



tk accelis Materials Poland

Carbon Steel

tk accelis



Carbon steel Materials and services

About the company	4
Services	5
Sheets and plates	6–9
Tubes	10–21
Seamless tubes	10–19
Welded tubes	20–21
Profiles	21–27
Structural hollow sections	22–25
Precision hollow sections	26–27
Hot-rolled sections	28–34
I-beams	28–30
C-sections	31
Angles	32–33
T-sections	33
Headed flat bars. Drawn bars	34
Bars	35–37
Engineering and quality steel	37
Welding consumables	38
Offering for the construction industry	39
Construction reinforcement	39
Steel structures	39

About the company

tk accelis Materials Poland, as one of the leading distributors of metals and plastics in Poland since 1994, offers a wide range of products from carbon steel, stainless steel, aluminium and plastics. Our offer is extended to special application products, building systems and welding materials. A wide range of our materials and services is available directly from warehouses throughout the country. On a customer's request, we supply materials in special formats or with additional surface treatments.

Our effective quality management is proven by quality certificates awarded by DNV GL Business Assurance Zertifizierung und Umweltgutachter GmbH – a recognised global certification body.



Why cooperate with tk accelis Materials Poland?

- Wide assortment that is made of carbon steel, stainless steel, aluminum, welding materials and plastics
- Short delivery times directly from stock
- Over 120,000 tons of products in stock
- Cooperation with recognised manufacturers
- Services aligned with customer requirements
- Locations close to the customer

Check out our current offer at:
www.thyssenkrupp-materials.pl

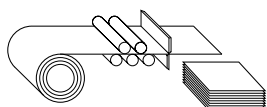
Become our partner.



Warehouse and service centers in Dąbrowa Górnicza

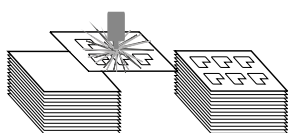


Services – carbon steel



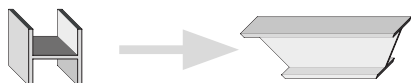
Cut-to-length (CTL)

- thickness range: 1.5 mm – 8 mm
- width range: 500 mm – 2,100 mm
- length range: 600 mm – 12,000 mm
- length tolerance: 3 mm



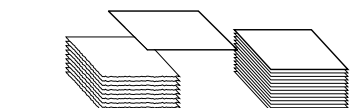
Laser cutting

- thickness range: up to 25 mm
- max. sheet dimensions: 6,000 mm x 2,000 mm
- cutting tolerance: EN ISO 9013
- Trumpf lasers, output: 6kW, 4kW, 3kW



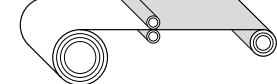
Oxy-cutting

- thickness range: up to 300 mm
- four- and two-burner machines



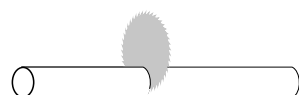
Plasma cutting

- Hypertherm 260XD
- thickness range up to 64 mm



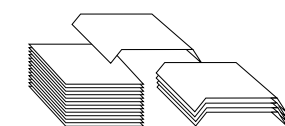
Cutting I-beams at an angle

- I-beams can be cut at an angle
- the range of angles depends on the form (see page 29)



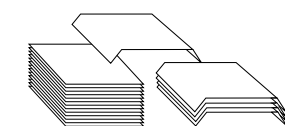
Grating and edge rounding

- thickness range: 1 mm – 120 mm
- max. item width: 1,350 mm



Shot blasting and anticorrosive protection

- max. profile dimensions: 1,000 mm x 300 mm
- max. sheet width: 2,000 mm
- min. length of shot-blasted details: 3,000 mm
- 20 µm of water-soluble primer protection
- blast cleaning standard: SA 2.5



Saw cutting

- long items: 1,000 mm x 300 mm
- welded tubes: Ø 320 mm, seamless tubes: Ø 406 mm
- 45° cutting as an option

CNC bending

- max. length 4,200 mm
- up to 20 mm sheet cutting
- CNC control

Other services

- item straightening after bending
- drilling
- coil slitting
- threading
- beveling
- CNC grinding

Carbon steel. Sheets and plates



Services

- Cut-to-length (CTL)
- Laser cutting
- Oxy-cutting
- Plasma cutting
- Grinding
- Grating
- Shot blasting
- Anticorrosive protection
- Bending
- Item straightening
- Drilling
- Coil slitting
- Beveling
- Ultrasonic testing

Structural sheets

Grade	Standard	Thickness mm	Format mm
S235JR (+AR, +N)	EN 10025-2	1,5-250	1000 x 2000 1250 x 2500 1500 x 3000/ 6000 2000 x 6000/ 12000 2500 x 12000 3000 x 12000
S355J2+N			in addition, strict dimensional conformity On prior agreement, widths over 3,000 mm and lengths over 12,000 mm

Floor plates

Grade	Format mm
S235JR	Width: 1,000-2,500 mm
S355J2+N	Up to 8 mm cut from coils, also to strict dimensions

Hot-rolled pickled and oiled sheets

Grade	Standard	Thickness mm	Format mm
DD11	EN 10111, EN 10025-2 / EN10149-2	2,0–12	Width: 1,000-1,500 mm Up to 8 mm cut from coils, also to strict dimensions
DD12			
DD13			
S235JR			
S355MC			

Hot-rolled pickled and oiled sheets surface is clean and scale-free. It is suitable for laser cutting and welding. Example applications: machines (e.g. agricultural), construction industry, bent profiles, automotive industry, white goods (refrigerator and freezer compressor housing).

Sheets with copper addition

Grade	Standard	Thickness mm
S235JRCu	EN 10025-2	3,0–20
S235JRCuC		
S355J2Cu+N		
S355J2CuC+N		

Carbon steel. Sheets and plates

Boiler plates for pressure vessels

Grade	Standard	Thickness mm
P265GH	EN 10028-2	3,0–150
P295GH		
P355GH		
16Mo3		
13CrMo4-5		
10CrMo9-10		
P355 NH/NL/NL2		
P460 NH/NL/NL2		



Services

- Cut-to-length (CTL)
- Laser cutting
- Oxy-cutting
- Plasma cutting
- Grinding
- Grating
- Shot blasting
- Anticorrosive protection
- Bending
- Item straightening
- Drilling
- Coil slitting
- Beveling
- Ultrasonic testing

Weather-resistant

Grade	Standard	Thickness mm
COR-TEN(R) A/B	EN 10025-5	1,5–60
S355J0WP/ S355J2W+N		

Corten sheet grades demonstrate improved resistance to weather factors.

Example applications: stacks, bridges, pipe bridges, frontages, containers, vessels, external wall cladding.

Thermo-mechanically rolled steel for cold forming

Grade	Standard	Thickness mm
QStE 380 TM - WStE 690 TM	SEW 092	2,0–20
S355MC – S700MC	EN 10149-2	
perform 380 – 700*	TKSE Werkstoffblatt 660	

* Manufacturer's own designation

Example applications: housings, high dimensional precision components, containers, trailer sideboards.

High-strength, quenched and tempered structural steel

Grade	Standard	Thickness mm
S690 Q / QL / QL1, N-A-XTRA 700*	EN 10137	3,0–200
S690 QL, XABO 960*		4,0–100
S1100 QL / XABO 1100		4,0–20

* Manufacturer's own designation

Example applications: machine, crane construction, framed steel structures, vehicles and transport equipment, mining.

Carbon steel. Sheets and plates



Services

- Cut-to-length (CTL)
- Laser cutting
- Oxy-cutting
- Plasma cutting
- Grinding
- Grating
- Shot blasting
- Anticorrosive protection
- Bending
- Item straightening
- Drilling
- Coil slitting
- Beveling
- Ultrasonic testing

Wear resistant plates

Grade	Thickness mm
HB 400 – 500	4,0–60

Wear-resistant plates are used whenever steel members are particularly exposed to wear under high loads.

Shipbuilding plates

Grade	Thickness mm
A, AH32, AH36	5,0–70
B	
D, DH32, DH36	
E, EH32, EH36	

Shipbuilding steel plates approved by the following classification societies:

DNV Group AS (DNV)

Bureau Veritas (BV)

American Bureau of Shipping (ABS)

Lloyds Register of Shipping (LRS)

High-strength welded steel

Grade	Standard	Thickness mm	Format mm
S355N	EN 10025-3	6–80	1500 x 6000; 2000 x 6000 / 12000, 2500 x 12000, 3000 x 12000.
S420N			in addition, strict dimensional conformity
S460N			On prior agreement, widths over 3,000 mm and lengths over 12,000 mm

Designed for large industrial structures, such as bridges, tanks, pipelines, projects where welding is the primary fabrication process.

Boron steel

Grade	Thickness mm
TBL Werkstoff 1.5529	3–100
TBL PLUS Werkstoffblatt 2060	3–12
30MnB5 Werkstoff 1.5531	2–13

Designed for fabrication of toughened machine parts subject to high mechanical loads in operation, such as shafts, gears, pins.

Carbon steel. Sheets and plates

Cold-rolled sheets, oiled and non-oiled		
Grade	Standard	Thickness mm
DC01	EN 10130	0,4–4,0
DC03		
DC04		
DC05		
DC06		

Example applications: automotive industry, heating and plumbing technology, construction industry, lighting fittings, packaging, household appliances, tanks, profiles, furniture production.

Steel sheets for enamel coating		
Grade	Standard	Thickness mm
DC01EK	EN 10209	0,4–3,0
DC04EK		
DC06EK		

Hot-dip galvanized sheets**		
Grade	Standard	Thickness mm
DX51D+Z do DX54D+Z	EN 10346	0,4–4,0

** Standard zinc coating thickness is 275 g/m², surface grade A

Electrogalvanized sheets**		
Grade	Standard	Thickness mm
DC01+ZE do DC04+ZE	EN 10152	0,50–3,0

** Standard zinc coat thickness is ZE 25/25

We also supply other types of coated surfaces.

Symbol Coated

- + ZF hot (galvanized) zinc-iron alloy
- + AZ aluminum-zinc alloy - Aluzinc
- + AS aluminum-silicon coating - Alusi

Additional options

On request we also supply the following sheets:

- bending-tested (e.g. S235JRC, S355J2C+N),
- for laser cutting,
- ultrasonic-tested,
- Z-tested (lamellar tearing),
- surface-treated (cleaning scale, galvanizing, shot blasting and painting),
- heat treated (stress relief, normalizing treatment),
- surface-prepared for welding.

Inspection by classification entities as per your instructions made with the order.



Services

- Cut-to-length (CTL)
- Laser cutting
- Oxy-cutting
- Plasma cutting
- Grinding
- Grating
- Shot blasting
- Anticorrosive protection
- Bending
- Item straightening
- Drilling
- Coil slitting
- Beveling
- Ultrasonic testing

