Severstal

Basic Metal Products Catalogue

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01

Long Products

Reinforcing bars

Reinforcing bars are used for:
- reinforcing precast reinforced concrete structures and for cast-in-place concrete construction;
- reinforcing prestressed reinforced concrete structures.

Applications:
- residential buildings made of cast-in-place and precast reinforced concrete;
- industrial buildings and structures;
- transportation infrastructure facilities: bridges and overpasses, subways, tunnels, ports, airports;
- special-purpose facilities: nuclear and hydroelectric power plants, concrete structures of liquefied gas storage tanks, etc.

Range of products and mechanical properties

Grade of rolled products	Standard	Yield strength, σ_y, N/mm²	Tensile strength, σ_t, N/mm²	Elongation, %	
				δ_5	δ_{max}
A240S	GOST 34028-2016	240	380	25.0	-
A400S	TU 14-1-5473-2018	390	590	16.0	5.0
A500S	GOST 34028-2016	500	600	14.0	2.5
A500SN, SNU	GOST 34028-2016	500	600	16.0	5.0
A500SE, SEU	GOST 34028-2016	500	600	16.0	7.0
A600S	GOST 34028-2016	600	700	12.0	2.5
A600S “Armanorma”	TU 14-1-5596-2020 GOST 34028-2016 SP 35.13330.2011	650	740	14.0	4.5
A600SN, SNU	GOST 34028-2016	600	700	14.0	5.0
A600SEU	GOST 34028-2016	600	700	16.0	7.0
A800R	GOST 34028-2016	800	1,000	8.0	2.5
35GS; 25G2S (A-III)	GOST 5781-82	390	590	14.0	-

Additional set of technical requirements

1. Weldable by all welding methods — S.
2. Ductility categories:
   - increased — N;
   - high (for seismically resistant rolled products) — E.
3. With stress corrosion cracking resistance requirements — K (the product must ensure resistance to stress corrosion cracking (K) for 40 hours).
4. With fatigue strength requirements under repeated cyclic loading — U.

Requirements for fatigue testing of rolled products under repeated cyclic loading

Test parameter	Grade of rolled products	
	A400	A500, A600
Number of cycles to failure	Not less than 2 million	
Maximum stress [$\sigma_{max} = 0.6\ \sigma_y\ (\sigma 0.2)$], N/mm²	270	300
Stress amplitude, $\Delta\sigma$ ($\sigma_{max} - \sigma_{min}$), N/mm²		150
Load application frequency ∫, Hz	1 to 200 inclusive	
Size of the free (central) zone of the rolled product sample, mm	At least 140	

5. With stress relaxation requirements — R.

Geometric parameters

Nominal diameter, mm	Nominal cross-sectional area, mm²	Nominal weight per 1 m of rolled product length, kg
6.0	28.3	0.222
8.0	50.3	0.395
10.0	78.5	0.617
12.0	113.1	0.888
14.0	153.9	1.208
16.0	201.1	1.578
18.0	254.5	1.998
20.0	314.2	2.466
22.0	380.1	2.984
25.0	490.9	3.853
28.0	615.8	4.834
32.0	804.3	6.313
36.0	1,017.9	7.990
40.0	1,256.6	9.865

Bar type: plain and ribbed.
Supplied:
- in coils (Ø = 6–12 mm);
- in rods (Ø = 10–40 mm), with a length from 6,000 to 12,000 mm (non-standard lengths are allowed upon agreement with the manufacturer).

Round bars

Rounds with uniform cross-section along the entire length.

Applications:
- fencing systems;
- semi-products for forged products;
- semi-products for seamless pipes;
- fasteners;
- round parts for turning;
- frame structures.

