



Special profiles for the materials handling industry

Steel solutions individually designed to meet
the highest requirements in materials handling.



Steel with profile

Customised and high-precision solutions

At Mannstaedt our speciality is customised steel profiles for materials handling applications. Using our expertise and experience in design, production and further processing, we find the best solution for you.

The experience and know-how of our experts, our new ideas and state-of-the-art manufacturing facilities mean that we provide you with reliable, top-quality products – from forklift mast profiles and chassis leg profiles through to profiles for front-end equipment. Special profiles exactly as you need them, with narrow tolerances, optimised materials, excellent surface quality, individual forming and cost-focused further processing.

The best solutions ex stock

In addition to our customised profiles, we offer a wide range of standard profiles for the materials handling industry which are available ex stock. These are standardised U-Channels (with or without flange), I-Beams or carriage bars that have been proving successful on the market for decades. These have been well tried and tested, for example, as guide elements with load-bearing components in horizontal and vertical conveyor systems for medium to heavy loads.

Tailor-made solutions

Forklift masts from the technology leaders

Forklift masts, used as components subjected to particularly high loads and stress levels, involve special requirements when it comes to designing and producing the steel profiles. As technology leaders in the production of rolled profiles, we work together with you to develop your product. The tools required for this are fabricated by us in-house – exclusively for your application.

Optimal process integration

Our job is only done when our solution is optimally integrated into your production process. To ensure seamless integration we support you with further processing options such as saw cutting to fixed lengths, shot blasting, preservation, cold-drawing and mechanical processing. Reliable delivery performance – including just-in-time – is a distinguishing feature of our company as is premium quality assurance due to a quality management system certified in accordance with ISO 9001 and IATF 16949.



Our steel grades

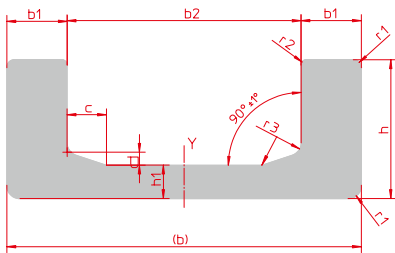
Depending on the demands and requirements of your products we use a range of steel grades optimised for your specific application.

The steel grade S450J2 mod. offers an optimum combination of weldability, brittle fracture resistance, wear resistance and strength – therefore it is generally used for our standard mast profiles.

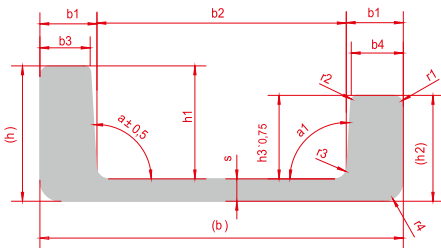
If you have any specific mechanical property requirements, please get in touch.

Steel grades	Yield point	Strength/Hardness/ Wear resistance	Notch impact energy/ Brittle fracture resistance	Weldability
S450J2 mod. - EN 10025-2	+++	++	+++ (min. 27 J at -20°C)	+++
SAE 1027 mod. (C 0,27 %)	+++	+++	+	++
25MnV5 mod. (C 0,27 %)	++++	+++	0	0
C45E - EN 10083-1 (=S45C in accordance with JIS)	+	+++	-	-

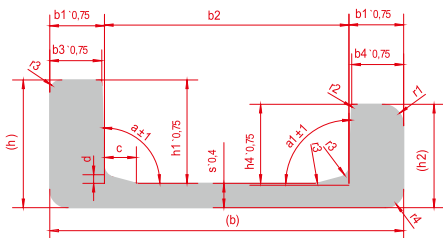
STANDARD SPECIAL PROFILES FOR LIFT TRUCKS



