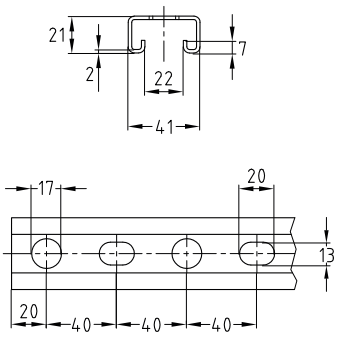
MPR-Support channels

Field of application

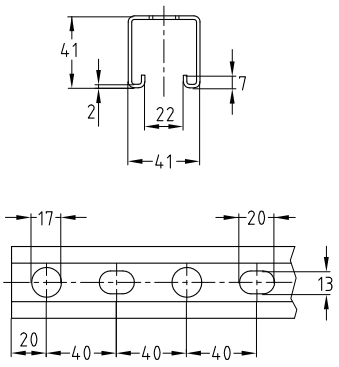
- Ideal for pipe installation as support structure for air ducts
- Variety of mounting options in combination with extensive range of system components
- For indoor and outdoor use

Advantages

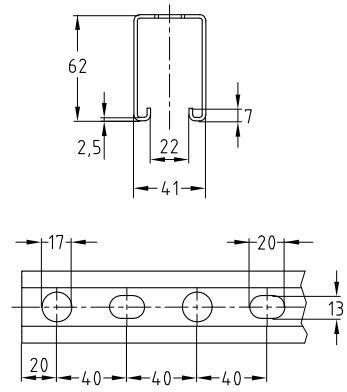
- Quick and efficient attachment of pipe sections and multiple pipe-ways
- High bending stiffness due to the cross-section design
- Scale marks sideways and on the side with the slot simplify the alignment of the attachment elements during installation and facilitate the measuring and cutting to length of the section on site
- For secure fixing that is adjustable laterally and vertically
- For setting up structures with correctly measured static loads by means of diverse connection components
- Interlocking rail slot for positive locking of attachments
- Clean-cut appearance by the use of MPR-protection caps



Profile 41/21/2.0



Profile 41/41/2.0



Profile 41/62/2.5

Features

Profile	Length [mm]	Material	Part no.	Sales unit	Pack unit
41/21/2.0	2,000	V4A	**154393**	1	pieces
	6,000		**154395**		
41/41/2.0	2,000		**154396**		
	6,000		**154398**		
41/62/2.5			**154404**		

MPR-Support channels

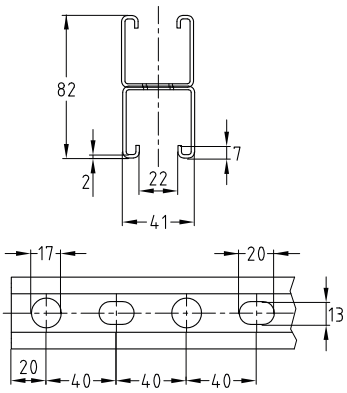
H-Profiles

Field of application

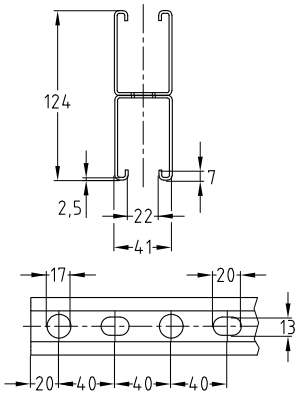
- Ideal for space-saving support of multisection pipeways between ceiling beams
- Ideal for pipe installation and support structure for air ducts
- Variety of mounting options in combination with extensive range of system components
- For indoor and outdoor use

Advantages

- Quick and efficient attachment of pipe sections and multiple pipe-ways
- Ideal combination of high bending stiffness and ease of installation
- Channel slots on both sides allow simple and quick alignment of all suspended and floor-mounted pipe supports
- Scale marks sideways and on the side with the slot simplify the alignment of the attachment elements during installation and facilitate the measuring and cutting to length of the section on site
- Suitable vibration control elements for all support channels available
- Clean-cut appearance by the use of MPR-Protection caps
- Interlocking rail slot for positive locking of attachment parts



Profile 41/82/2.0



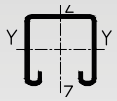
Profile 41/124/2.5

Features

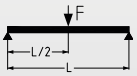
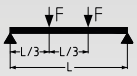
Profile	Length [mm]	Material	Part no.	Sales unit	Pack unit
41/82/2.0	6,000	V4A	**154406**	1	pieces
41/124/2.5			**154407**		

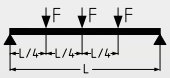
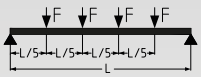
MPR-Support channels

Technical data of profiles:

Profile 	Material	Admissible steel stress $\sigma_{adm.}$ [N/mm²]	Available threaded plates*	Profile weight [kg/m]	Profile cross-section [cm²]	Moment of inertia I_y [cm⁴]	Moment of inertia I_z [cm⁴]	Resistance moment W_y [cm³]	Resistance moment W_z [cm³]
41/21/2.0	V4A	149	M8, M10, M12	1.45	1.62	0.8894	4.5246	0.839	2.207
41/41/2.0				2.08	2.42	4.9736	7.5692	2.451	3.692
41/62/2.5				3.38	3.98	17.2090	12.9297	5.671	6.307
41/82/2.0 H-Profile				4.16	4.83	30.6876	15.1385	7.485	7.385
41/124/2.5 H-Profile				6.76	7.96	111.7528	25.8595	18.025	12.614