Carbon steel. Tubes

Dimensions and theoretical weight per unit of length as per EN 10220

Outer diameter D mm Range			T wall thickness, mm																			
			0,5	0,6	0,8	1	1,2	1,4	1,6	1,8	2	2,3	2,6	2,9	3,2	3,6	4	4,5	5	5,4	5,6	6,3
1	2	3	Theoretical weight kg/m																			
10,2			0,120	0,142	0,185	0,227	0,266	0,304	0,339	0,373	0,404	0,448	0,487									
	12		0,142	0,169	0,221	0,271	0,320	0,366	0,410	0,453	0,493	0,550	0,603	0,651	0,694							
	12,7		0,150	0,179	0,235	0,289	0,340	0,390	0,438	0,484	0,528	0,590	0,648	0,701	0,750							
13,5			0,160	0,191	0,251	0,308	0,364	0,418	0,470	0,519	0,567	0,636	0,699	0,758	0,813	0,879						
	14		0,166	0,198	0,260	0,321	0,379	0,435	0,489	0,542	0,592	0,664	0,731	0,794	0,852	0,923						
	16		0,191	0,228	0,300	0,370	0,438	0,504	0,568	0,630	0,691	0,777	0,859	0,973	1,01	1,10	1,18					
17,2			0,206	0,246	0,324	0,400	0,474	0,546	0,616	0,684	0,750	0,845	0,936	1,02	1,10	1,21	1,3	1,41				
	18		0,216	0,257	0,339	0,419	0,479	0,573	0,647	0,719	0,789	0,891	0,987	1,08	1,17	1,28	1,38	1,50				
	19		0,229	0,272	0,359	0,444	0,527	0,608	0,687	0,764	0,838	0,947	1,05	1,15	1,25	1,37	1,48	1,61	1,73			
	20		0,240	0,287	0,379	0,469	0,556	0,642	0,726	0,808	0,888	1,00	1,12	1,22	1,33	1,46	1,58	1,72	1,85			
21,3			0,256	0,306	0,404	0,501	0,595	0,687	0,777	0,866	0,952	1,08	1,20	1,32	1,43	1,57	1,71	1,86	2,01	2,12		
	22		0,265	0,317	0,418	0,518	0,616	0,711	0,805	0,897	0,996	1,12	1,24	1,37	1,48	1,63	1,78	1,94	2,10	2,21		
	25		0,302	0,361	0,477	0,592	0,704	0,815	0,923	1,03	1,13	1,29	1,44	1,58	1,72	1,90	2,07	2,28	2,47	2,61	2,68	2,91
	25,4		0,307	0,367	0,458	0,602	0,716	0,829	0,939	1,05	1,15	1,31	1,46	1,61	1,75	1,94	2,11	2,32	2,52	2,66	2,73	2,97
26,9			0,326	0,389	0,515	0,639	0,761	0,880	0,998	1,11	1,23	1,40	1,56	1,72	1,87	2,07	2,26	2,49	2,70	2,86	2,94	3,20
	30		0,364	0,435	0,576	0,715	0,852	0,987	1,12	1,25	1,38	1,57	1,76	1,94	2,11	2,34	2,56	2,83	3,08	3,28	3,27	3,68
	31,8		0,386	0,462	0,612	0,760	0,906	1,05	1,19	1,33	1,47	1,67	1,87	2,07	2,26	2,50	2,74	3,03	3,30	3,52	3,62	3,96
	32		0,388	0,465	0,616	0,765	0,911	1,06	1,20	1,34	1,48	1,68	1,89	2,08	2,27	2,52	2,76	3,05	3,33	3,54	3,65	3,99
33,7			0,409	0,490	0,649	0,805	0,962	1,12	1,27	1,42	1,56	1,78	1,99	2,20	2,41	2,67	2,93	3,24	3,54	3,77	3,88	4,26
	35		0,425	0,509	0,675	0,838	1,00	1,16	1,32	1,47	1,63	1,85	2,08	2,30	2,51	2,79	3,06	3,38	3,70	3,94	4,06	4,46
	38		0,462	0,553	0,734	0,912	1,09	1,26	1,44	1,61	1,78	2,02	2,27	2,51	2,75	3,05	3,35	3,72	4,07	4,34	4,47	4,93
	40		0,487	0,583	0,773	0,962	1,15	1,33	1,52	1,70	1,87	2,14	2,40	2,65	2,90	3,23	3,55	3,94	4,32	4,61	4,75	5,24
42,4			0,517	0,619	0,821	1,02	1,22	1,42	1,61	1,80	1,99	2,27	2,55	2,82	3,09	3,44	3,79	4,21	4,61	4,93	5,08	5,61
	44,5		0,543	0,650	0,862	1,07	1,28	1,49	1,69	1,90	2,10	2,39	2,69	2,98	3,26	3,63	4,00	4,44	4,87	5,21	5,37	5,94
48,3				0,706	0,937	1,17	1,39	1,62	1,84	2,06	2,28	2,61	2,93	3,25	3,56	3,97	4,37	4,86	5,34	5,71	5,90	6,53
	51			0,746	0,990	1,23	1,47	1,71	1,95	2,18	2,42	2,76	3,10	3,44	3,77	4,21	4,64	5,16	5,67	6,07	6,27	6,94
	54			0,790	1,05	1,31	1,56	1,82	2,07	2,32	2,56	2,93	3,30	3,65	4,01	4,47	4,93	5,49	6,04	5,47	6,68	7,41
	57			0,835	1,11	1,38	1,65	1,92	2,19	2,45	2,71	3,10	3,49	3,87	4,25	4,74	5,23	5,83	6,41	6,87	7,10	7,88
60,3				0,883	1,17	1,48	1,75	2,03	2,32	2,60	2,88	3,29	3,70	4,11	4,51	5,03	5,55	6,19	6,82	7,31	7,55	8,39
	63,5			0,931	1,24	1,54	1,84	2,14	2,44	2,74	3,03	3,47	3,90	4,33	4,76	5,32	5,87	6,55	7,21	7,74	8,00	8,89
	70,0				1,37	1,70	2,04	2,37	2,70	3,03	3,35	3,84	4,32	4,80	5,27	5,90	6,51	7,27	8,01	8,60	8,89	9,90
	73				1,42	1,78	2,12	2,47	2,82	3,16	3,50	4,01	4,51	5,01	5,51	6,16	6,71	7,60	8,38	9,00	9,31	10,4
76,1					1,49	1,85	2,22	2,58	2,94	3,30	3,65	4,19	4,71	5,24	5,75	6,44	7,11	7,95	8,77	9,42	9,74	10,8
	82,5				1,61	2,01	2,41	2,80	3,19	3,58	3,97	4,55	5,12	5,69	6,26	7,00	7,74	8,66	9,56	10,3	10,8	11,8
88,9					1,74	2,17	2,60	3,02	3,44	3,87	4,29	4,91	5,53	6,15	6,76	7,57	8,38	9,37	10,3	11,1	11,5	12,8
	101,6						2,97	3,46	3,95	4,43	4,91	5,63	6,35	7,06	7,77	8,70	9,63	10,8	11,9	12,8	13,3	14,8
	108						3,16	3,68	4,20	4,71	5,23	6,00	6,76	7,52	8,27	9,27	10,3	11,5	12,7	13,7	14,1	15,8
114,3							3,35	3,90	4,45	4,99	5,54	6,35	7,16	7,97	8,77	9,83	10,9	12,2	13,5	14,5	15,0	16,8
	127								4,95	5,56	6,17	7,07	7,98	8,88	9,77	11,0	12,1	13,6	15,0	16,2	16,8	18,8
	133								5,18	5,82	6,46	7,41	8,36	9,30	10,2	11,5	12,7	14,3	15,8	17,0	17,6	19,7
139,7									5,45	6,12	6,79	7,79	8,79	9,78	10,8	12,1	13,4	15,0	16,6	17,9	18,5	20,7
	141,3								5,51	6,19	6,87	7,88	8,89	9,90	10,9	12,2	13,5	15,2	16,8	18,1	18,7	21,0
	152,4								5,95	6,69	7,42	8,51	9,61	10,7	11,8	13,2	14,6	16,4	18,2	19,6	20,3	22,7
	159								6,21	6,98	7,74	8,89	10,0	11,2	12,3	13,8	15,3	17,1	19,0	20,5	21,2	23,7
168,3									6,58	7,39	8,20	9,42	10,6	11,8	13,0	14,6	16,2	18,2	20,1	21,7	22,5	25,2
	177,8									7,81	8,67	9,95	11,2	12,5	13,8	15,5	17,1	19,2	21,3	23,0	23,8	26,6
	193,7									8,52	9,46	10,9	12,3	13,6	15,0	16,9	18,7	21,0	23,3	25,1	26,0	29,1
219,1										9,65	10,7	12,3	13,9	15,5	17,0	19,1	21,2	23,8	26,4	28,5	29,5	33,1
	244,5										12,0	13,7	15,5	17,3	19,0	21,4	23,7	26,6	29,5	31,8	33,0	37,0
273											13,4	15,4	17,3	19,3	21,3	23,9	26,5	29,8	33,0	35,6	36,9	41,4
323,9													20,6	23,0	25,3	28,4	31,6	35,4	39,3	42,4	44,0	49,3
355,6													22,6	25,2	27,8	31,3	34,7	39,0	43,2	46,6	48,3	54,3
406,4													25,9	28,9		31,8	35,8	39,7	44,6	49,5		

pkn
POLSKI KOMITE
NORMALIZACYJNY

[illegible]

Carbon steel. Tubes

Chemical contents and mechanical properties

Standard	Grade	C (%)	Mn (%)	P max. (%)	S max. (%)	Si (%)	Cr (%)	Ni (%)
EN 10216-1	P195TR1	0,13	0,7	0,025	0,02	0,35	0,3	0,3
EN 10216-1	P195TR2	0,13	0,7	0,025	0,02	0,35	0,3	0,3
EN 10216-1	P235TR1	0,16	1,2	0,025	0,02	0,35	0,3	0,3
EN 10216-1	P235TR2	0,16	1,2	0,025	0,02	0,35	0,3	0,3
EN 10216-1	P265TR1	0,2	0,2	0,025	0,02	0,4	0,3	0,3
EN 10216-1	P265TR2	0,2	0,2	0,025	0,02	0,4	0,3	0,3
DIN 1629	St37.0	max 0,17		0,040	0,040			
DIN 1629	St44.0	max 0,21		0,040	0,040			
DIN 1629	St52.0	max 0,22	max 1,60	0,040	0,035	max 0,55		
DIN 1630	St37.4	max 0,17	min 0,35	0,040	0,040	max 0,35		
DIN 1630	St44.4	max 0,20	min 0,40	0,040	0,040	max 0,35		
DIN 1630	St52.4	max 0,22	max 1,60	0,040	0,035	max 0,55		
EN 10210	S235JRH	max 0,17	max 1,40	0,045	0,045			
EN 10210	S275J0H	max 0,20	max 1,50	0,040	0,040			
EN 10210	S275J2H	max 0,20	max 1,50	0,035	0,035			
EN 10210	S355J0H	max 0,22	max 1,60	0,040	0,040	max 0,55		
EN 10210	S355J2H	max 0,22	max 1,60	0,035	0,035	max 0,55		
EN 10216-2	P235GH	max 0,16	max 1,20	0,025	0,02	max 0,35	max 0,30	max 0,30
EN 10216-2	P265GH	max 0,20	max 1,40	0,025	0,02	max 0,40	max 0,30	max 0,30
EN 10216-2	16Mo3	0,12–0,20	0,40–0,90	0,025	0,02	max 0,35	max 0,30	max 0,30
EN 10216-2	14MoV63	0,10–0,15	0,40–0,70	0,025	0,02	0,15–0,35	0,30–0,60	max 0,30
EN 10216-2	13CrMo4-5	0,10–0,17	0,40–0,70	0,025	0,02	max 0,35	0,70–1,15	max 0,30
EN 10216-2	10CrMo9-10	0,08–0,14	0,30–0,70	0,025	0,02	max 0,50	2,00–2,50	max 0,30
DIN 17175	St35.8	max 0,17	0,40–0,80	0,040	0,040	0,10–0,35		
DIN 17175	St45.8	max 0,21	0,40–1,20	0,040	0,040	0,10–0,35		
DIN 17175	15Mo3	0,12–0,20	0,40–0,80	0,035	0,035	0,10–0,35		
DIN 17175	13CrMo44	0,10–0,18	0,40–0,70	0,035	0,035	0,10–0,35	0,70–1,10	
DIN 17175	14MoV63	0,10–0,18	0,40–0,70	0,035	0,035	0,10–0,35	0,30–0,60	
DIN 17175	10CrMo910	0,08–0,15	0,40–0,70	0,035	0,035	max 0,50	2,00–2,50	
EN 10208	L245NB (StE240.7)	max 0,16	max 1,10	0,025	0,020	max 0,40	max 0,30	max 0,30
EN 10208	L290NB (StE290.7)	max 0,17	max 1,20	0,025	0,020	max 0,40	max 0,30	max 0,30
EN 10208	L360NB (StE360.7)	max 0,20	max 1,60	0,025	0,020	max 0,45	max 0,30	max 0,30
API Spec 5CT	H-40			0,030	0,030			
API Spec 5CT	J-55			0,030	0,030			
API Spec 5CT	K-55			0,030	0,030			
API Spec 5CT	N-80			0,030	0,030			
API Spec 5L	A	max 0,22	max 0,90	0,030	0,030			
API Spec 5L	B	max 0,27	max 1,15	0,030	0,030			
API Spec 5L	X 42	max 0,29	max 1,25	0,030	0,030			
API Spec 5L	X 45	max 0,31	max 1,35	0,030	0,030			
API Spec 5L	X 52	max 0,31	max 1,35	0,030	0,030			
API Spec 5L	X 56	max 0,26	max 1,35	0,030	0,030			
API Spec 5L	X 60	max 0,26	max 1,35	0,030	0,030			
ASTM A 106	Gr. A	max 0,25	0,27–0,93	0,025	0,025	min 0,10	max 0,40	max 0,40
ASTM A 106	Gr. B	max 0,30	0,29–1,06	0,025	0,025	min 0,10	max 0,40	max 0,40
ASTM A 106	Gr. C	max 0,35	0,29–1,06	0,035	0,035	min 1,00	max 0,40	max 0,40
ASTM A 53	Gr. A	max 0,25	max 0,95	0,050	0,060		max 0,40	max 0,40
ASTM A 53	Gr. B	max 0,30	max 1,20	0,050	0,060		max 0,40	max 0,40

Cu max. (%)	Al (%)	V (%)	Nb (%)	Mo (%)	Working temp.	Min. yield strength Re (Mpa) min			Tensile strength Rm (MPa)	Elongation at failure A ₅ min (%)
						< 16	16/40	>40-60		
0,3		0,02	0,01	0,08		195	185	175	320-440	27/25
0,3	0,02	0,02	0,01	0,08		195	185	175	320-440	27/25
0,3		0,02	0,01	0,08		235	225	215	360-500	25/23
0,3	0,02	0,02	0,01	0,08		235	225	215	360-500	25/23
0,3		0,02	0,01	0,08		265	255	245	410-570	21/19
0,3	0,02	0,02	0,01	0,08		265	255	245	410-570	21/19
						<16	16/40	>40-65		
			max 0,009			235	225	215	350-480	25/23
			max 0,009			275	265	255	420-550	21/19
	min 0,020					355	345	335	500-650	21/19
	min 0,020					235	225	215	350-480	25/23
	min 0,020					275	265	255	420-550	21/19
	min 0,020					355	345	335	500-650	21/19
			max 0,009			235	225	215	340-470	26/24
			max 0,009			275	265	255	410-560	22/20
	min 0,020					275	265	255	410-560	22/20
			max 0,009			355	345	335	490-630	22/20
	min 0,020					355	345	335	490-630	22/20
0,30	min 0,02	max 0,02	max 0,01	max 0,08		235	225	215	360-500	25/23
0,30	min 0,02	max 0,02	max 0,01	max 0,08		265	255	245	410-570	23/21
0,30	max 0,04			0,25-0,35		280	270	260	450-600	22/20
0,30	max 0,04			0,50-0,70		320	320	310	460-610	20/18
0,30	max 0,04			0,40-0,60		290	290	280	440-590	22/20
0,30	max 0,04			0,90-1,10		280	280	270	480-630	22/20
					475 °C	235	225	215	360-480	25/23
					475 °C	255	245	235	410-530	21/19
				0,25-0,35	500 °C	270	270	260	450-600	22/20
				0,45-0,65	560 °C	290	290	280	440-590	22/20
				0,50-0,70	600 °C	320	320	310	460-610	20/18
		0,22-0,32		0,90-1,20	600 °C	280	280	270	450-600	20/18
0,25	0,015-0,060			max 0,10			245-440		min 415	22
0,25	0,015-0,060	max 0,05		max 0,10			290-440		min 415	21
0,25	0,015-0,060	max 1,00		max 0,10			360-510		min 460	20
							276-552		min 414	acc. to API
							379-552		min 517	acc. to API
							379-552		min 655	acc. to API
							552-758		min 689	acc. to API
							207		min 331	acc. to API
							241		min 413	acc. to API
							289		min 413	acc. to API
							317		min 434	acc. to API
							358		min 455	acc. to API
							386		min 489	acc. to API
							413		min 517	acc. to API
0,40		max 0,08		max 0,15	475 °C		205		min 330	acc. to standard
0,40		max 0,08		max 0,15	475 °C		240		min 415	acc. to standard
0,40		max 0,08		max 0,15			275		min 485	acc. to standard
0,40		max 0,08		max 0,15			205		min 330	acc. to standard
0,40		max 0,08		max 0,15			240		min 415	acc. to standard

Carbon steel. Hot-rolled seamless tubes



Services

- Saw cutting
- Shot blasting
- Anticorrosive protection
- Threading
- Beveling
- Marking
- 3D cutting

Tubes and pipes for pressure applications

Our offer comprises tubes as per the following standards:

EN 10216-1 in grades: P235TR2, P265TR2; other grades on prior agreement.