Grades and tensile properties of commercial quality steel products according to GOST 535-05

Steel grade	Tensile strength, N/mm², for product thicknesses, mm		Yield strength, N/mm²				Elongation, %, for product thicknesses, mm		
	Up to 10 incl.	Over 10	Up to 10 incl.	Over 10 to 20 incl.	Over 20 to 40 incl.	Over 40 to 70 incl.	Up to 20 incl.	Over 20 to 40 incl.	Over 40
St1ps/sp	315–410		205	205	195	185	34	33	31
St2ps/sp	335–430		225	225	215	205	32	31	29
St3ps	370–480		245	245	235	225	26	25	23
St3sp	380–490	370–480	255	245	235	225	26	25	23

Grades and mechanical properties of rolled products made of non-alloy structural quality steels according to GOST 1050-2013

Steel grade	Mechanical properties, min.			
	Yield strength, N/mm²	Tensile strength, N/mm²	Elongation, %	Reduction of area, %
8	196	320	33	60
10	205	330	31	55
15	225	370	27	55
20	245	410	25	55
25	275	450	23	50
30	295	490	21	50
35	315	530	20	45
40	335	570	19	45
45	355	600	16	40
50	375	630	14	40

Geometric parameters according to GOST 2590-2006

Nominal diameter, mm	Cross-sectional area, cm²	Nominal weight per 1 m of rolled product length, kg	Nominal diameter, mm	Cross-sectional area, cm²	Nominal weight per 1 m of rolled product length, kg
5	0.196	0.154	33	8.553	6.714
5.5	0.238	0.187	34	9.079	7.127
6	0.283	0.222	35	9.621	7.553
6.5	0.332	0.261	36	10.179	7.990
7	0.385	0.302	37	10.752	8.440
8	0.503	0.395	38	11.341	8.903
9	0.636	0.499	39	11.946	9.378
10	0.785	0.617	40	12.566	9.865
11	0.950	0.746	41	13.203	10.364
12	1.131	0.888	42	13.854	10.876
13	1.327	1.042	43	14.522	11.400
14	1.539	1.208	44	15.205	11.936
15	1.767	1.387	45	15.904	12.485
16	2.011	1.578	46	16.619	13.046
17	2.270	1.782	47	17.349	13.619
18	2.545	1.998	48	18.096	14.205
19	2.835	2.226	50	19.635	15.413
20	3.142	2.466	52	21.237	16.671
21	3.464	2.719	53	22.062	17.319
22	3.801	2.984	54	22.902	17.978
23	4.155	3.262	55	23.758	18.650
24	4.524	3.551	56	24.630	19.335
25	4.909	3.853	58	26.421	20.740
26	5.309	4.168	60	28.274	22.195
27	5.726	4.495	62	30.191	23.700
28	6.158	4.834	63	31.173	24.470
29	6.605	5.185	65	33.183	26.049
30	7.069	5.549	67	35.257	27.676
31	7.548	5.925	68	36.317	28.509
32	8.043	6.313	70	38.485	30.210