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
41/21/2.0	995	418	176	89	–	–	741	246	104	52	–	–
41/41/2.0	2,895	1,450	960	571	98	–	2,141	1,085	612	335	58	–
41/62/2.5	6,659	3,358	2,230	1,659	433	105	4,891	2,508	1,668	1,187	254	62
41/82/2.0 H-Profile	6,541	4,425	2,943	2,191	819	256	3,271	3,261	2,200	1,640	481	150
41/124/2.5 H-Profile	13,612	10,625	7,096	5,309	2,557	1,241	6,806	6,790	5,292	3,963	1,871	729

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
41/21/2.0	495	176	74	37	–	–	412	138	58	29	–	–
41/41/2.0	1,430	723	439	241	41	–	1,186	602	345	189	32	–
41/62/2.5	3,267	1,670	1,112	828	182	44	2,700	1,389	926	669	143	35
41/82/2.0 H-Profile	2,181	2,174	1,467	1,094	345	108	1,635	1,630	1,221	911	271	85
41/124/2.5 H-Profile	4,538	4,527	3,528	2,643	1,278	532	3,403	3,395	2,933	2,200	1,054	411

* Please note additional information on the catalog pages of threaded plates/hammer head fasteners.

The determined loads apply for static loads. Calculation based on Eurocode (EC3).
The safety coefficient $\gamma = 1.54$ 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.

MPR-Support channels

Permissible buckling loads for profiles in [N]:

Buckling length Lk [mm]	MPR 41/21/2.0	MPR 41/41/2.0	MPR 41/62/2.5	MPR 41/82/2.0	MPR 41/124/2.5
200	23,392	36,132	59,486	72,188	118,971
300	22,034	35,800	59,486	72,188	118,971
400	20,452	34,820	58,648	71,487	117,930
500	18,561	33,795	57,360	70,480	116,306
600	16,395	32,699	56,027	69,412	114,589
700	14,139	31,509	54,626	68,258	112,739
800	12,028	30,203	53,137	66,989	110,713
900	10,198	28,769	51,540	65,572	108,459
1,000	8,676	27,209	49,820	63,972	105,924
1,100	7,430	25,543	47,965	62,152	103,048
1,200	6,413	23,810	45,977	60,078	99,778
1,300	5,580	22,062	43,865	57,731	96,077
1,400	4,894	20,349	41,655	55,115	91,944
1,500	4,323	18,715	39,382	52,268	87,422
1,600	3,844	17,187	37,088	49,261	82,612
1,700	3,439	15,780	34,819	46,184	77,649
1,800	3,094	14,498	32,612	43,129	72,677
1,900	2,797	13,337	30,499	40,171	67,825
2,000	2,541	12,290	28,499	37,363	63,188
2,100	2,319	11,348	26,625	34,737	58,826
2,200	2,124	10,500	24,882	32,304	54,767
2,300	1,952	9,736	23,268	30,067	51,020
2,400	1,801	9,048	21,778	28,017	47,576
2,500	1,666	8,426	20,407	26,142	44,421
2,600	1,546	7,863	19,145	24,431	41,534
2,700	1,438	7,353	17,985	22,868	38,893
2,800	1,341	6,889	16,918	21,439	36,477
2,900	1,254	6,466	15,937	20,133	34,265
3,000	1,175	6,080	15,032	18,936	32,237
3,100	1,103	5,727	14,199	17,838	30,376
3,200	1,038	5,403	13,429	16,830	28,664
3,300	978	5,106	12,718	15,902	27,088
3,400	923	4,832	12,060	15,046	25,635
3,500	873	4,579	11,449	14,256	24,292
3,600	826	4,345	10,883	13,525	23,050
3,700	784	4,129	10,356	12,848	21,899
3,800	744	3,928	9,866	12,220	20,830
3,900	707	3,741	9,409	11,636	19,836
4,000	673	3,567	8,982	11,092	18,910
4,100	642	3,405	8,584	10,585	18,047
4,200	612	3,254	8,210	10,111	17,241
4,300	585	3,112	7,861	9,669	16,487
4,400	559	2,980	7,532	9,254	15,781
4,500	535	2,855	7,224	8,865	15,119
4,600	513	2,739	6,934	8,500	14,498
4,700	492	2,629	6,661	8,157	13,913
4,800	472	2,526	6,404	7,835	13,363
4,900	453	2,428	6,161	7,530	12,845
5,000	436	2,336	5,931	7,244	12,356
5,100	419	2,250	5,714	6,973	11,895
5,200	404	2,168	5,509	6,717	11,458
5,300	389	2,090	5,314	6,474	11,045
5,400	375	2,016	5,130	6,245	10,654
5,500	362	1,947	4,955	6,027	10,283
5,600	349	1,880	4,788	5,821	9,932
5,700	337	1,818	4,630	5,625	9,597
5,800	326	1,758	4,480	5,439	9,280
5,900	315	1,701	4,336	5,261	8,978
6,000	305	1,647	4,200	5,093	8,690

MPR-Support channels

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 $\gamma = 1.54$ 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.