EN 10216-3 in grades: P355N, P355NHTC1 (for increased temperatures); other grades on prior agreement.

DIN 1629 in grades St37.0, St44.0, St52.0; other grades on prior agreement.

Grade	Werkstoff	Tensile strength R _m w N/mm ² Wall thickness in mm	Min. yield strength R _{eH} in N/mm ² for wall thickness in mm			Elongation at failure A ₅ w %	
EN			up to 16	from 16 to 40	from 40 to 60	longitudinal	cross-wise
P235TR2	1.0255	360–500	235	225	215	25	23

Grade	Werkstoff	Tensile strength R _m w N/mm ² Wall thickness in mm			Min. yield strength R _{el} in N/mm ² for wall thickness in mm						Elongation at failure A ₅ w %	
EN		up to 20	from 20 to 65	from 65 to 100	to 20	from 20 to 40	from 40 to 50	from 50 to 65	from 65 to 80	from 80 to 100	longitudinal	crosswise
P355N	1.0562	490–650	490–630	450–590	355	345	335	325	315	305	22	20

Outer diameters and wall thickness ranges

Outer tube diameter mm	Wall thickness range mm	Outer tube diameter mm	Wall thickness range mm	Outer tube diameter mm	Wall thickness range mm	Outer tube diameter mm	Wall thickness range mm
21,3	2,0–4,0	54	2,6–12,5	127	4–32	323,9	7,1–40
25	2,0–4,5	57	2,9–12,5	133	4–32	355,6	8–45
26,9	2,0–5,0	60,3	2,9–14,2	139,7	4–32	406,4	8,8–50
30	2,0–6,3	63,5	2,9–14,2	159	4,5–32	457	10–50
31,8	2,0–7,1	70	2,9–20,0	168,3	4,5–32	508	11–60
33,7	2,0–7,1	76,1	2,9–20,0	177,8	5–32	-	-
38	2,6–8,0	82,5	3,2–22,2	193,7	5,6–36	-	-
42,4	2,6–8,0	88,9	3,2–25,0	219,1	6,3–40		
44,5	2,6–12,5	101,6	3,6–25,0	244,5	6,3–40		
48,3	2,6–12,5	108	3,6–30	273	6,3–50		
51	2,6–12,5	114,3	3,6–32	298,5	7,1–40		

We also supply the tubes:

- in non-standard dimensions (e.g. 95; 368; 559; 660; etc.) – on prior agreement,
- with non-standard walls – on prior agreement,
- with straight or beveled ends – on prior agreement,
- insulated – on prior agreement,
- zinc-coated,
- in commercial lengths from 4 to 13 m, in multiples or fix lengths – on prior agreement.

Carbon steel. Hot-rolled seamless tubes

Tubes for constructions

Our offer comprises tubes as per the following standard:

EN 10210, grades S235JRH, S355J2H, S355JOH.

We also supply S275JOH, S275J2H and S355NH grades if the customer so wishes.

Other grades on prior agreement.

Grade		Werkstoff	Tensile strength R _m in N/mm ² Wall thickness in mm		Min. yield strength R _{eH} in N/mm ² for wall thickness in mm					Elongation at failure A ₅ w %		Impact strength	
DIN	EN		N/mm ²		up to 16	from 16 to 40	from 40 to 65	from 65 to 80	from 80 to 100	from 100 to 120	longitudinal	cross-wise	at temp
U St 37-2	-	1.0036	340–470	235	-	-	-	-	-	26	24	20	27
R St 37-2	S235JRH	1.0038	340–470	235	225	215	205	195	185	26	24	20	27
St44-3	S275J2H	1.0144	410–580	275	265	255	245	235	225	22	20	-20	27
St52-3N	S355J2H	1.0570	490–680	355	345	335	315	295	285	22	20	-20	27

We also supply hot-dip galvanized tubes.

Boiler tubes (for pressure applications at higher temperatures)

Our offer comprises tubes as per the following standards:

EN 10216-2 in grades P235GH TC1 and TC2, P265GH TC1 and TC2, 16Mo3, 13CrMo4-5, 10CrMo9-10

DIN 17175 in grades St35.8 I° and III°, St45.8 I° and III°, 15Mo3, 13CrMo44, 10CrMo910

Other grades on prior agreement.

Name		Werkstoff	Tensile strength	Min. yield strength in N/mm² for wall thickness			Elongation at failure A ₅ w %	
DIN	EN		N/mm²	up to 16 mm	from 16 to 40 mm	from 40 to 60 mm	longitudinal	cross-wise
St35.8	P235GH	1.0345	360–500	235	225	215	25	23
St45.8	P265GH	1.0425	410–570	255	245	235	21	19
15Mo3	16Mo3	1.5415	450–600	280	270	260	22	20
13CrMo44	13CrMo4-5	1.7335	440–590	290	290	280	22	20
10CrMo910	10CrMo9-10	1.7383	460–630	280	280	270	22	20
14MoV63	14MoV63	1.7715	460–610	320	320	310	20	18

We also supply tubes as per ASTM and other standards per customer request.

Special-purpose seamless tubes

Line pipes for gas and combustible fluids as per 10208-2 and EN ISO 3183.

Drilling and casing pipes as per API spec. 5CT.

Pipes for mechanical application as per EN 10297-1.

Pipes for hydraulic cylinders.

If you are interested in other types of seamless pipes, contact our sales department.



Services

- Saw cutting
- Shot blasting
- Anticorrosive protection
- Threading
- Beveling
- Marking
- 3D cutting

Carbon steel. Seamless tubes



Services

- Saw cutting
- Shot blasting
- Anticorrosive protection
- Threading
- Beveling
- Marking
- 3D cutting

Primary grade substitutes for seamless pipes

	PN ...	DIN ...	EN ...
„Pressure”, „structural” grades, for machine construction, general application	R35	St37.0	P235TR1
			P235TR2
			S235JRH
			S235J0H
			E235 (+AR,+N)
	R45	St44.0	P265TR2
			S275J2H
			S275J0H
	18G2A	St52.0	P355N
			P355NH (TC1, TC2)
S355J2H			
S355J0H			
E355 (+AR,+N)			
„Boiler” grades	K 10 I	St35.8 I	P235GH TC1
	K 18 I	St45.8 I	P265GH TC1
	K 10 III	St35.8 III	P235GH TC2
	K 18 III	St45.8 III	P265GH TC2
	16M	15Mo3	16Mo3
	15HM	13CrMo44	13CRM04-5
	10H2M	10CrMo910	10CrMo9-10
„Precision” grades	R35 (BK, NBK)	St35 (BK, NBK)	E235 (+C,+N)
	18G2A (BK, NBK)	St52 (BK, NBK)	E355 (+C,+N)

Carbon steel. Cold-drawn seamless tubes

Pipes for pressure applications and for constructions

We supply tubes as per the following standards:

EN 10216-1 in grades P235TR1, P235TR2.

EN 10210 in grades S235JRH, S355J2H.

DIN 1629 in grades St37.0, St44.0, St52.0.

Other grades on prior agreement.



Services

- Saw cutting
- Shot blasting
- Anticorrosive protection
- Threading
- Beveling
- Marking
- 3D cutting

Outer tube diameter mm	Wall thickness range mm	Outer tube diameter mm	Wall thickness range mm	Outer tube diameter mm	Wall thickness range mm	Outer tube diameter mm	Wall thickness range mm
10,2	1,6–2,6	21,3	2,3–4,0	38,0	2,9–4,5	57,0	2,9–10,0
12,0	1,6–2,6	25,0	2,3–4,0	42,4	2,9–5,0	60,3	7,1–10,0
13,5	1,8–2,9	26,9	2,3–4,0	44,5	2,9–5,0	63,5	7,1–10,0
16,0	1,8–3,2	30,0	2,6–4,5	48,3	2,9–5,6	-	-
17,2	2,0–3,6	31,8	2,9–4,5	51,0	2,9–5,6	-	-
20,0	2,3–4,0	33,7	2,9–4,5	54,0	2,9–8,0	-	-

We supply the tubes in the following lengths:

- fabrication – structural pipes from 1.5 to 8.0 m – carrier pipes from 4.0 to 8.0 m, not more than 20% pipes in lengths from 2.0 to 4.0 are permitted as part of a single order,
- strict-dimensions with allowable tolerance of +10 mm or +15 mm,
- multiples – for lengths order below 3 m with allowance of 5 mm for each cut and allowable deviation for the entire multiple length as for strict lengths.

Precision tubes

We supply tubes as per the following standards:

EN 10305-1 and EN 10305-4 in grades E235, E355.

DIN 2391 in grades St35, St45, St52.

The following delivery statuses can be chosen for cold-drawn tubes:

BK – tubes without heat treatment after last drawing (white hard) – equivalent as per EN 10305-1 → +C

BKW – tubes drawn after last heat treatment with small reduction level (white soft) – equivalent as per EN 10305-1 → +LC

GBK – tubes after recrystallizing treatment in controlled atmosphere – equivalent as per EN 10305-1 → +A

NBK – tubes after normalizing treatment in controlled atmosphere – equivalent as per EN 10305-1 → +N

BKS – cold-drawn and stress relief-annealed tubes - equivalent as per EN 10305-1 → +SR

Carbon steel. Cold-drawn seamless tubes

Dimensions and tolerances of precision tubes as per EN 10305-1

Outer diameter D and tolerances	wall, T, mm												
	0,5	0,8	1	1,2	1,5	1,8	2	2,2	2,5	2,8	3	3,5	4
inner diameter and tolerances, mm													
4	3±0,15	2,4±0,15	2±0,15	1,6±0,15									
5	4±0,15	3,4±0,15	3±0,15	2,6±0,15									
6	5±0,15	4,4±0,15	4±0,15	3,6±0,15	3±0,15	2,4±0,15	2±0,15						
7	6±0,15	5,4±0,15	5±0,15	4,6±0,15	4±0,15	3,4±0,15	3±0,15						
8	7±0,15	6,4±0,15	6±0,15	5,6±0,15	5±0,15	4,4±0,15	4±0,15	3,6±0,15	3±0,25				
9	8±0,15	7,4±0,15	7±0,15	6,6±0,15	6±0,15	5,4±0,15	5±0,15	4,6±0,15	4±0,25	3,4±0,25			
10	9±0,15	8,4±0,15	8±0,05	7,6±0,15	7±0,15	6,4±0,15	6±0,15	5,6±0,15	5±0,15	4,4±0,25	4±0,25		
12	11±0,15	10,4±0,15	10±0,15	9,6±0,15	9±0,15	8,4±0,15	8±0,15	7,6±0,15	7±0,15	6,4±0,15	6±0,25	5±0,25	4±0,25
14	13±0,08	12,4±0,08	12±0,08	11,6±0,15	11±0,15	10,4±0,15	10±0,15	9,6±0,15	9±0,15	8,4±0,15	8±0,15	7±0,15	6±0,25
15	14±0,08	13,4±0,08	13±0,08	12,6±0,08	12±0,15	11,4±0,15	11±0,15	10,6±0,15	10±0,15	9,4±0,15	9±0,15	8±0,15	7±0,15
16	15±0,08	14,4±0,08	14±0,08	13,6±0,08	13±0,08	12,4±0,05	12±0,15	11,6±0,15	11±0,15	10,4±0,15	10±0,15	9±0,15	8±0,15
18	17±0,08	16,4±0,08	16±0,08	15,6±0,08	15±0,08	14,4±0,08	14±0,08	13,6±0,15	13±0,15	12,4±0,15	12±0,15	11±0,15	10±0,15
20	19±0,08	18,4±0,08	18±0,08	17,6±0,08	17±0,08	16,4±0,08	16±0,08	15,6±0,15	15±0,15	14,4±0,15	14±0,15	13±0,15	12±0,15
22	21±0,08	20,4±0,08	20±0,08	19,6±0,08	19±0,08	18,4±0,08	18±0,08	17,6±0,08	17±0,15	16,4±0,15	16±0,15	15±0,15	14±0,15
25	24±0,08	23,4±0,08	23±0,08	22,6±0,08	22±0,08	21,4±0,08	21±0,08	20,6±0,08	20±0,08	19,4±0,15	19±0,15	18±0,15	17±0,15
26	25±0,08	24,4±0,08	24±0,08	23,6±0,08	23±0,08	22,4±0,08	22±0,08	21,6±0,08	21±0,08	20,4±0,15	20±0,15	19±0,15	18±0,15
28	27±0,08	26,4±0,08	26±0,08	25,6±0,08	25±0,08	24,4±0,08	24±0,08	23,6±0,08	23±0,08	22,4±0,08	22±0,05	21±0,15	20±0,15
30	29±0,08	28,4±0,08	28±0,08	27,6±0,08	27±0,08	26,4±0,08	26±0,08	25,6±0,08	25±0,08	24,4±0,08	24±0,15	23±0,15	22±0,15
32	31±0,15	30,4±0,15	30±0,15	29,6±0,15	29±0,15	28,4±0,15	28±0,15	27,6±0,15	27±0,15	26,4±0,15	26±0,15	25±0,15	24±0,15
35	34±0,15	33,4±0,15	33±0,15	32,6±0,15	32±0,15	31,4±0,15	31±0,15	30,6±0,15	30±0,15	29,4±0,15	29±0,15	28±0,15	27±0,15
38	37±0,15	36,4±0,15	36±0,15	35,6±0,15	35±0,15	34,4±0,15	34±0,15	33,6±0,15	33±0,15	32,4±0,15	32±0,15	31±0,15	30±0,15
40	39±0,15	38,4±0,15	38±0,15	37,6±0,15	37±0,15	36,4±0,15	36±0,15	35,6±0,15	35±0,15	34,4±0,15	34±0,15	33±0,15	32±0,15
42			40±0,20	39,6±0,20	39±0,20	38,4±0,20	38±0,20	37,6±0,20	37±0,20	36,4±0,20	36±0,20	35±0,20	34±0,20
45			43±0,20	42,6±0,20	42±0,20	41,4±0,20	41±0,20	40,6±0,20	40±0,20	39,4±0,20	39±0,20	38±0,20	37±0,20
48			46±0,20	45,6±0,20	45±0,20	44,4±0,20	44±0,20	43,6±0,20	43±0,20	42,4±0,20	42±0,20	41±0,20	40±0,20
50			48±0,20	47,6±0,20	47±0,20	46,4±0,20	46±0,20	45,6±0,20	45±0,20	44,4±0,20	44±0,20	43±0,20	42±0,20
55			53±0,25	52,6±0,25	52±0,25	51,4±0,25	51±0,25	50,6±0,25	50±0,25	49,4±0,25	49±0,25	48±0,25	47±0,25
60			58±0,25	57,6±0,25	57±0,25	56,4±0,25	56±0,25	55,6±0,25	55±0,25	54,4±0,25	54±0,25	53±0,25	52±0,25
65			63±0,30	62,6±0,30	62±0,30	61,4±0,30	61±0,30	60,6±0,30	60±0,30	59,4±0,30	59±0,30	58±0,30	57±0,30
70			68±0,30	67,6±0,30	67±0,30	66,4±0,30	66±0,30	65,6±0,30	65±0,30	64,4±0,30	64±0,30	63±0,30	62±0,30
75			73±0,35	72,6±0,35	72±0,35	71,4±0,35	71±0,35	70,6±0,35	70±0,35	69,4±0,35	69±0,35	68±0,35	67±0,35
80			78±0,35	77,6±0,35	77±0,35	76,4±0,35	76±0,35	75,6±0,35	75±0,35	74,4±0,35	74±0,35	73±0,35	72±0,35
85					82±0,40	81,4±0,40	81±0,40	80,6±0,40	80±0,40	79,4±0,40	79±0,40	78±0,40	77±0,40
90					87±0,40	86,4±0,40	86±0,40	85,6±0,40	85±0,40	84,4±0,40	84±0,40	83±0,40	82±0,40
95							91±0,45	90,6±0,45	90±0,45	89,4±0,45	89±0,45	88±0,45	87±0,45
100							96±0,45	95,6±0,45	95±0,45	94,4±0,45	94±0,45	93±0,45	92±0,45
110							106±0,50	105,6±0,50	105±0,50	104,4±0,50	104±0,50	103±0,50	102±0,50
120							116±0,50	115,6±0,50	115±0,50	114,4±0,50	114±0,50	113±0,50	112±0,50
130									125±0,70	124,4±0,70	124±0,70	123±0,70	122±0,70
140									135±0,70	134,4±0,70	134±0,70	133±0,70	132±0,70
150											144±0,80	143±0,80	142±0,80
160											154±0,80	153±0,80	152±0,80
170											164±0,90	163±0,90	162±0,90
180												173±0,90	172±0,90
190												183±1,0	182±1,0
200												193±1,0	192±1,0
220													
240													
260													