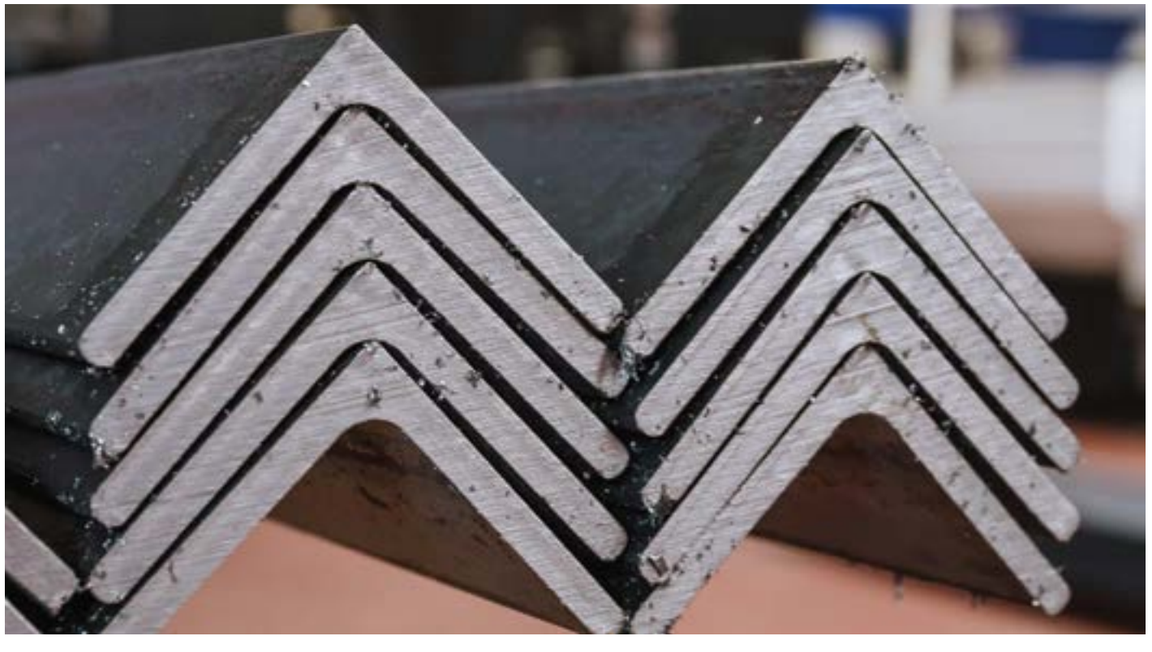
Structural shapes

Structural shapes include products where a tangent to the cross-section contour intersects that cross-section in at least one point (channels, angles, special-purpose sections).

Equal-leg angle	Steel grades	Standards
20x20x3 — 75x75x9	St6sp; St6ps; St5sp; St5ps; St4sp; St4ps; St3sp; St3ps; St2sp; St2ps	GOST 535-05

Grades and tensile properties of commercial quality steel products according to GOST 535-05

Steel grade	Tensile strength, N/mm², for product thicknesses, mm		Yield strength, N/mm²				Elongation, %, for product thicknesses, mm		
	Up to 10 incl.	Over 10	Up to 10 incl.	Over 10 to 20 incl.	Over 20 to 40 incl.	Over 40 to 100 incl.	Up to 20 incl.	Over 20 to 40 incl.	Over 40
St1ps/sp	315–410		205	205	195	185	34	33	31
St2ps/sp	335–430		225	225	215	205	32	31	29
St3ps	370–480		245	245	235	225	26	25	23
St3sp	380–490	370–480	255	245	235	225	26	25	23
St4ps/sp	410–530		265	265	255	245	23	23	21
St5ps/sp	490–630		285	285	275	265	20	19	17
St6ps/sp	At least 590		315	315	305	295	15	14	12



Geometric parameters according to GOST 8509-93 (Hot-rolled equal-leg steel angles. Range of products)

Angle size number	Leg length, b	Leg thickness, t	Cross-sectional area, cm²	Weight per 1 m, kg
2	20	3	1.13	0.89
		4	1.46	1.15
2.5	25	3	1.43	1.12
		4	1.86	1.46
2.8	28	3	1.62	1.27
3	30	3	1.74	1.36
		4	2.27	1.78
3.2	32	3	1.86	1.46
		4	2.43	1.91
3.5	35	3	2.04	1.6
		4	2.67	2.1
		5	3.28	2.58
4	40	3	2.35	1.85
		4	3.08	2.42
		5	3.79	2.98
4.5	45	3	2.65	2.08
		4	3.48	2.73
		5	4.29	3.37
5	50	3	2.96	2.32
		4	3.89	3.05
		5	4.8	3.77
		6	5.69	4.47
5.6	56	4	4.38	3.44
		5	5.41	4.25
6.3	63	4	4.96	3.9
		5	6.13	4.81
		6	7.28	5.72
7	70	4.5	6.2	4.87
		5	6.86	5.38
		6	8.15	6.39
		7	9.42	7.39
		8	10.67	8.37
7.5	75	5	7.39	5.8
		6	8.78	6.89
		7	10.15	7.96
		8	11.5	9.02
		9	12.83	10.07