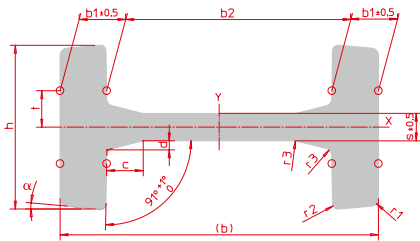
U-Channel		Dimensions (mm)														Weight (kg/m)	Wy (cm²)
Mannstaedt no.	Reference	(b)	b1	Tol.	b2	Tol.	h	Tol.	h1	Tol.	c	d	r1	r2	r3		
W97.033	2890 Standard 0	86,7	12	±0,5	62,7	+0,8	36	±0,8	7	±0,5	15	3	< 6	1-3	4	10,5	32
W97.034	2867 Standard 1	103,2	16,2	±0,5	70,8	±0,5	40	±0,8	7,7	±0,5	15	3	< 6	1-3	5	14,8	53
W97.035	2810 Standard 2	121,3	21,3	±0,5	78,7	+0,4	41	±0,8	10,8	±0,5	15	5	< 6	1-3	5	20,9	81
W97.036	2811 Standard 3	135,4	23	±0,3	89,4	±0,35	53	±0,5	12,7	±0,3	15	5	< 4,5	2-3	5	28,6	128
W97.037	2862 Standard 4	157,2	24,4	±0,5	108,4	±0,5	61,2	±0,8	14	±0,5	15	5	< 6	2-4	5	35,9	190
W97.038	2891 Standard 5	175	25,6	±0,5	123,8	±0,5	66,2	±0,8	16,2	±0,5	15	5	< 6	2-4	5	42,9	250
W97.039	2757 Standard 6	201,5	25,7	±0,5	150,1	±0,5	71,2	±0,8	19,4	±0,5	20	5	< 7	2-4	6	52,3	340
W06.011	Standard 8	252,5	35,7	±0,7	181,1	±0,7	90	±1,2	19,4	±0,8	20	5	≤ 9	3-6	6	78,6	682



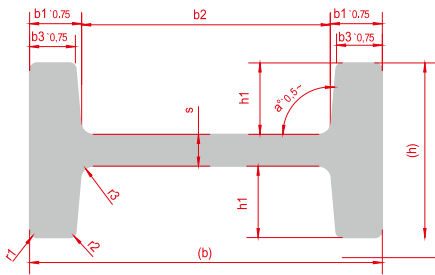
U-Channel		Dimensions (mm)																		Weight (kg/m)	Wy (cm²)	
Mannstaedt no.	(b)	b1	b2	Tol.	b3	b4	Tol. b1, b3, b4	(h)	h1	Tol.	h2	h3	s	Tol.	r1	r2	r3	r4	a°			a1°
W75.141	144,8	22,25	101,95	±0,4/-0,45	20,6	21,15	19,4	53,95	41,25	±0,75	47,65	34,95	12,7	±0,4	4,57	3,05	7,9	9,65	91,5	92±1°	26,73	121
W75.126	163,4	24,4	114,6	±0,44	22,6	22,6	22,6	60,85	50,8	±0,7	47,6	37,55	10,05	±0,35	4,8	3,05	5,6	9,5	92	91,5±1,5°	28,99	156
W70.036	225,9	36,55	152,8	±0,6	34,95	35,1	±0,75	73,15	60,45	±0,75	53,85	41,15	12,7	±0,5	8	3,5	6,35	9,65	91,5	92±1°	50,6	358



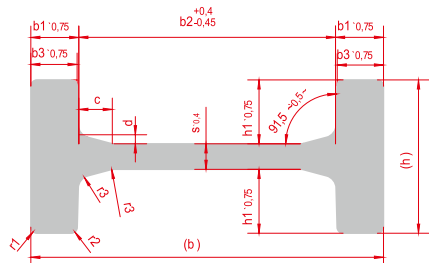
U-Channel		Dimensions (mm)																Weight (kg/m)	Wy (cm²)	
Mannstaedt no.	(b)	b1	b2	Tol.	b3	b4	(h)	h1	h2	h3	s	c	d	r1	r2	r3	a°			a1°
W60.029	184,7	28,55	127,6	+0,4-0,45	27,15	27,1	66,65	53,95	53,95	41,25	12,7	16,65	4,5	11,2	3,05	6,35	91,5	92	39,25	231



I-Beam		Dimensions (mm)														Weight (kg/m)	Wy (cm³)
Mannstaedt no.	Reference	(b)	b1	b2	Tol.	h	Tol.	s	t	a	c	d	r1	r2	r3		
W99.040	3018 Standard 1	98	14	70,2	+0,8	65	±1	9	11,5	10°	15	3	≤ 6	2-4	4	19,4	70
W05.023	3019 Standard 2	113,9	18	77,9	+1	66	±1	11	14,5	10°	15	3	≤ 6	2-4	4	25,3	105
W05.024	3020 Standard 3	129,6	20,5	88,6	+1	81	±1	12	15	10°	15	3	≤ 6	2-4	4	34,1	160
W05.025	3100 Standard 4	152,4	22	108,4	±0,5	83	±1	14	15	12°	20	3	≤ 6	2-4	4	40,09	219
W06.029	3353 Standard 5	175	25,6	123,8	±0,5	90	±1,3	15	20	5°	20	5	≤ 6	2-4	4	51,4	322