Seamless precision tubes are made of E235, E355 steel. We supply the tubes in commercial lengths of from 2 to 9 m or in strict lengths. Wall thickness tolerances are specified in the standards.

Printed by authorization of the President of the Polish Standardization Committee, authorization No 3/P/2012.
Original copies of the standards were purchased from the Polish Standardization Committee (www.pkn.pl)

[illegible]

Carbon steel. Welded tubes



Services

- Saw cutting
- Shot blasting
- Anticorrosive protection
- Threading
- Beveling
- Marking
- 3D cutting

Product	Standard	Grade
Structural tubes		
Structural hollow sections made of low-alloy and fine-grain cold-formed structural steel	EN 10219	S235JRH S275J0H / MH / MLH S355J2H / K2H / MH / MLH S420MH / MLH S460MH / MLH
Structural hollow sections made of low-alloy and fine-grain hot-formed structural steel	EN 10210	S235JRH S275J0H / NH / NLH S355J2H / K2H / NH / NLH S420NH / NLH S460NH / NLH
Pipes for pressure application		
Non-alloy steel pipes and fittings for water and other aqueous fluid transport	EN 10224	L235 L275 L355
Non-alloy steel pipes for welding and threading	EN 10255	S195T
Welded steel pipes for pressure applications	EN 10217	
Non-alloy steel pipes having specific properties at room temperature	EN 10217-1	P195TR1 / TR2
		P235TR1 / TR2
		P265TR1 / TR2
Electrically welded non-alloy and alloy steel pipes having specific properties at higher temperature	EN 10217-2	P195GH
		P235GH
		P265GH
		16Mo3
Fine-grain alloy steel pipes	EN 10217-3	P275NL1 / NL2
		P355N / NH / NL1 / NL2
		P460N / NH / NL1 / NL2
Electrically welded non-alloy steel pipes having specific properties at low temperature	EN 10217-4	P215NL P265NL
Electric-welded non-alloy and alloy steel pipes having specific properties at higher temperature	EN 10217-5	P235GH
		P265GH
		16Mo3
Submerged arc-welded non-alloy and alloy steel pipes having specific properties at reduced temperature	EN 10217-6	P215NL P265NL
Pipes for combustible fluids		
Line pipes for gas and combustible media	EN 10208-2 ISO 3183	L245NB / MB
		L290NB / MB
		L360NB / MB
		L415NB / MB
		L450MB
		L485MB L555MB
Line pipes for use in pipeline transportation systems in the petroleum and gas industries	API Spec 5L	A25CL - I / II
		A
		B
		X42
		X46 / X52 X56 / X60

Carbon steel. Welded tubes and profiles

Welded tubes

Welded tube rolling

- hot
- cold

Tube fabrication process

- electric resistance welding (ERW or HFI)
- submerged arc welding (SAW):
with longitudinal weld (SAWL)
with spiral weld (SAWH)

Type of tube surface

- black
- zinc-coated as per EN 10240 grade A1 - made of zinc-coated strips
- coated

Available stock sizes vary from Ø 17,2 to Ø 1420 mm (also with internal bleed removed)

- **structural tubes** (in grades S235JRH, S355J2H)
- **pressure pipes** (from 3/8" to 40" in light, medium and heavy range, lengths: 6,000, 7,000 and 12,000 mm)
- **pipes for threading**
- **welded precision tubes** as per EN 10305-2, EN 10305-3 in such grades as e.g. E220, E260, E320.

Application

Welded structural pipes – for various types of steel structures and equipment

Welded pressure pipes – for pipeline construction, transport of fluids, gases and their mixtures.

Surface protection

- zinc-coating
Carefully selected chemical contents enable hot-dip galvanizing of the tubes.
In effect, an even and shiny zinc layer is formed. The entire tube and profile portfolio can be zinc-coated
- coatings
The most broadly used ones are three-layer polyethylene corrosion-resistant coating (3 LPE standard and enhanced), fabricated as per DIN 30670, extruded and applied hot, or as per DIN 30672 and multiple-layer strip internal insulation, hot or cold applied.
- paint coating

$$\text{Theoretical weight per 1 m of the tube} = \frac{(\text{diameter} - \text{wall}) \times \text{wall}}{40,5}$$



Services

- Saw cutting
- Shot blasting
- Anticorrosive protection
- Threading
- Beveling
- Marking
- 3D cutting

Structural hollow sections

Grades

- Non-alloy structural steel
S235JRH, S275J0H, S275J2H, S355J0H, S355J2H, S355K2H,
- Fine-grain structural steel
(required minimum order quantities)
S275NH, S275NLH, S355NH, S355NLH, S460NH, S460NLH,

Lengths in stock

L=6 000 mm, L=12 000 mm

Application

- Civil structure members (columns, floor beams, purlins, external walls)
- Car and pipeline bridges
- Telecom poles, notice board and lighting poles
- Bridges, platforms, stairs, railings, barriers, banisters
- Greenhouse, container, tank frames
- Parts of cranes, lifts, conveyors and platforms
- Parts of agricultural machines and vehicles (body frames, trailers, semi-trailers, railway car and ship parts)
- Ducts, parts of A/C equipment and fire protection systems
- Scaffolding, warehouse racks



Services

- Saw cutting
- Shot blasting
- Anticorrosive protection
- Grinding
- Marking
- 3D cutting

Cold-formed open sections as per EN 10162

- C-sections
- lipped C-sections
- angles

Broad range of dimensions.

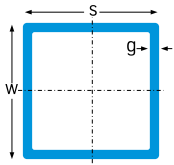
Short turnaround times for non-standard dimensions.



Services

- Saw cutting
- Shot blasting
- Anticorrosive protection
- Grinding
- Marking
- 3D cutting

Carbon steel. Structural hollow sections



Services

- Saw cutting
- Shot blasting
- Anticorrosive protection
- Grinding
- Marking
- 3D cutting

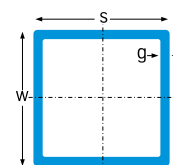
Square sections

Dimen- sions s x w (mm)	Wall thickness g in mm					Cold-formed as per EN 10219 Hot-finished as per EN 10210	
	1,5	2,0	3,0	4,0	5,0	6,0	6,3
Theoretical weight kg/m							
15 x 15	0,59	0,74					
20 x 20	0,83	1,05	1,42				
25 x 25	1,06	1,36	1,89				
30 x 30	1,30	1,68	2,36	2,94			
40 x 40	1,77	2,31	3,30	4,20	4,99		
40 x 40			3,41	4,39	5,28	6,10	6,33
50 x 50	2,24	2,93	4,25	5,45	6,56	7,56	7,57
50 x 50			4,35	5,64	6,85	7,99	8,31
60 x 60		3,56	5,19	6,71	8,13	9,45	9,55
60 x 60			5,29	6,90	8,42	9,87	10,30
70 x 70		4,19	6,13	7,97	9,70	11,33	11,53
70 x 70			6,24	8,15	9,99	11,75	12,27
80 x 80		4,82	7,07	9,22	11,27	13,21	13,51
80 x 80			7,18	9,41	11,56	13,64	14,25
90 x 90		5,45	8,01	10,48	12,84	15,10	15,49
90 x 90			8,12	10,67	13,13	15,52	16,22
100 x 100		6,07	8,96	11,73	14,41	16,98	17,47
100 x 100				11,92	14,70	17,41	18,20
110 x 110			9,90	12,99	15,98	18,47	19,44
110 x 110				13,18	16,27	19,29	20,18
120 x 120			10,84	14,25	17,55	20,75	21,42
120 x 120				14,43	17,84	21,17	22,16
130 x 130			11,78	15,50	19,12	22,63	23,40
130 x 130					19,41		24,14
140 x 140			12,72	16,76	20,69	24,52	25,38
140 x 140				16,95	21,98	24,94	26,11
150 x 150			13,67	18,01	22,26	26,40	27,36
150 x 150					22,55	26,83	28,09
160 x 160			14,61	19,27	23,83	28,29	29,34
160 x 160					24,12	28,71	30,07
180 x 180			16,49	21,78	26,97	32,05	33,29
180 x 180					27,26	32,48	34,03
200 x 200			18,38	24,29	30,11	35,82	37,25
200 x 200					30,40	36,25	37,98
220 x 220				26,81	33,25	39,59	41,20
220 x 220					33,54	40,01	41,94
250 x 250				30,57	37,96	45,24	47,14
250 x 250					38,25	45,67	47,87
260 x 260				31,83	39,53	47,13	49,12
260 x 260						47,55	49,85
300 x 300					45,81	54,66	57,03
300 x 300						55,09	57,77
350 x 350							64,08
350 x 350							67,66

The standard dimensional range was indicated. Warehouse stock covers certain dimensions only.

Carbon steel. Structural hollow sections

Square sections							
Dimen- sions s x w (mm)	Wall thickness g in mm						
	8,0	8,8	10,0	12,5	14,2	16,0	20,0
	Theoretical weight kg/m						
50 x 50	8,83						
50 x 50	10,01						
60 x 60	11,34						
60 x 60	12,52	13,50					
70 x 70	13,85	14,82	16,14				
70 x 70	15,04	16,25					
80 x 80	16,36	17,59	19,28				
80 x 80	17,55	19,02	21,14				
90 x 90	18,87	20,35	22,42				
90 x 90	20,06	21,78	24,28				
100 x 100	21,39	23,11	25,56	29,08			
100 x 100	22,57	24,55	27,42	33,03			
110 x 110	23,90	25,88	28,70				
110 x 110	25,08	27,31	30,56	36,95	41,02		
120 x 120	26,41	28,64	31,84	36,93			
120 x 120	27,60	30,07	33,70	40,88			
130 x 130	28,92	31,40	34,98	40,85			
130 x 130	30,11	32,84	36,84	44,80	49,93	55,12	
140 x 140	31,43	34,17	38,12	44,78			
140 x 140	32,62	35,60	39,98	48,73	54,39	60,13	
150 x 150	33,95	36,93	41,26	48,70		58,70	
150 x 150	35,13	38,36	43,12	52,65	58,85	65,17	
160 x 160	36,46	39,69	44,40	52,63		63,70	
160 x 160	37,64	41,13	46,26	56,58	63,31	70,19	
180 x 180	41,48	45,22	50,68	60,48		73,80	
180 x 180	42,67	46,65	52,54	64,43	72,23	80,24	
200 x 200	46,51	50,75	56,96	68,33		83,80	
200 x 200	47,69	52,18	58,82	72,28	81,15	90,28	
220 x 220	51,53	56,27	63,24	76,18	84,97	93,90	
220 x 220	52,72	57,71	65,10	80,13	90,06	100,33	
250 x 250	59,07	64,56	72,66	87,95	98,34	109,00	
250 x 250	60,25	66,00	74,52	91,90	103,44	115,41	
260 x 260	61,58	67,32	75,80	91,88	102,80	114,00	
260 x 260	62,76	68,76	77,66	95,83	107,90	120,43	
300 x 300	71,63	78,38	88,36	107,58	120,64	134,06	
300 x 300	72,81	79,81	90,22	111,53	125,73	140,53	
350 x 350	84,19	92,19	104,06	127,20	142,93	159,18	
350 x 350	85,37	93,63	105,92	131,15	148,03	165,65	
400 x 400	96,75	106,01	119,76	146,83	165,23	184,30	225,16
400 x 400	97,93	107,44	121,62	150,78	170,32	190,77	235,27

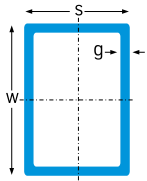


Services

- Saw cutting
- Shot blasting
- Anticorrosive protection
- Grinding
- Marking
- 3D cutting

The standard dimensional range was indicated. Warehouse stock covers certain dimensions only.