Unequal-leg angle

63x40x4 — 100x63x10

Geometric parameters according to GOST 8510-86 (Hot-rolled unequal-leg steel angles. Range of products)

Angle size number	Leg length, B	Leg length, b	Leg thickness, t	Cross-sectional area, cm	Weight per 1 m of angle, kg
6.3/4.0	63	40	4	4.04	3.17
			5	4.98	3.91
			6	5.9	4.63
			8	7.68	6.03
6.5/5*	65	50	5	5.56	4.36
			6	6.6	5.18
			7	7.62	5.98
			8	8.62	6.77
7/4.5	70	45	5	5.59	4.39
7.5/5	75	50	5	6.11	4.79
			6	7.25	5.69
			7	8.37	6.57
			8	9.47	7.43
08/5	80	50	5	6.36	4.49
			6	7.55	5.92
			6	8.15	6.39
08/6	80	60	7	9.42	7.39
			8	10.67	8.37
9/5.6	90	56	5.5	7.86	6.17
			6	8.54	6.7
			8	11.18	8.77
10/6.3	100	63	6	9.58	7.53
			7	11.09	8.7
			8	12.57	9.87
			10	15.47	12.14

Wire rod

Wire rod is a type of round bars, usually of small diameter up to 9 mm, which serves as a semi-product for manufacture of wire products.

Applications:

- wire production;
- fastener production;
- for the production of ropes, cables;
- for the production of mesh, fencing;
- for the production of electrodes, welding wire, and electrical wires;
- as reinforcing structure in the production of reinforced concrete products.

Steel grades	Standards
50; 45; 40; 35; 30; 25; 20; 15; 10; 08, 1sp/ps, 2sp/ps, 25G2A, 40Kh, 60S2A, 60S2G, 75G, all rope grades	GOST 1050-2013, GOST 10702-2016

Diameter: 6; 6.5; 8; 9 mm

Supplied:

- in small-size coils;
- in coils:
  - outer diameter: 1,400 mm
  - inner diameter: 850 mm
  - height of the pressed coil: 850 mm
  - coil weight: 1,020 kg

Grinding balls

Grinding balls are used for grinding ferrous and non-ferrous metal ores, and other materials in the mining and construction industries.

Nominal ball diameter, mm	Ball hardness group					
	1	2	3	4	5 (Iconball)	
	Hardness, HRC					
	min.				actual range	
	ball surface				ball surface	through hardness
30-40	45	49	55	55	61-64	57-60
60	43	48	53	53	60-65	53-60
80	39	42	52	52	58-64	48-54
100	39	42	52	52	58-64	48-54

02

Flat Products

Hot-rolled products

Hot-rolled products are used for manufacturing building and structure frames, including bridge structures, road barriers, round and shaped pipes, and metal structures for various purposes.

Type	Thickness, mm	Width, mm	Length, mm	Steel grades	Product standard
Coils	0.8–6.0	940–1,450		St3sp/ps; 65G; 50; 45; 40Kh; 40; 35; 30; 25; 20Kh; 20ps; 20; 15ps; 15; 0ps; 10; 08ps; 08Yu; 09G2S; 09G2; S235-S440; S390P; S355P; 10-15KhSND; 14KhGNDTs; Powerweld 420; Powerweld 690	GOST 16523-97; GOST 14637-89; GOST 19281-89; GOST 27772-2021; GOST 6713-2021; GOST 55374-2012; STO 00186217-572-2020; STO 00186217-294-2021
	1.2–25.0	500–1,835			
Sheets/ plates	1.2–16.0	900–1,835	1,700–12,100		
	6.0–50.0	1,400–2,530	4,000–12,200		
	10.0–240.0	1,500–4,700	4,000–18,000		
Band	1.2–8.0	100–499			

Chemical composition and mechanical properties comply with the applicable standards.
The full range of sizes is specified; exact sizes are to be agreed upon when placing an order.
Equivalent steel grades S355 and 09G2S may be ordered with double certification, if S355 is certified to GOST 27772-2021 and 09G2S is certified to GOST 19281-2014.
Rolled steel intended for hot-dip galvanizing is produced with a limited silicon mass fraction. When ordering, the note “For galvanizing” shall be included in the specification.

