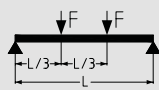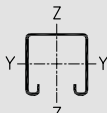These products are manufactured to order. Minimum quantities and delivery times on request.

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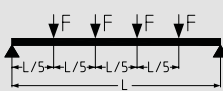
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Technical data of profile:

Features

Profile	Material	Admissible steel stress $\sigma_{adm.}$ [N/mm²]	Available threaded plates*	Profile weight [kg/m]	Profile cross-section [cm²]	Moment of inertia		Resistance moment	
						I_y [cm⁴]	I_z [cm⁴]	W_y [cm³]	W_z [cm³]
41/31/2.0 BV	V4A	149	M8, M10, M12	1.85	2.1	2.5906	6.0922	1.622	2.972
41/41/2.5 BV				2.63	3.03	6.1704	9.09	2.924	4.434

Load bearing capacities of profiles for bending around the y-axis [N]:

Profile	L [m]						L [m]					
	0.5	1.0	1.5	2.0	4.0	6.0	0.5	1.0	1.5	2.0	4.0	6.0
41/31/2.0 BV	1,933	960	536	288	32	-	1,447	721	314	169	19	-
41/41/2.5 BV	3,487	1,734	1,145	708	121		2,610	1,302	758	415	71	
41/31/2.0 BV	967	480	226	121	14	-	806	400	177	95	11	-
41/41/2.5 BV	1,743	867	544	298	51		1,453	722	427	234	40	

The determined loads apply for static loads. Calculation based on Eurocode (EC3).
The safety coefficient γ = 1.54 takes into account the partial and combination coefficients as well as the safety factor of the material.
For the given values, the permissible steel stress and the maximum permissible deflection L/200 are not exceeded, taking the deadweight into consideration.

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Permissible buckling loads for profiles [N]:

Buckling length Lk [mm]	41/31/2.0 BV	41/41/2.5 BV
200	31,349	52,442
300	30,285	51,976
400	29,120	50,558
500	27,842	49,077
600	26,408	47,496
700	24,788	45,778
800	22,986	43,894
900	21,051	41,826
1.000	19,072	39,575
1.100	17,149	37,171
1.200	15,357	34,668
1.300	13,738	32,138
1.400	12,302	29,657
1.500	11,043	27,286
1.600	9,945	25,067
1.700	8,987	23,022
1.800	8,152	21,156
1.900	7,421	19,467
2.000	6,780	17,942
2.100	6,215	16,568
2.200	5,716	15,332
2.300	5,274	14,218
2.400	4,879	13,214
2.500	4,527	12,307
2.600	4,211	11,485
2.700	3,926	10,740
2.800	3,669	10,063
2.900	3,436	9,446
3.000	3,224	8,883
3.100	3,032	8,367
3.200	2,855	7,894
3.300	2,694	7,460
3.400	2,546	7,060
3.500	2,410	6,690
3.600	2,284	6,349
3.700	2,168	6,033
3.800	2,060	5,739
3.900	1,961	5,466
4.000	1,868	5,213
4.100	1,782	4,976
4.200	1,701	4,755
4.300	1,626	4,548
4.400	1,556	4,354
4.500	1,490	4,173
4.600	1,428	4,002
4.700	1,370	3,842
4.800	1,316	3,691
4.900	1,264	3,549
5.000	1,216	3,414
5.100	1,170	3,288
5.200	1,127	3,168
5.300	1,086	3,054
5.400	1,048	2,947
5.500	1,011	2,845
5.600	976	2,748
5.700	943	2,656
5.800	912	2,569
5.900	882	2,486
6.000	854	2,407

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⚠️ Buckling loads as per DIN EN 1993-1-1 sections 6.2 and 6.3.
The values in the table apply for fully bearing cross-sections and central load transmission!
The potentially lower slenderness parameter for buckling and lateral torsional buckling must be examined separately!
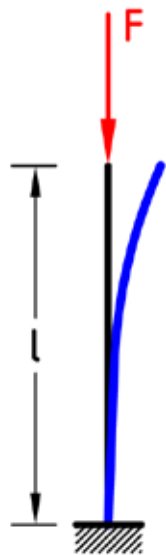
Buckling about the z-axis and the y-axis was considered.
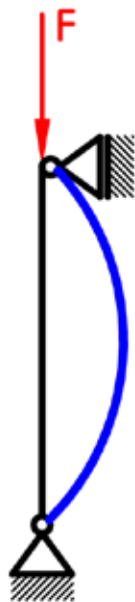The least favourable buckling load is documented in the table.

The safety coefficient γ = 1.54 takes into account the safety and combination coefficients as well as the safety factor of the material.

Determine the authoritative buckling length Lk depending on the storage conditions and the rod length l, as shown in the figure.
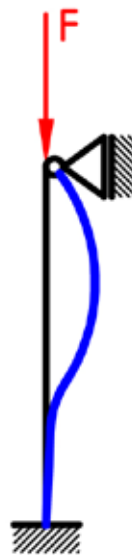Read off the buckling load F as Lk from the table.

| Lk = 2,0 x l | Lk = 1,0 x l | Lk = 0,7 x l | Lk = 0,5 x l |

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