Carbon steel. Structural hollow sections



Services

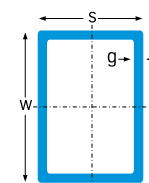
- Saw cutting
- Shot blasting
- Anticorrosive protection
- Grinding
- Marking
- 3D cutting

Rectangular profiles										
Dimen- sions s x w (mm)	Wall thickness g in mm									
	1,5	2,0	3,0	4,0	5,0	6,0	6,3	8,0	8,8	10,0
Theoretical weight kg/m										
30 x 10	0,83	1,05								
30 x 15	0,94	1,21	1,65							
30 x 18	1,01	1,30	1,80							
30 x 20	1,06	1,36	1,89							
40 x 20	1,30	1,68	2,36							
40 x 25		1,83	2,60							
40 x 27		1,90	2,69							
45 x 20		1,83	2,60							
50 x 30	1,77	2,31	3,30	4,20						
60 x 30	2,00	2,62	3,77	4,83						
60 x 40	2,24	2,93	4,25	5,45	6,56	7,56				
60 x 40				5,64	6,85	7,99	8,31			
70 x 40		3,25	4,72	6,08	7,34	8,50				
70 x 40				6,27	7,64	8,93				
70 x 50		3,56	5,19	6,71	8,13	9,45				
70 x 50				6,90	8,42	9,87	10,29			
80 x 20		2,93	4,25	5,45	6,56	7,56				
80 x 30		3,25	4,72	6,08	7,34	8,50				
80 x 40		3,56	5,19	6,71	8,13	9,45				
80 x 40				6,90	8,42	9,87	10,29			
80 x 50		3,88	5,66	7,34	8,91	10,39				
80 x 50				7,53	9,21	10,81	11,28			
80 x 60		4,19	6,13	7,97	9,70	11,33				
80 x 60				8,15	9,99	11,75	12,27	15,04		
90 x 50		4,19	6,13	7,97	9,70	11,33				
90 x 50				8,15	9,99	11,75	12,27	15,04		
100 x 40		4,19	6,13	7,97	9,70	11,33				
100 x 40				8,15	9,99	11,75	12,27	15,04		
100 x 50		4,50	6,60	8,59	10,48	12,27	12,52	15,11		
100 x 50				8,78	10,78	12,70	13,26	16,29	17,64	
100 x 60		4,82	7,07	9,22	11,27	13,21	13,51	16,36	17,59	19,28
100 x 60				9,41	11,56	13,64	14,25	17,55	19,02	21,14
100 x 80		5,45	8,01	10,48	12,84	15,10	15,49	18,87	20,35	22,42
100 x 80				10,67	13,13	15,52	16,22	20,06	21,78	24,28
120 x 40		4,82	7,07	9,22	11,27	13,21				
120 x 40				9,41	11,56	13,64	14,25	17,55		
120 x 60		5,45	8,01	10,48	12,84	15,10	15,49	18,87	20,35	22,42
120 x 60				10,67	13,13	15,52	16,22	20,06	21,78	24,28
120 x 80		6,07	8,96	11,73	14,41	16,98	17,47	21,39	23,11	25,56
120 x 80				11,92	14,70	17,41	18,20	22,57	24,55	27,42

The standard dimensional range was indicated. Warehouse stock covers certain dimensions only.

Carbon steel. Structural hollow sections

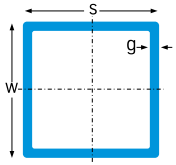
Rectangular profiles												
Dimensions s x w (mm)	Wall thickness g in mm											
	3,0	4,0	5,0	6,0	6,3	8,0	8,8	10,0	12,5	14,2	16,0	20,0
Theoretical weight kg/m												
140 x 70	9,43	12,36	15,19	17,92	18,46	22,64						
140 x 70		12,55	15,49	18,35	19,19	23,83	25,93	28,99				
140 x 80	9,90	12,99	15,98	18,87	19,44	23,90	25,88	28,70				
140 x 80		13,18	16,27	19,29	20,18	25,08	27,31	30,56				
150 x 50		11,73	14,41	16,98	17,47	21,39						
150 x 50		11,92	14,70	17,41	18,20	22,57	24,55	27,42				
150 x 100	11,31	14,87	18,33	21,69	22,41	27,67	30,02	33,41				
150 x 100		15,06	18,63	22,12	23,15	28,85	31,46	35,27	42,84			
160 x 80	10,84	14,25	17,55	20,75	21,42	26,41	28,64	31,84				
160 x 80		14,43	17,84	21,17	22,16	27,60	30,07	33,70	40,88			
160 x 90		14,87	18,33	21,69	22,41	27,67	30,02	33,41				
160 x 90		15,06	18,63	22,12	23,15	28,85	31,46	35,27	42,84			
180 x 60	10,84	14,25	17,55	20,75	21,42	26,41	28,64	31,84				
180 x 60			17,84	21,17	22,16	27,60	30,07	33,70	40,88			
180 x 80	11,78	15,50	19,12	22,63	23,40	28,92	31,40	34,98				
180 x 80			19,41	23,06	24,14	30,11	32,84	36,84	44,80			
180 x 100	12,72	16,76	20,69	24,52	25,38	31,43	34,17	38,12				
180 x 100			20,98	24,94	26,11	32,62	35,60	39,98	48,73			
200 x 100	13,67	18,01	22,26	26,40	27,36	33,95	36,93	41,26	48,70			
200 x 100			22,55	26,83	28,09	35,13	38,36	43,12	52,65	58,85	65,17	
200 x 120			23,83	28,29	29,34	36,46	39,69	44,40	52,63			
200 x 120			24,12	28,71	30,07	37,64	41,13	46,26	56,58	63,31	70,19	
200 x 150	16,02	21,15	26,18	31,11	32,30	40,23	43,84	49,11	58,52			
200 x 150			26,48	31,54	33,04	41,41	45,27	50,97	62,47	70,00	77,73	
220 x 120		20,53	25,40	30,17	31,31	38,97	42,46	47,54	56,55			
220 x 120			25,69	30,59	32,05	40,16	43,89	49,40	60,50	67,77	75,21	
250 x 100	16,02	21,15	26,18	31,11	32,30	40,23	43,84	49,11	58,52			
250 x 100			26,48	31,54	33,04	41,41	45,27	50,97	62,47	70,00	77,73	
250 x 150		24,29	30,11	35,82	37,25	46,51	50,75	56,96	68,33			
250 x 150			30,40	36,25	37,98	47,69	52,18	58,82	72,28	81,15	90,29	
260 x 140				35,82	37,25	46,51	50,75	56,96	68,33			
260 x 140					37,98	47,69	52,18	58,82	72,28	81,15	90,29	
260 x 180				39,59	41,20	51,53	56,27	63,24	76,18			
260 x 180					41,94	52,72	57,71	65,10	80,13	90,06	100,33	
300 x 100		24,29	30,11	35,82	37,25	46,51	50,75	56,96	68,33			
300 x 100			30,40	36,25	37,98	47,69	52,18	58,82	72,28	81,15	90,29	
300 x 150				40,53	42,19	52,79	57,65	64,81	78,14			
300 x 150					42,93	53,97	59,09	66,67	82,09	92,29	102,85	
300 x 200		30,57	37,96	45,24	47,14	59,07	64,56	72,66	87,95			
300 x 200			38,25	45,67	47,87	60,25	66,00	74,52	91,90	103,44	115,41	
350 x 250					57,03	71,63	78,38	88,36	107,58			
350 x 250					57,77	72,81	79,81	90,22	111,53	125,73	140,53	
400 x 200				54,66	57,03	71,63	78,38	88,36	107,58			
400 x 200					57,77	72,81	79,81	90,22	111,53	125,73	140,53	
400 x 300				64,08	66,92	84,19	92,19	104,06	127,20	142,93	159,18	
400 x 300					67,66	85,37	93,63	105,92	131,15	148,03	165,65	
450 x 250				64,08	66,92	84,19	92,19	104,06	127,20	142,93	159,18	
450 x 250					67,66	85,37	93,63	105,92	131,15	148,03	165,65	
500 x 300						96,75	106,01	119,76	146,83	165,23	184,30	225,16
500 x 300						97,93	107,44	121,62	150,78	170,32	190,77	235,27



Services

- Saw cutting
- Shot blasting
- Anticorrosive protection
- Grinding
- Marking
- 3D cutting

Carbon steel. Precision hollow sections



Services

- Saw cutting
- Shot blasting
- Anticorrosive protection
- Grinding
- Marking
- 3D cutting

Square profiles as per EN 10305-5 (as per DIN 2395)

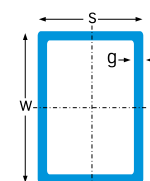
Dimensions w x s x g mm	Theoretical weight kg/m	Dimensions w x s x g mm	Theoretical weight kg/m
15 x 15 x 1,50	0,63	60 x 60 x 2,00	3,64
15 x 15 x 2,00	0,81	60 x 60 x 2,50	4,50
20 x 20 x 1,50	0,87	60 x 60 x 3,00	5,22
20 x 20 x 2,00	1,12	60 x 60 x 4,00	6,76
20 x 20 x 2,50	1,33	60 x 60 x 5,00	8,13
20 x 20 x 3,00	1,60	70 x 70 x 2,00	4,26
25 x 25 x 1,50	1,10	70 x 70 x 2,50	5,29
25 x 25 x 2,00	1,44	70 x 70 x 3,00	6,16
25 x 25 x 2,50	1,76	70 x 70 x 4,00	8,02
25 x 25 x 3,00	1,92	70 x 70 x 5,00	9,70
30 x 30 x 1,50	1,34	80 x 80 x 2,00	4,89
30 x 30 x 2,00	1,75	80 x 80 x 2,50	6,07
30 x 30 x 2,50	2,15	80 x 80 x 3,00	7,10
30 x 30 x 3,00	2,39	80 x 80 x 4,00	9,28
30 x 30 x 4,00	3,32	80 x 80 x 5,00	11,30
35 x 35 x 1,50	1,57	90 x 90 x 3,00	8,04
35 x 35 x 2,00	2,07	90 x 90 x 4,00	10,50
35 x 35 x 2,50	2,54	90 x 90 x 5,00	12,80
35 x 35 x 3,00	2,86	100 x 100 x 2,00	6,15
40 x 40 x 1,50	1,81	100 x 100 x 3,00	8,99
40 x 40 x 2,00	2,38	100 x 100 x 4,00	11,80
40 x 40 x 2,50	2,93	100 x 100 x 5,00	14,40
40 x 40 x 3,00	3,33		
40 x 40 x 4,00	4,25		
45 x 45 x 1,50	2,05		
45 x 45 x 2,00	2,69		
45 x 45 x 2,50	3,33		
45 x 45 x 3,00	3,80		
45 x 45 x 4,00	4,88		
50 x 50 x 1,50	2,28		
50 x 50 x 2,00	3,01		
50 x 50 x 2,50	3,72		
50 x 50 x 3,00	4,28		
50 x 50 x 4,00	5,51		
50 x 50 x 5,00	6,56		

The standard dimensional range was indicated. Warehouse stock covers certain dimensions only.