Hot-rolled pickled products

Pickled rolled products have a higher surface quality due to the removal of scale and other inclusions and contaminants by pickling. Hot-rolled pickled and skin-passed steel products can be used as a substitute for cold-rolled products due to their good flatness and high surface quality.

Type	Thickness, mm	Width, mm	Length, mm	Steel grades	Product standard
Coils	1.2–6.0	940–1,450		St1ps; St1sp; St2ps; St2sp; St3ps; St3sp; 10; 15; 20; 25; 35; 40; 45; 08ps; 08Yu; 09G2S; 10ps; 15ps; 20ps; 20sp; Forcera	GOST 16523-97; GOST 14637-89; GOST 19281-89; GOST 27772-2021; GOST 6713; GOST 55374; ASTM 606
		500–1,835			
Sheets/ plates	1.2–6.0	900–1,750	1,700-12,000		
Band	1.2–6.0	100-499			

Chemical composition and mechanical properties comply with the applicable standards.
The full range of sizes is specified; exact sizes are to be agreed upon when placing an order.

Hot-rolled pickled and skin-passed products as a substitute for cold-rolled products

Application:
general purpose applications, structures, pipes and roll-formed sections; racks, shop fittings, electrical cabinets, industrial furniture; semi-finished rolled products for manufacturing parts and metal structures intended for further hot-dip galvanizing and/or painting.

Advantages:
elimination of expensive, energy-intensive cold rolling process; high surface quality; guaranteed geometry as in cold-rolled products; strengthening by 20–30 MPa; good zinc adhesion on low-silicon grades.

Development stage	Grade	Standard	Thickness	Width
Production stage	08ps	GOST 16523	1.5–3.0	900–1,500
		STO 00186217-327-2021		
	DD11	EN10111	1.5–5.5	900–1,500
Development stage	08ps	GOST 16523	3.1–3.9	900–1,500
		STO 00186217-327-2021		
	08ps	GOST 4041	4.0–6.0	900–1,500
	20ps	GOST 16523	1.5–3.9	900–1,350
		GOST 4041	4.0–6.0	900–1,350
	DD12	EN 10111	1.5–5.5	900–1,500
	S355MC	EN 10149-2	1.5–6.0	900–1,500

Tolerances	GOST 19904, EN 10131, ½ EN (for 90% of length)
Surface group	2, 3, 4
Surface roughness	0.6–2.0 µm
Edge type	trimmed edge/mill edge

Upon customer request, hot-rolled pickled products in various sizes and grades may be skin-passed.

Checkered plates with diamond and lentil patterns

Checkered plates with diamond and lentil patterns are used for industrial floors, staircases, equipment in industrial premises, construction sites, garages, and auto repair shops with anti-slip surfaces.

Type	Thickness, mm	Width, mm	Length, mm	Steel grades	Product standard
Plates	2.5–16.0	900–1,835	1,700–12,100	St0; St1ps; St1sp; St2ps; St2sp; St3ps; St3sp; 20; 09G2S; A36; S255; S355	GOST 8568-77

The full range of sizes is specified; exact sizes are to be agreed upon when placing an order.

Cold-rolled products

Cold-rolled products are used for manufacturing various metal structures, pipes and roll-formed sections, shelving, commercial equipment, electrical cabinets, industrial and office furniture. They can also be used as semi-finished rolled products for manufacturing parts and metal structures intended for further hot-dip galvanizing and/or painting.