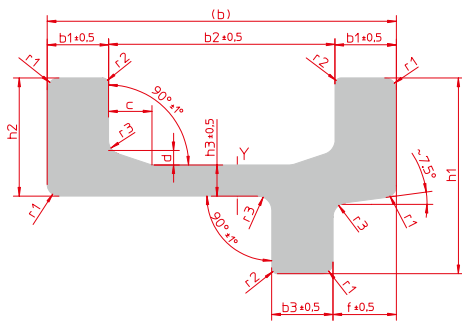


I-Beam		Dimensions (mm)														Weight (kg/m)	Wy (cm³)
Mannstaedt no.	(b)	b1	b2	Tol.	b3	(h)	h1	Tol.	s	Tol.	r1	r2	r3	a°			
W60.028	140,05	19,05	101,95	+0,4-0,45	15,95	69,8	28,55	±0,75	12,7	±0,4	3,05	3,05	7,9	91,5	30,7	156	
W80.085	148,6	16,95	114,7	+0,4-0,45	15,95	67	28,5	±0,5	10	±0,4	1-5	3	5	92	26,7	148	
W81.023	228,6	31,75	165,1	±0,75	31,1	95,1	39,6	±0,75	15,9	±0,35	3	3	6,35	91	67,7	565,73	
W70.035	216,3	31,75	152,8	±0,6	30,75	88,9	38,1	±0,7	12,7	±0,5	3,05	3,05	6,35	91,5	58,8	480	



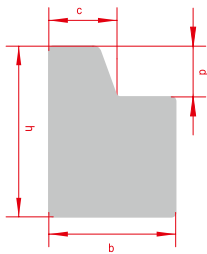
I-Beam		Dimensions (mm)												Weight (kg/m)	Wy (cm³)
Mannstaedt no.	(b)	b1	b2	b3	(h)	h1	s	c	d	r1	r2	r3			
W60.030	175,3	23,85	127,6	23	76,2	31,75	12,7	16,65	4,5	3,05	3	6,4	42,02	268	

STANDARD SPECIAL PROFILES FOR LIFT TRUCKS



U-Channel with flange		Dimensions (mm)														Weight (kg/m)	Wy (cm³)
Mannstaedt no.	Reference	(b)	b1	b2	b3	h1	Tol.	h2	Tol.	h3	f	d	r1	r2	r3		
W06.025	3360	103,2	16,2	70,8	16,2	63	±1	38,0	±0,8	7,7	17	3	< 6	2-3	5	17,6	50
W06.026	3351	121,3	21,3	78,7	21,3	68	±1	41,0	±0,8	10,8	22	5	< 6	2-3	5	25,7	80
W06.027	3384	135,4	23,0	89,4	23,0	90	±1,3	53,0	±1	12,7	24	5	< 6	2-4	5	35,7	150
W06.028	3352	157,2	24,4	108,4	24,4	105	±1,3	61,2	±1	14,0	25,4	5	< 6	2-4	5	44,6	190

STANDARD SPECIAL PROFILES FOR CARRIAGE BARS

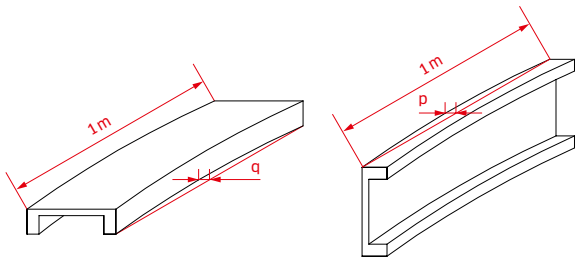


Carriage bars	Dimensions (mm)								Weight (kg/m)	Wy (cm³)	Wx (cm³)
	h	Tol.	b	Tol.	c	Tol.	d	Tol.			
W03.030	60	±1	39	±0,5	15	±0,5	13	+0-1	15,57	13	13
W03.029	60	±1	50	±0,5	15	±0,5	13	+0-1	19,63	21	17
W03.028	70	±1	50	±0,5	21	±0,5	13	+0-1	23,7	25	24