Carbon steel. Precision hollow sections

Square profiles as per EN 10305-5 (as per DIN 2395)

Dimensions w x s x g mm	Theoretical weight kg/m	Dimensions w x s x g mm	Theoretical weight kg/m	Dimensions w x s x g mm	Theoretical weight kg/m
20 x 10 x 1,50	0,63	50 x 25 x 1,50	1,69	80 x 20 x 2,00	3,01
20 x 10 x 2,00	0,81	50 x 25 x 2,00	2,22	80 x 20 x 3,00	4,28
20 x 15 x 1,50	0,75	50 x 25 x 2,50	2,74	80 x 30 x 2,00	3,32
20 x 15 x 2,00	0,97	50 x 25 x 3,00	3,10	80 x 30 x 3,00	4,75
25 x 15 x 1,50	0,87	50 x 30 x 1,50	1,81	80 x 30 x 4,00	6,14
25 x 15 x 2,00	1,12	50 x 30 x 2,00	2,38	80 x 40 x 2,00	3,64
30 x 10 x 1,50	0,87	50 x 30 x 2,50	2,93	80 x 40 x 3,00	5,22
30 x 10 x 2,00	1,12	50 x 30 x 3,00	3,33	80 x 40 x 4,00	6,76
30 x 15 x 1,50	0,99	50 x 30 x 4,00	4,25	80 x 50 x 2,00	3,95
30 x 15 x 2,00	1,28	50 x 34 x 2,00	2,51	80 x 50 x 3,00	5,69
30 x 15 x 3,00	1,84	50 x 40 x 1,50	2,05	80 x 50 x 4,00	7,39
30 x 20 x 1,50	1,10	50 x 40 x 2,00	2,69	80 x 60 x 2,00	4,26
30 x 20 x 2,00	1,44	50 x 40 x 2,50	3,33	80 x 60 x 3,00	6,16
30 x 20 x 2,50	1,76	50 x 40 x 3,00	3,80	80 x 60 x 4,00	8,02
30 x 20 x 3,00	1,92	50 x 40 x 4,00	4,88	100 x 20 x 2,00	3,64
30 x 25 x 2,00	1,59	55 x 34 x 2,00	2,66	100 x 20 x 3,00	6,22
35 x 15 x 2,00	1,44	60 x 20 x 1,50	1,81	100 x 30 x 3,00	5,69
35 x 15 x 2,50	1,76	60 x 20 x 2,00	2,38	100 x 30 x 4,00	7,39
35 x 20 x 1,50	1,22	60 x 20 x 3,00	3,33	100 x 40 x 2,00	4,26
35 x 20 x 2,00	1,59	60 x 30 x 1,50	2,05	100 x 40 x 3,00	6,16
35 x 25 x 2,00	1,75	60 x 30 x 2,00	2,69	100 x 40 x 4,00	8,02
35 x 25 x 2,50	2,15	60 x 30 x 2,50	3,33	100 x 50 x 2,00	4,58
35 x 25 x 3,00	2,39	60 x 30 x 3,00	3,80	100 x 50 x 3,00	6,63
40 x 10 x 1,50	1,10	60 x 40 x 1,50	2,27	100 x 50 x 4,00	8,65
40 x 10 x 2,00	1,44	60 x 40 x 2,00	3,01	100 x 50 x 5,00	10,05
40 x 15 x 1,50	1,22	60 x 40 x 2,50	3,72	100 x 60 x 3,00	7,1
40 x 15 x 2,00	1,59	60 x 40 x 3,00	4,28	100 x 60 x 4,00	9,28
40 x 20 x 1,50	1,34	60 x 40 x 4,00	5,51	100 x 60 x 5,00	11,3
40 x 20 x 2,00	1,75	60 x 50 x 2,00	3,32	100 x 80 x 3,00	8,04
40 x 20 x 2,50	2,15	60 x 50 x 2,50	4,11	100 x 80 x 4,00	10,50
40 x 25 x 1,50	1,46	60 x 50 x 3,00	4,75	100 x 80 x 5,00	12,80
40 x 25 x 2,00	1,91	70 x 20 x 2,00	2,69	120 x 40 x 2,00	4,89
40 x 25 x 2,50	2,34	70 x 20 x 3,00	3,80	120 x 40 x 3,00	7,10
40 x 25 x 3,00	2,63	70 x 30 x 2,00	3,01	120 x 40 x 4,00	9,28
40 x 30 x 1,50	1,57	70 x 30 x 3,00	4,28	120 x 40 x 5,00	11,30
40 x 30 x 2,00	2,07	70 x 30 x 4,00	5,51	120 x 60 x 2,00	5,52
40 x 30 x 2,50	2,54	70 x 40 x 2,00	3,32	120 x 60 x 3,00	8,04
40 x 30 x 3,00	2,86	70 x 40 x 3,00	4,75	120 x 60 x 4,00	10,50
45 x 25 x 2,00	2,07	70 x 40 x 4,00	6,14	120 x 60 x 5,00	12,80
50 x 20 x 1,50	1,57	70 x 40 x 5,00	7,34	120 x 80 x 3,00	8,99
50 x 20 x 2,00	2,07	70 x 50 x 2,00	3,64	120 x 80 x 4,00	11,80
50 x 20 x 3,00	2,86	70 x 50 x 3,00	5,22	120 x 80 x 5,00	14,40
		70 x 50 x 4,00	6,76		

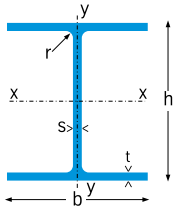


Services

- Saw cutting
- Shot blasting
- Anticorrosive protection
- Grinding
- Marking
- 3D cutting

The standard dimensional range was indicated. Warehouse stock covers certain dimensions only.

Carbon steel. Hot-rolled sections



Services

- Saw cutting
- Shot blasting
- Anticorrosive protection
- Grinding

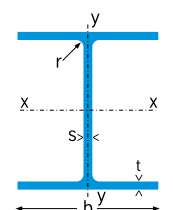
Wide flange beams, tolerances EN 10034

EN	Dimensions						Cross-sectional area	Theoretical weight	Section properties			
	h	b	s	t	r	lx			ly	Wx	Wy	
	mm					cm ⁴			cm ³			
HEA	100	96	100	5	8	12	21,2	16,7	349	134	72,8	26,8
HEB	100	100	100	6	10	12	26,0	20,4	450	167	89,9	33,5
HEM	100	120	106	12	20	12	53,2	41,8	1140	399	190	75,3
HEA	120	114	120	5	8	12	25,3	19,9	606	231	106	38,5
HEB	120	120	120	6,5	11	12	34,0	26,7	864	318	144	52,9
HEM	120	140	126	12,5	21	12	66,4	52,1	2020	703	288	112
HEA	140	133	140	5,5	8,5	12	31,4	24,7	1030	389	155	55,6
HEB	140	140	140	7	12	12	43,0	33,7	1510	550	216	78,5
HEM	140	160	146	13	22	12	80,6	63,2	3290	1140	411	157
HEA	160	152	160	6	9	15	38,8	30,4	1670	616	220	76,9
HEB	160	160	160	8	13	15	54,3	42,6	2490	889	311	111
HEM	160	180	166	14	23	15	97,1	76,2	5100	1760	566	212
HEA	180	171	180	6	9,5	15	45,3	35,5	2510	925	294	103
HEB	180	180	180	8,5	14	15	65,3	51,2	3830	1360	426	151
HEM	180	200	186	14,5	24	15	113	88,9	7480	2580	748	277
HEA	200	190	200	6,5	10	18	53,8	42,3	3690	1340	389	134
HEB	200	200	200	9	15	18	78,1	61,3	5700	2000	570	200
HEM	200	220	206	15	25	18	131	103	10640	3650	967	354
HEA	220	210	220	7	11	18	64,3	50,5	5410	1950	515	178
HEB	220	220	220	9,5	16	18	91,0	71,5	8090	2840	736	258
HEM	220	240	226	15,5	26	18	149	117	14600	5010	1220	444
HEA	240	230	240	7,5	12	21	76,8	60,3	7760	2770	675	231
HEB	240	240	240	10	17	21	106	83,2	11260	3920	938	327
HEM	240	270	248	18	32	21	200	157	24290	8150	1800	657
HEA	260	250	260	7,5	12,5	24	86,8	68,2	10450	3670	836	282
HEB	260	260	260	10	17,5	24	118	93,0	14920	5130	1150	395
HEM	260	290	268	18	32,5	24	220	172	31310	10450	2160	780
HEA	280	270	280	8	13	24	97,3	76,4	13670	4760	1010	340
HEB	280	280	280	10,5	18	24	131	103	19270	6590	1380	471
HEM	280	310	288	18,5	33	24	240	189	39550	13160	2550	914
HEA	300	290	300	8,5	14	27	113	88,3	18260	6310	1260	421
HEB	300	300	300	11	19	27	149	117	25170	8560	1680	571
HEM	300	340	310	21	39	27	303	238	59200	19400	3480	1250
HEA	320	310	300	9	15,5	27	124	97,6	22930	6990	1480	466
HEB	320	320	300	11,5	20,5	27	161	127	30820	9240	1930	616
HEM	320	359	309	21	40	27	312	245	68135	19709	3796	1276
HEA	340	330	300	9,5	16,5	27	133	105	27690	7440	1680	496
HEB	340	340	300	12	21,5	27	171	134	36660	9690	2160	646
HEM	340	377	309	21	40	27	316	248	76370	19710	4050	1280
HEA	360	350	300	10	17,5	27	143	112	33090	7890	1890	526
HEB	360	360	300	12,5	22,5	27	181	142	43190	10140	2400	676
HEM	360	395	308	21	40	27	319	250	84870	19520	4300	1270
HEA	400	390	300	11	19	27	159	125	45070	8560	2310	571
HEB	400	400	300	13,5	24	27	198	155	57680	10820	2880	721
HEM	400	432	307	21	40	27	326	256	104100	19340	4820	1260

Carbon steel. Hot-rolled sections

Wide flange beams, tolerances EN 10034

EN		h	b	Dimensions				Cross-sectional area	Theoretical weight		Section properties		
				s	t	r	cm ²			I _x	I _y	W _x	W _y
				mm				kg/m		cm ⁴		cm ³	
HEA	450	440	300	11,5	21	27	178	140	63720	9470	2900	631	
HEB	450	450	300	14	26	27	218	171	79890	11720	3550	781	
HEM	450	478	307	21	40	27	335	263	131500	19340	5500	1260	
HEA	500	490	300	12	23	27	198	155	86970	10370	3550	691	
HEB	500	500	300	14,5	28	27	239	187	107200	12620	4290	842	
HEM	500	524	306	21	40	27	344	270	161900	19150	6180	1250	
HEA	550	540	300	12,5	24	27	212	166	111900	10820	4150	721	
HEB	550	550	300	15	29	27	254	199	136700	13080	4970	872	
HEM	550	572	306	21	40	27	354	278	198000	19160	6920	1250	
HEA	600	590	300	13	25	27	226	178	141200	11270	4790	751	
HEB	600	600	300	15,5	30	27	270	212	171000	13530	5700	902	
HEM	600	620	305	21	40	27	364	285	237400	18980	7660	1270	
HEA	650	640	300	13,5	26	27	242	190	175200	11720	5470	782	
HEB	650	650	300	16	31	27	286	225	210600	13980	6480	932	
HEM	650	668	305	21	40	27	374	293	281700	18980	8430	1240	
HEA	700	690	300	14,5	27	27	260	204	215300	12180	6240	812	
HEB	700	700	300	17	32	27	306	241	256900	14440	7340	963	
HEM	700	716	304	21	40	27	383	301	329300	18800	9200	1240	
HEA	800	790	300	15	28	30	286	224	303400	12640	7680	843	
HEB	800	800	300	17,5	33	30	334	262	359100	14900	8980	994	
HEM	800	814	303	21	40	30	404	317	442600	18630	10870	1230	
HEA	900	890	300	16	30	30	321	252	422100	13550	9480	903	
HEB	900	900	300	18,5	35	30	371	291	494100	15820	10980	1050	
HEM	900	910	302	21	40	30	424	333	570400	18450	12540	1220	
HEA	1000	990	300	16,5	31	30	347	272	553800	14000	11190	934	
HEB	1000	1000	300	19	36	30	400	314	644700	16280	12890	1090	
HEM	1000	1008	302	21	40	30	444	349	722300	18460	14330	1220	

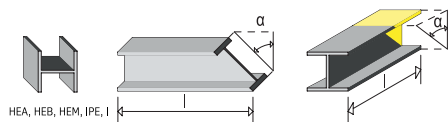


Services

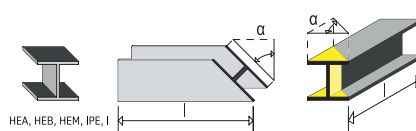
- Saw cutting
- Shot blasting
- Anticorrosive protection
- Grinding

I-beam cutting diagrams at an angle

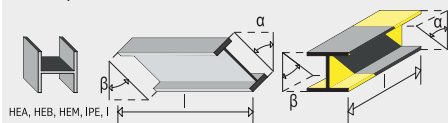
Form A, web horizontal



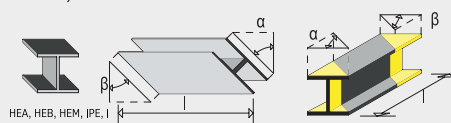
Form D, web vertical



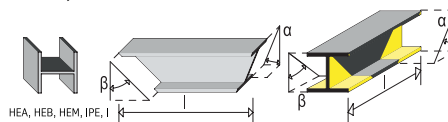
Form B, web horizontal



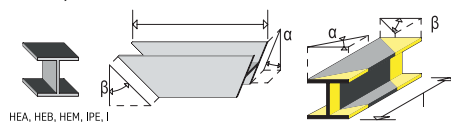
Form E, web vertical



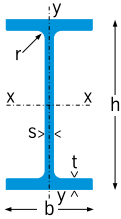
Form C, web horizontal



Form F, web vertical



Carbon steel. Hot-rolled sections

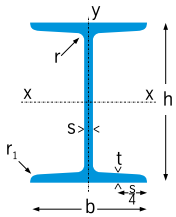


Services

- Saw cutting
- Shot blasting
- Anticorrosive protection
- Grinding

IPE beams, tolerances EN 10034

Marking	h	b	Dimensions		t	r	Cross-sectional area	Theoretical weight	I _x	Section properties		
			s							I _y	W _x	W _y
			mm				cm ²	kg/m		cm ⁴	cm ³	
IPE 80	80	46	3,8	5,2	5	7,64	6,0	80,1	8,49	20,0	3,69	
IPE 100	100	55	4,1	5,7	7	10,3	8,1	171	15,9	34,2	5,79	
IPE 120	120	64	4,4	6,3	7	13,2	10,4	318	27,7	53,0	8,65	
IPE 140	140	73	4,7	6,9	7	16,4	12,9	541	44,9	77,3	12,3	
IPE 160	160	82	5,0	7,4	9	20,1	15,8	869	68,3	109	16,7	
IPE 180	180	91	5,3	8,0	9	23,9	18,8	1320	101	146	22,2	
IPE 200	200	100	5,6	8,5	12	28,5	22,4	1940	142	194	28,5	
IPE 220	220	110	5,9	9,2	12	33,4	26,2	2770	205	252	37,3	
IPE 240	240	120	6,2	9,8	15	39,1	30,7	3890	284	324	47,3	
IPE 270	270	135	6,6	10,2	15	45,9	36,1	5790	420	429	62,2	
IPE 300	300	150	7,1	10,7	15	53,8	42,2	8360	604	557	80,5	
IPE 330	330	160	7,5	11,5	18	62,5	49,1	11770	788	713	98,5	
IPE 360	360	170	8,0	12,7	18	72,7	57,1	16270	1040	904	123,0	
IPE 400	400	180	8,6	13,5	21	84,5	66,3	23130	1320	1160	146,0	
IPE 450	450	190	9,4	14,6	21	98,8	77,6	33740	1680	1500	176,0	
IPE 500	500	200	10,2	16,0	21	116,0	90,7	48200	2140	1930	214,0	
IPE 550	550	210	11,1	17,2	24	134,0	106,0	67120	2670	2440	254,0	
IPE 600	600	220	12,0	19,0	24	156,0	122,0	92080	3387	3068	307,9	
IPE 750	753	265	13,2	17,0	17	188,0	147,0	106100	5289	4411	399,0	