Type	Thickness, mm	Width, mm	Length, mm	Steel grades	Product standard
Coils	0.25–3.2	500–1,796		St1ps; St1sp; St2ps; St2sp; St3ps; St3sp; 08ps; 08Yu; 10ps; 15ps; 20ps; 10; 15; 20; 35; 40; 09G2S; 10KhNDP; 10KhSND; Forcera	GOST 16523-97; GOST 17066-94; GOST 19851-74; GOST 3559-75; ASTM A606/A606M
Sheets/ plates	0.3–3.2	1,000–50	1,000–12,000		
Band	0.3–3.2	59–450			

Chemical composition and mechanical properties comply with the applicable standards.
The full range of sizes is specified; exact sizes are to be agreed upon when placing an order.

Galvanized products

Due to good corrosion resistance and strength characteristics, galvanized products are widely used in many industries.
In building construction — light steel framing (C, Z, L, U) and other sections, thermal profiles, corrugated sheets, including structural decks; substructures for curtain wall systems; in infrastructure construction — spiral corrugated pipes; in agriculture — storage tanks and structures (reservoirs, silos, elevators), greenhouse frames, trellises; in energy sector — solar panel tables.

Type	Thickness, mm	Width, mm	Length, mm	Steel grades	Product standard
Coils	0.25–3.5	900–1,850		St1ps; St1sp; St2ps; St2sp; St3ps; St3sp; 08ps; 08Yu; 220; 250; 280; 320; 350; 390; 420; 450; 550; S220GD; S250GD; S280GD; S320GD; S350GD; S390GD; S420GD; S450GD; S550GD	GOST 14918-2020; EN 10346
Sheets/ plates	0.25–3.5	900–1,600	3,000–12,000		
Band	0.25–3.5	100–499			

Zinc coating classes: 100, 120, 140, 150, 180, 200, 225, 275, 350, 450, 500, 550, 600.
Additional protective coating can be applied:

- Ecochrome, an eco-friendly trivalent chromium-based product

Chemical composition and mechanical properties of the steel base and zinc coating comply with the applicable standards.
Rolled metal products can be supplied with passivation and/or oiling.
The full range of sizes is specified; exact sizes are to be agreed upon when placing an order.

Colour-coated rolled products

Pre-painted galvanized steel products are used for manufacturing:

- metal roofing tiles;
- corrugated sheets;
- standing seam roofing;
- wall and roof sandwich panels;
- drainage systems;
- fencing systems (wall corrugated sheets, European-style picket fencing, noise barriers);
- siding;
- facade cassettes;
- linear panels;
- blinds;
- doors;
- enclosures for electrical devices;
- lighting equipment.

The colour coating, along with the zinc layer, protects the rolled steel from corrosion and also has a decorative function.

Type	Thickness, mm	Width, mm	Steel grades	Zinc coating class	Type of colour coating	Colour coating thickness, μm	Product standard
Coil	0.3–1.20	900–1,600	08ps; 08Yu; DX51D; DX52D; DX53D; DX54D; S220GD; S250GD; S280GD; S320GD; S350GD; S550GD; St1ps; St2ps; St3ps; St3sp	100, 120, 140, 150, 180, 200, 225, 275, 350	Polyester Wrinkle finish polyester Polyurethane Wrinkle finish polyurethane PVC film	23–25 30 40–50 40–50 110–150	GOST 34180–2017; EN 10169

Rooftop roofing brand range

Brand	Type of colour coating	Colour coating thickness, μm	Zinc coating class	Warranty against penetration corrosion, years
Roofing materials (metal roofing tiles, corrugated sheets, standing seam roofing)				
Rooftop Silk	Polyester	25	180, 275	20–30
Rooftop Velvet	Wrinkle finish polyester	30	180, 275	20–30
Rooftop Cashmere	Polyurethane	50	275	45
Rooftop Cashmere Matte	Wrinkle finish polyurethane	50	275	45
Drainage systems				
Rooftop Drain PE	Polyester	25/25	180/275	5
Rooftop Drain PE Matte	Wrinkle finish polyester	30/30	180, 275	5
Rooftop Drain PU	Polyurethane	40/40	180, 200, 225, 275	10
Rooftop Drain PU Matte	Wrinkle finish polyurethane	40/40	180, 200, 225, 275	10

Coversafe steels for sandwich panels

Coversafe Classic	Polyester	25	140, 180, 275	15–30
Coversafe Superproof	Polyurethane	50	180, 275	20 (depending on the corrosive aggressiveness of the environment)
Coversafe Bioclean	PVC film	110–150	140, 180, 275	Up to 20

For full warranty terms and conditions, please refer to the warranty certificate.