STANDARD SPECIAL PROFILES STRAIGHTNESS AND TWIST TOLERANCES

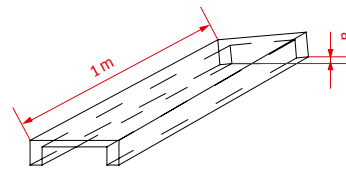
Straightness



$q = \text{max. } 1 \text{ mm/m}$

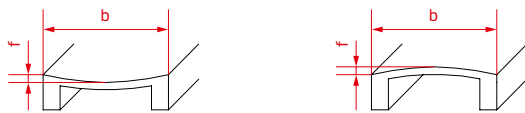
$p = \text{max. } 1 \text{ mm/m}$

Twist



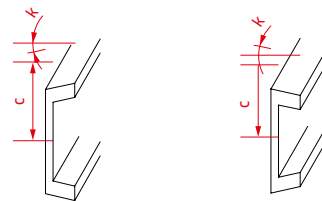
$a = \text{max. } 1^\circ/\text{m}$

Difference on web

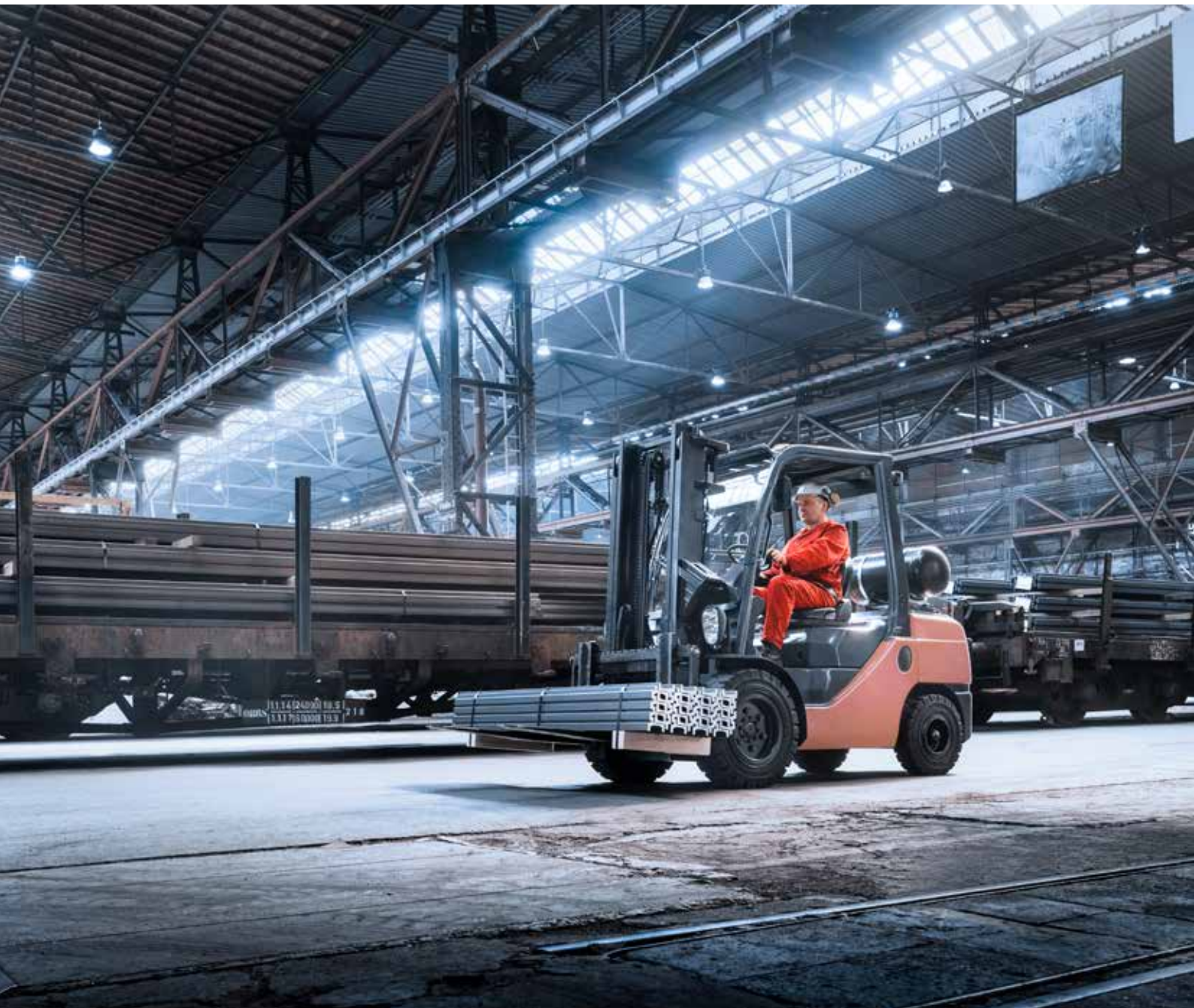


$f = \text{max. } 1 \text{ mm}$

Difference on flanges



$k = \text{max. } 1^\circ$



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