Services

- Saw cutting
- Shot blasting
- Anticorrosive protection
- Grinding

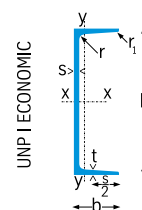
INP standard beams, tolerances EN 10024

Marking	h	b	Dimensions		t	r	r ₁	Cross-sectional area	Theoretical weight	I _x	Section properties		
			s								I _y	W _x	W _y
			mm					cm ²	kg/m		cm ⁴	cm ³	
INP 80	80	42	3,9	5,9	3,9	2,3	7,57	5,94	77,8	6,29	19,5	3,00	
INP 100	100	50	4,5	6,8	4,5	2,7	10,60	8,34	171,0	12,20	34,2	4,88	
INP 120	120	58	5,1	7,7	5,1	3,1	14,20	11,1	328,0	21,50	54,7	7,41	
INP 140	140	66	5,7	8,6	5,7	3,4	18,20	14,3	573,0	35,20	81,9	10,70	
INP 160	160	74	6,3	9,5	6,3	3,8	22,80	17,9	935,0	54,70	117,0	14,30	
INP 180	180	82	6,9	10,4	6,9	4,1	27,90	21,9	1450,0	81,30	161,0	19,80	
INP 200	200	90	7,5	11,3	7,5	4,5	33,40	26,2	2140,0	117,0	214,0	26,00	
INP 220	220	98	8,1	12,2	8,1	4,9	39,50	31,1	3060,0	162,0	278,0	33,10	
INP 240	240	106	8,7	13,1	8,7	5,2	46,10	36,2	4250,0	221,0	354,0	41,70	
INP 260	260	113	9,4	14,1	9,4	5,6	53,30	41,9	5740,0	288,0	442,0	51,00	
INP 300	300	125	10,8	16,2	10,8	6,5	69,00	54,2	9800,0	451,0	653,0	72,20	
INP 340	340	137	12,2	18,3	12,2	7,3	86,70	68,0	15700,0	674,0	923,0	98,40	
INP 360	360	143	13,0	19,5	13,0	7,8	97,00	76,1	19610,0	818,0	1090,0	114,00	
INP 400	400	155	14,4	21,6	14,4	8,6	118,00	92,4	29210,0	1160,0	1460,0	149,00	
INP450	450	170	16,2	24,3	16,2	9,7	147,00	115,0	45850,0	1730,0	2040,0	203,00	
INP 500	500	185	18,0	27,0	18,0	10,8	179,00	141,0	68740,0	2480,0	2750,0	268,00	
INP 550	550	200	19,0	30,0	19,0	11,9	212,00	166,0	99180,0	3490,0	3610,0	349,00	

Carbon steel. Hot-rolled sections

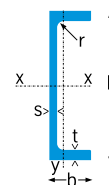
Standard channels UNP, channels with taper flanges C...E, channels with parallel flanges UPE, tolerances EN 10279

Marking	h	b	Dimensions				Cross-sectional area	Theoretical weight	I _x	Section properties		
			s	t	r	r ₁				I _y	W _x	W _y
	mm						cm ²	kg/m	cm ⁴		cm ³	
UNP 30	30	33	5,0	7,0	7,0	3,5	5,44	4,40	3,39	5,33	4,26	2,68
UNP 40	40	20	5,0	5,5	5,5	2,5	3,66	2,96	7,58	1,14	3,79	0,86
UNP 40	40	35	5,0	7,0	7,0	3,5	6,21	5,02	14,1	6,68	7,05	3,08
UNP 50	50	25	5,0	6,0	6,0	3,0	4,92	3,98	16,8	2,49	6,73	1,48
UNP 50	50	38	5,0	7,0	7,0	3,5	7,12	5,59	26,4	9,12	10,6	3,75
UNP 65	65	42	5,5	7,5	7,5	4,0	9,03	7,09	57,5	14,1	17,7	5,07
UNP 80	80	45	6,0	8,0	8,0	4,0	11,0	8,64	106,0	19,4	26,5	6,36
C 80 E	80	40	4,5	7,4	6,5	2,5	9,0	7,1	89,0	12,8	22,4	4,75
UPE 80	80	50	4,0	7,0	10,0		11,3	7,9	107,0	25,4	26,8	7,98
UNP 100	100	50	6,0	8,5	8,5	4,5	13,5	10,6	206,0	29,3	41,2	8,49
C 100 E	100	46	4,5	7,6	7,0	3,0	10,9	8,6	174,0	20,4	34,8	6,46
UPE 100	100	55	4,5	7,5	10,0		12,5	9,82	207,0	38,2	41,4	10,6
UNP 120	120	55	7,0	9,0	9,0	4,5	17,0	13,4	364,0	43,2	60,7	11,1
C 120 E	120	52	4,8	7,8	7,5	3,0	13,3	10,4	304,0	31,2	50,6	8,52
UPE 120	120	60	5,0	8,0	12,0		15,42	12,1	364,0	55,4	60,6	13,8
UNP 140	140	60	7,0	10,0	10,0	5,0	20,4	16,0	605,0	62,7	86,4	14,8
C 140 E	140	58	4,9	8,1	8,0	3,0	15,6	12,3	491,0	45,4	70,2	11,0
UPE 140	140	65	5,0	9,0	12,0		18,42	14,46	599,0	78,7	85,6	18,2
UNP 160	160	65	7,5	10,5	10,5	5,5	24,0	18,8	925,0	85,3	116,0	18,3
C 160 E	160	64	5,0	8,4	8,5	3,5	18,1	14,2	747,0	63,3	93,4	13,8
UPE 160	160	70	5,5	9,5	12,0		21,67	17,01	911,0	107,0	114,0	22,6
UNP 180	180	70	8,0	11,0	11,0	5,5	28,0	22,0	1350,0	114,0	150,0	22,4
C 180 E	180	70	5,1	8,7	9,0	3,5	20,7	16,3	1090,0	86,0	121,0	17,0
UPE 180	180	75	5,5	10,5	12,0		25,11	19,71	1353,0	144,0	150,0	28,6
UNP 200	200	75	8,5	11,5	11,5	6,0	32,2	25,3	1910,0	148,0	191,0	27,0
C 200 E	200	76	5,2	9,0	9,5	4,0	23,4	18,4	1520,0	113,0	152,0	20,5
UPE 200	200	80	6,0	11,0	13,0		29,01	22,77	1909,0	187,0	191,0	34,4
UNP 220	220	80	9,0	12,5	12,5	6,5	37,4	29,4	2690,0	197,0	245,0	33,6
UPE 220	220	85	6,5	12,0	13,0		33,87	26,58	2682,0	246,0	244,0	42,5
UNP 240	240	85	9,5	13,0	13,0	6,5	42,3	33,2	3600,0	248,0	300,0	39,6
UPE 240	240	90	7,0	12,5	15,0		38,52	30,23	3599,0	311,0	300,0	50,1
UNP 260	260	90	10,0	14,0	14,0	7,0	48,3	37,9	4820,0	317,0	371,0	47,7
UPE 270	270	95	7,5	13,5	15,0		44,84	35,2	5255,0	401,0	389,0	60,7
UNP 280	280	95	10,0	15,0	15,0	7,5	53,3	41,8	6280,0	399,0	448,0	57,2
UNP 300	300	100	10,0	16,0	16,0	8,0	58,8	46,2	8030,0	495,0	535,0	67,8
UPE 300	300	100	9,5	15,0	15,0		56,6	44,4	7823,0	538,0	522,0	75,6
UNP 320	320	100	14,0	17,5	17,5	8,75	75,8	59,5	10870,0	597,0	679,0	80,6
UPE 330	330	105	11,0	16,0	18,0		67,8	53,2	11008,0	681,0	667,0	89,7
UNP 350	350	100	14,0	16,0	16,0	8,0	77,3	60,6	12840,0	570,0	734,0	75,0
UPE 360	360	110	12,0	17,0	18,0		77,9	61,2	14825,0	844,0	824,0	105,0
UNP 380	380	102	13,5	16,0	16,0	8,0	80,4	63,1	15706,0	615,0	829,0	78,7
UNP 400	400	110	14,0	18,0	18,0	9,0	91,9	71,8	20350,0	846,0	1020,0	102,0
UPE 400	400	115	13,5	18,0	18,0		91,9	72,2	20981,0	1049,0	1049,0	123,0



Services

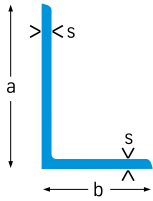
- Saw cutting
- Shot blasting
- Anticorrosive protection
- Grinding



Services

- Saw cutting
- Shot blasting
- Anticorrosive protection
- Grinding

Carbon steel. Hot-rolled merchant bars



Services

- Shot blasting
- Anticorrosive protection
- Grinding

Unequal leg angles, tolerances EN 10056

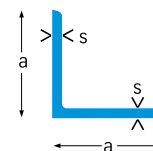
Dimensions a x b x s	Theoretical weight kg/m
30 x 20 x 3	1,11
30 x 20 x 4	1,45
40 x 20 x 3	1,35
40 x 20 x 4	1,77
40 x 25 x 4	1,93
45 x 30 x 3	1,72
45 x 30 x 4	2,25
45 x 30 x 5	2,77
50 x 30 x 4	2,41
50 x 30 x 5	2,96
50 x 40 x 4	2,71
50 x 40 x 5	3,35
60 x 30 x 5	3,37
60 x 40 x 5	3,76
60 x 40 x 6	4,46
60 x 40 x 7	5,14
65 x 50 x 5	4,35
65 x 50 x 7	5,97
65 x 50 x 9	7,52
70 x 50 x 6	5,40
70 x 50 x 7	6,51
75 x 50 x 7	6,51
75 x 50 x 8	7,4
75 x 50 x 9	8,23
75 x 55 x 5	4,95
75 x 55 x 7	6,80
75 x 55 x 9	8,59
80 x 40 x 6	5,41
80 x 40 x 8	7,07
80 x 60 x 7	7,36
80 x 65 x 8	8,66
80 x 65 x 10	10,7

Dimensions a x b x s	Theoretical weight kg/m
90 x 60 x 6	6,82
90 x 60 x 8	8,96
100 x 50 x 6	6,85
100 x 50 x 8	8,99
100 x 50 x 10	11,1
100 x 65 x 7	8,77
100 x 65 x 9	11,1
100 x 65 x 11	13,4
100 x 75 x 7	9,3
100 x 75 x 8	10,6
100 x 75 x 9	11,8
100 x 75 x 11	14,3
120 x 80 x 8	12,2
120 x 80 x 10	15,0
120 x 80 x 12	17,8
130 x 65 x 8	11,9
130 x 65 x 10	14,6
130 x 65 x 12	17,3
130 x 90 x 12	19,7
150 x 75 x 9	15,3
150 x 75 x 10	17,0
150 x 75 x 11	18,6
150 x 100 x 10	19,0
150 x 100 x 12	22,6
150 x 100 x 14	26,1
160 x 80 x 10	18,2
160 x 80 x 12	21,0
180 x 90 x 10	20,6
180 x 90 x 12	24,5
200 x 100 x 10	23,0
200 x 100 x 12	27,3
200 x 100 x 14	31,6

Carbon steel. Hot-rolled merchant bars

Equal leg angles, tolerances EN 10056

Dimensions a x s mm	Theoretical weight kg/m	Dimensions a x s mm	Theoretical weight kg/m	Dimensions a x s mm	Theoretical weight kg/m
20 x 3	0,88	60 x 8	7,09	110 x 10	16,6
20 x 4	1,13	65 x 5	5,29	120 x 10	18,2
25 x 3	1,12	65 x 6	5,91	120 x 11	19,9
25 x 4	1,45	65 x 8	7,73	120 x 12	21,6
30 x 3	1,36	65 x 9	8,62	130 x 10	19,8
30 x 4	1,78	65 x 7	6,83	130 x 12	23,6
30 x 5	2,18	70 x 6	6,38	140 x 10	21,38
35 x 4	2,1	70 x 7	7,38	150 x 10	23,0
35 x 5	2,57	70 x 9	9,34	150 x 12	27,3
40 x 4	2,42	75 x 5	5,76	150 x 14	31,6
40 x 5	2,97	75 x 6	6,85	150 x 15	33,8
40 x 6	3,52	75 x 7	7,94	160 x 15	36,2
45 x 4	2,74	75 x 8	9,03	160 x 16	38,4
45 x 4,5	3,06	80 x 6	7,34	180 x 15	40,9
45 x 5	3,38	80 x 8	9,66	180 x 16	43,5
50 x 4	3,06	80 x 10	11,9	180 x 18	48,6
50 x 5	3,77	90 x 6	8,28	200 x 16	48,5
50 x 6	4,47	90 x 7	9,61	200 x 18	54,3
50 x 7	5,15	90 x 8	10,9	200 x 20	59,9
50 x 8	5,81	90 x 9	12,2	200 x 24	71,1
55 x 6	4,94	90 x 10	13,4	250 x 24	90,0
60 x 4	4,76	100 x 8	12,2	250 x 22	82,8
60 x 5	4,57	100 x 10	15,1	250 x 26	97,0
60 x 6	5,42	100 x 12	17,8	300 x 34	150

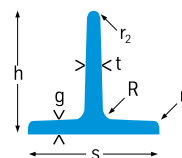


Services

- Shot blasting
- Anticorrosive protection
- Grinding

T-bars, tolerances EN 10055

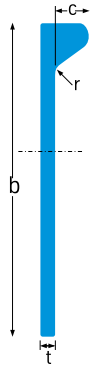
Dimensions h x b mm	Theoretical weight kg/m
30 x 4	1,77
35 x 4,5	2,33
40 x 5	2,96
50 x 6	4,44
60 x 7	6,23
70 x 8	8,32
80 x 9	10,7
90 x 10	13,40
100 x 11	16,4
120 x 13	23,2
140 x 15	31,3



Services

- Saw cutting
- Shot blasting
- Anticorrosive protection
- Grinding

Carbon steel. Hot-rolled merchant bars



Services

- Saw cutting
- Shot blasting
- Anticorrosive protection

Bulb flats

We have a range of bulb flat bars for shipbuilding industry. They are the most cost effective and corrosion resistant solution for stiffening sheet metal. They are lighter than flat bars or angle bars and provide greater strength to buckling.