03

Round and Shaped Pipes

Shaped steel pipes according to GOST 13663-86

Table 1

Grade range and mechanical properties of non-heat-treated electric-welded shaped pipes

Steel grade	Tensile strength, δ_u, N/mm²	Elongation, δ_5, %
	min.	
08ps	314	13
St1ps	333	11
St2ps	353	10
St3sp, St3ps	363	10
20	372	10

Depending on their intended use, pipes of the following groups are manufactured:

A — with standardized mechanical properties of the pipe base metal;

B — with standardized chemical composition of the steel according to GOST 380, GOST 1050 and standardized mechanical properties of the pipe base metal.

Table 2

Dimensional range of square hollow sections

Outside dimension, mm	Wall thickness, S, mm																												
	1.0	1.1	1.2	1.25	1.35	1.5	1.75	1.8	2.0	2.5	2.7	2.8	3.0	3.2	3.3	3.5	3.6	3.7	4.0	4.5	5.0	6.0	7.0	8.0	9.0	10.0	11.0	12.0	14.0	16.0
15×15	+	+	+	+	+	+																								
20×20	+	+	+	+	+	+	+	+	+																					
25×25	+	+	+	+	+	+	+	+	+																					
30×30	+	+	+	+	+	+	+	+	+	+	+	+	+	+		+	+													
35×35	+	+	+	+	+	+	+	+	+	+	+	+	+	+		+	+													
40×40			+	+	+	+	+	+	+	+	+	+	+	+		+	+			+										
45×45						+	+	+	+	+	+	+	+	+		+	+			+										
50×50						+	+	+	+	+	+	+	+	+		+	+		+	+										
60×60						+	+	+	+	+	+	+	+	+		+	+		+	+										
70×70								+	+	+	+	+	+	+		+	+	+	+	+	+	+								
80×80									+	+	+	+	+	+		+	+	+	+	+	+	+								
90×90													+	+		+	+	+	+	+	+	+								
100×100													+	+		+	+		+	+	+	+	+	+	+	+	+			
120×120													+							+		+	+	+	+	+	+			
140×140													+							+		+	+	+	+	+	+	+	+	
150×150																				+		+	+	+	+	+	+	+	+	
160×160																				+		+	+	+	+	+	+	+	+	
180×180																				+		+	+	+	+	+	+	+	+	
200×200																						+	+	+	+	+	+	+	+	
250×250																							+	+	+	+	+	+	+	+
300×300																							+	+	+	+	+	+	+	+