Cert. 3.2 of recognition from global acceptance societies: LRS, DNV-GL, BV, ABS, RINA

Width: 60 mm - 430 mm
Thickness: 4 mm - 20 mm
Length: 6 mm - 12 mm
Grade: A, D, A36, D36

Drawn bars according to EN10277/10278

In our stock offer we have drawn bars:

- round

Available in grades:

1. S235JRC+C
2. S355J2C+C
3. C45+C/SH
4. 11SMn30+C
5. 11SMNPb30+C

On individual customer request we also offer drawn rods:

- squares
- flat
- hexagonal
- and round bars peeled and ground.

Drawn steel is recommended primarily where precision and accuracy of surface finish are critical, such as in machine building, the furniture industry, the electronics industry and the manufacture of optical equipment.

The main advantages of drawn bars are:

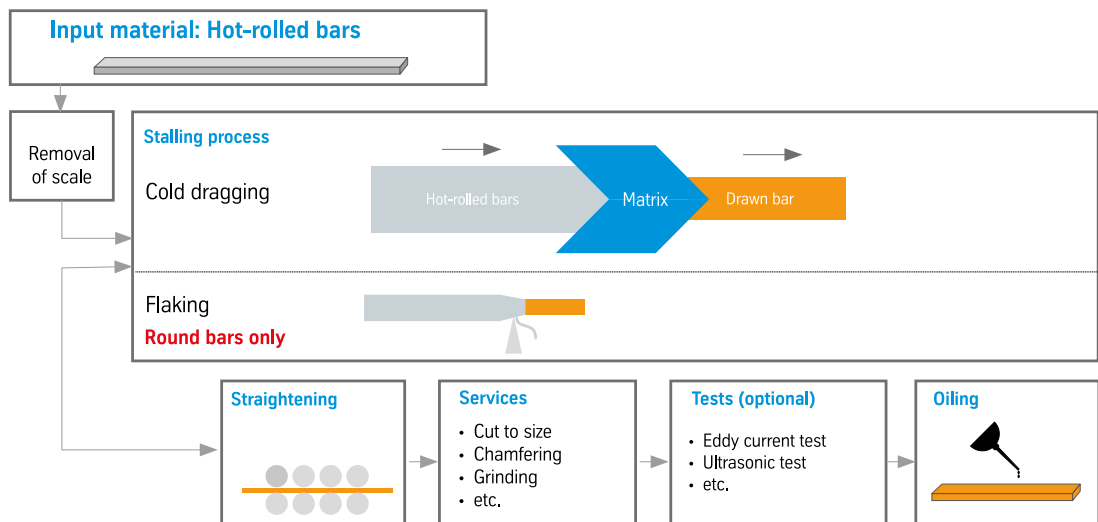
- high straightness,
- narrow dimensional tolerances,
- very smooth surfaces, free from pores, defects and corrosion.



Serwis

- Saw cutting
- Shot blasting
- Anticorrosive protection

Production scheme for drawn bars



Carbon steel. Hot-rolled merchant bars

Round bars, tolerances EN 10060, square bars, tolerances N 10059

Dimensions mm		
	Theoretical weight kg/m	
6	0,222	0,283
7	0,302	0,385
8	0,395	0,502
9	0,499	0,636
10	0,616	0,785
11	0,746	0,950
12	0,890	1,13
13	1,04	1,33
14	1,21	1,54
15	1,39	1,77
16	1,58	2,01
17	1,78	2,27
18	2,00	2,54
19	2,23	2,83
20	2,47	3,14
21	2,72	3,46
22	2,98	3,80
23	3,26	4,15
24	3,55	4,52
25	3,85	4,91
26	4,17	5,31
27	4,49	5,72
28	4,83	6,15
29	5,19	6,60
30	5,55	7,07
31	5,93	7,54
32	6,31	8,04
33	6,71	8,55
34	7,13	9,07
35	7,55	9,62
36	7,99	10,2
38	8,90	11,3
40	9,86	12,6
41	10,4	13,2
42	10,9	13,8
43	11,4	14,5
45	12,5	15,9
46	13,0	16,6
48	14,2	18,1
50	15,4	19,6
52	16,7	21,2
53	17,3	22,1
55	18,6	23,8
57	20,0	25,5

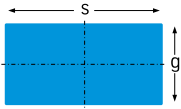
Dimensions mm		
	Theoretical weight kg/m	
60	22,2	28,3
62	23,7	30,2
63	24,5	31,2
65	26,0	33,2
68	28,5	36,3
70	30,2	38,5
75	34,7	44,2
80	39,5	50,2
85	44,5	56,7
90	49,9	63,6
95	55,6	70,9
100	61,7	78,5
105	68,0	86,5
110	74,6	95,0
115	81,5	104
120	88,8	113
125	96,3	
130	104	
135	112	
140	121	
145	130	
150	139	
155	148	
160	158	
165	168	
170	178	
175	189	
180	200	
190	223	
200	247	
225	312	
250	385	
210	272	
220	298	
225	312	
230	326	
240	355	
250	385	
260	416	
270	449	
280	483	
290	518	
300	554	
320	631	



Services

- Saw cutting
- Shot blasting
- Anticorrosive protection

Carbon steel. Hot-rolled merchant bars



Services

- Shot blasting
- Anticorrosive protection

Flat bars, tolerances EN 10058 and DIN 59200

Width s mm	Thickness g in mm														
	3	4	5	6	8	10	12	14	15	16	20	25	30	40	50
Theoretical weight kg/m															
20	0,47	0,63	0,79	0,94	1,26	1,57	1,88	2,20	2,36	-	-	-	-	-	-
25	0,59	0,79	0,98	1,18	1,57	1,96	2,36	2,75	2,94	-	-	-	-	-	-
30	0,71	0,94	1,18	1,41	1,88	2,36	2,83	3,30	3,53	3,77	4,71	-	-	-	-
35	-	1,10	1,37	1,65	2,20	2,75	3,30	3,85	4,12	4,40	5,50	-	-	-	-
40	0,94	1,26	1,57	1,88	2,51	3,14	3,77	4,40	4,71	5,02	6,28	7,85	9,42	-	-
45	-	1,41	1,77	2,12	2,83	3,53	4,24	4,95	5,30	5,65	7,07	8,83	10,60	-	-
50	-	1,57	1,96	2,36	3,14	3,93	4,71	5,50	5,89	6,28	7,85	9,81	11,78	15,70	-
60	-	1,88	2,36	2,83	3,77	4,71	5,65	6,59	7,07	7,54	9,42	11,78	14,13	18,84	23,55
70	-	-	2,75	3,30	4,40	5,50	6,59	7,69	8,24	8,79	10,99	13,74	16,49	20,41	25,51
80	-	-	3,14	3,77	5,02	6,28	7,54	8,79	9,42	10,05	12,56	15,70	18,84	25,12	31,40
90	-	-	3,53	4,24	5,65	7,07	8,48	9,89	10,60	11,30	14,13	17,66	21,20	28,26	35,33
100	-	-	3,93	4,71	6,28	7,85	9,42	10,99	11,78	12,56	15,70	19,63	23,55	31,40	39,25
110	-	-	4,32	5,18	6,91	8,64	10,36	12,09	12,95	13,82	17,27	21,59	25,91	34,54	43,18
120	-	-	4,71	5,65	7,54	9,42	11,30	13,19	14,13	15,07	18,84	23,55	28,26	37,68	47,10
130	-	-	5,10	6,12	8,16	10,21	12,25	14,29	15,31	16,33	20,41	25,51	30,62	40,82	51,03
140	-	-	5,50	6,59	8,79	10,99	13,19	15,39	16,49	17,58	21,98	27,48	32,97	43,96	54,95
150	-	-	5,89	7,07	9,42	11,78	14,13	16,49	17,66	18,84	23,55	29,44	35,33	47,10	58,87
160	-	-	6,28	7,54	10,05	12,56	15,07	17,58	18,84	20,10	25,12	31,40	37,68	50,24	62,80
180	-	-	7,07	8,48	11,30	14,13	16,96	19,78	22,00	22,61	28,26	35,33	42,39	56,52	70,65
200	-	-	7,95	9,42	15,56	14,70	18,84	21,98	23,55	25,12	31,40	39,25	47,10	62,80	78,50
220	-	-	-	10,36	13,82	17,27	20,72	24,18	25,91	27,63	34,64	43,18	51,81	69,08	86,35
250	-	-	-	11,78	15,70	19,63	23,55	27,48	29,44	31,60	39,25	49,07	58,88	78,50	98,13
300	-	-	-	14,13	18,84	23,55	28,26	32,97	35,33	37,68	47,10	58,88	70,65	94,20	117,75

Engineering and quality steel. Bars and sheets

We supply hot rolled bars in raw, annealed, normalized or quenched and tempered condition, as well as cold drawn bars, polished bars and sheets made of the following steel grades:

- for hardening (quenched and tempered),
- for nitriding,
- for carburizing,
- for bearings,
- for springs,
- for tools,
- for highly loaded components, such as spindles, axles, crankshafts, non-hardened hears, electric motor shafts, regular scissors, wheel hubs, discs, rods, cylinders, rollers, pump rotors (C45),
- for parts exposed to variable loads, such as e.g. axles, crankshafts, gears, levers, con rods, housing and grabbing components of tooling, fasteners, abrasion discs, levers (41Cr4, 42CrMo4),
- for highly loaded machine parts having small dimensions, such as gears, screws, sleeves, pins, cam belts (20Mn-Cr5/16MnCr5).

Services

- Cutting
- Hole-cutting
- Lipping

PN	EN	IN NO.
15	C15	1.0401
	C15E	1.1141
35	C35	1.0501
	C35E	1.1181
45	C45 (+C)	1.0503
	C45E	1.1191
55	C55	1.0535
	C55E	1.1203
60	C60	1.0601
	C60E	1.1221
40H	41Cr4	1.7035
40HM	42CrMo4	1.7225
34HNM	34CrNiMo4	1.6582
16HG	16MnCr5	1.7131
20HG	20MnCr5	1.7147
-	27MnCrB5-2	1.7182
18HGT	-	-
50HS	-	-
50HF	51CrV4	1.8159
-	11SMn30 (+C)	1.0715

Engineering Steel Department
 87-100 Toruń
 Grudziądzka159
 T: + 48 56 611 94 48
jakosciowe@tkmaterials.pl

Welding consumables

Covered electrodes for manual welding of

- unalloyed steel and fine-grain steel
- high-strength steel
- high-alloy and heat resistant steel
- cast iron
- stainless steel and non-ferrous metals
- hardfacing and regeneration

Solid and flux cored wires for MIG/MAG welding

- unalloyed steel and fine-grain steel
- high-strength steel
- high-alloy and heat resistant steel
- cast iron
- stainless steel and non-ferrous metals
- hardfacing and regeneration

Soldering materials for

- unalloyed steel and fine-grain steel
- tool steel and sintered carbides
- high-alloy steel
- stainless steel and non-ferrous metals

Welding torches and spare parts for torches

- MIG/MAG welding torches
- TIG welding torches
- Plasma cutting torches
- control sockets
- parts and accessories for MIG/MAG and TIG torches and for plasma

Fittings and accessories

- electrical welding
- gas welding and cutting
- heating and soldering
- gas regulators
- gas accessories
- measuring instruments
- EHS

Industrial chemicals

- anti-spatter sprays and pastes
- anti-corrosion chemicals
- cleaning preparations

Welding Consumables Department
05-870 Błonie
Kolejowa 44
T: +48 22 594 08 35 / 43
spawalnictwo@tkmaterials.pl

Offering for the construction industry

Construction reinforcement



Modern equipment of our reinforcement workshops enables us to fabricate cut or bent items, or stirrups of any shape. We deliver to custom designs and orders, prepared on the basis of technical drawings supplied to us. We ensure professional delivery and short turnaround times to the project location.

Opportunities and benefits:

- fabrication of reinforcement components of any size as per the effective standards,
- bar diameter range from 6 to 32 mm in AIIIIN steel grade,
- single point of contact for the customer,
- centralized production management and logistics oversight,
- timely contract delivery.

Technologies:

- fast order processing owing to Poland's most modern technologies, such as e.g. Mega Genius and Bar Wiser,
- automated technical process supported by dedicated Lennerts & Partner software,
- POLYBAR 40-V bar bending machine,
- bending machine for reinforcement stirrups - POLYBEND PBC2-16A,
- DBS 40 double-bending machine with conveyor.
- EPD certificate in accordance with EN 15804+A1: 2014-04

Construction Reinforcement Department
87-100 Toruń
Grudziądzka 159
tel. +48 56 611 96 65
dzb@tkmaterials.pl

Steel structures



Our offering includes:

- acoustic panels pillars,
- steel structures for industrial construction,
- lightweight and heavy steel construction,
- steel frames,
- steel gates and doors for road construction,
- overhead crane beams,
- stainless steel structures,
- structures as per the customer's documentation,
- steel plate girders.

Anticorrosion protection as required by customer:

- hot-dip galvanizing acc. PN EN ISO 1461,
- electro-galvanizing,
- spray-metal painting,
- spray painting acc. PN EN ISO 12944,
- powder coating acc. PN EN 13438

Certificates:

- PN EN 1090-2 EXC33,
- PN EN ISO 3834-2,
- PN EN 15085-2:2007

Steel Structures Department
41-303 Dąbrowa Górnicza
Toruńska 9
T: +48 32 639 55 25
ofertydks@tkmaterials.pl

tk accelis Materials Poland S.A.
Grudziądzka 155B, 87-100 Toruń

tkaccelis.com

Contact:

T: +48 56 611 95 58

office.materialsPL@tkaccelis.com