Table 3

Dimensional range of rectangular hollow sections

Outside dimension, mm	Wall thickness, S, mm																												
	1.0	1.1	1.2	1.25	1.35	1.5	1.75	1.8	2.0	2.5	2.7	2.8	3.0	3.2	3.3	3.5	3.6	3.7	4.0	4.5	5.0	6.0	7.0	8.0	9.0	10.0	11.0	12.0	14.0	16.0
20×10	+	+	+	+	+	+																								
25×10	+	+	+	+	+	+	+	+	+																					
25×15	+	+	+	+	+	+	+	+	+																					
25×20	+		+		+	+	+	+	+																					
28×25	+		+	+	+	+	+	+	+																					
20×15	+	+	+	+	+	+	+	+	+																					
30×10	+	+	+	+	+	+	+	+	+																					
30×15	+	+	+	+	+	+	+	+	+																					
30×20	+	+	+	+	+	+	+	+	+																					
30×25	+	+	+	+	+	+	+	+	+																					
35×15	+	+	+	+	+	+	+	+	+																					
35×20	+	+	+	+	+	+	+		+																					
40×20	+	+	+	+	+	+	+	+	+	+	+	+	+	+		+	+													
40×25	+	+	+	+	+	+	+	+	+	+	+	+	+	+		+	+													
40×30	+	+	+	+	+	+	+	+	+	+																				
40×35	+		+		+	+	+	+	+	+																				
45×20	+	+	+	+	+	+	+	+	+	+			+				+													
45×25	+	+	+	+	+	+	+	+	+	+																				
45×30	+		+		+	+	+	+	+	+																				
50×10	+	+	+	+	+	+	+	+	+	+																				
50×20	+	+	+	+	+	+	+	+	+	+																				
50×25	+	+	+	+	+	+	+	+	+	+	+	+	+	+		+	+													
50×30	+	+	+	+	+	+	+	+	+	+	+	+	+	+		+	+	+		+										
50×40						+	+	+	+	+	+	+	+	+		+	+			+										
50×45						+	+	+	+	+																				
55×40						+	+	+	+	+																				
60×20			+	+	+	+	+	+	+	+			+				+			+									
60×30					+	+	+	+	+	+	+	+	+	+		+	+			+										
60×35						+	+	+	+	+																				

Table 3

Dimensional range of rectangular hollow sections

Outside dimension, mm	Wall thickness, S, mm																												
	1.0	1.1	1.2	1.25	1.35	1.5	1.75	1.8	2.0	2.5	2.7	2.8	3.0	3.2	3.3	3.5	3.6	3.7	4.0	4.5	5.0	6.0	7.0	8.0	9.0	10.0	11.0	12.0	14.0	16.0
60×40						+	+	+	+	+	+	+	+	+	+	+		+	+											
70×30						+	+	+	+	+	+	+	+	+	+	+		+	+											
70×40						+	+	+	+	+																				
70×50						+	+	+	+	+	+	+	+	+	+	+		+	+											
80×30						+	+	+	+	+	+																			
80×40						+	+	+	+	+	+	+	+	+	+	+		+	+											
80×60									+	+	+	+	+	+	+	+	+	+	+	+	+									
90×50									+	+	+	+	+	+	+	+	+	+	+	+	+									
100×40									+	+	+	+	+	+	+	+	+	+	+	+	+									
100×60													+	+	+	+	+	+	+	+	+									
100×80													+	+	+	+	+	+	+	+	+									
120×40													+	+	+	+		+	+	+	+									
120×60													+	+	+	+	+	+	+	+	+									
120×80													+	+	+	+			+	+	+	+	+	+						
140×100													+						+		+	+	+	+	+	+				
140×120													+						+		+	+	+	+	+	+				
150×100																					+	+	+							
160×120													+						+		+	+	+	+	+	+	+	+		
160×140																			+		+	+	+	+	+	+	+	+		
180×100													+						+		+	+	+	+	+	+	+	+		
180×140																			+		+	+	+	+	+	+	+	+		
200×100																			+		+	+	+	+	+	+	+	+		
200×120																			+		+	+	+	+	+	+	+	+		
200×160																			+		+	+	+	+	+	+	+	+		
240×120																			+		+	+	+	+	+	+	+	+		
240×160																					+	+	+	+	+	+	+	+		
250×150																					+	+	+	+	+	+	+	+		
300×100																					+	+	+	+	+	+	+	+		
300×200																						+	+	+	+	+	+	+	+	+

Table 4

Dimensional range of flat-oval hollow sections

Outer dimension, mm	Wall thickness, S, mm			
	1.2	1.35	1.5	2
30×15	+	+	+	+
33×29	+	+	+	+
40×20	+	+	+	+
40×25	+	+	+	+

Cracks, slivers and laps are not allowed on the surface of electric-welded tubes.

Ripple markings, scratches, and other mechanically caused damage, scale layer, and traces of defect grinding are acceptable provided they do not cause the pipe dimensions to exceed permissible tolerances.

A residual internal burr caused by the manufacturing process is permissible on the inner surface of the pipes.

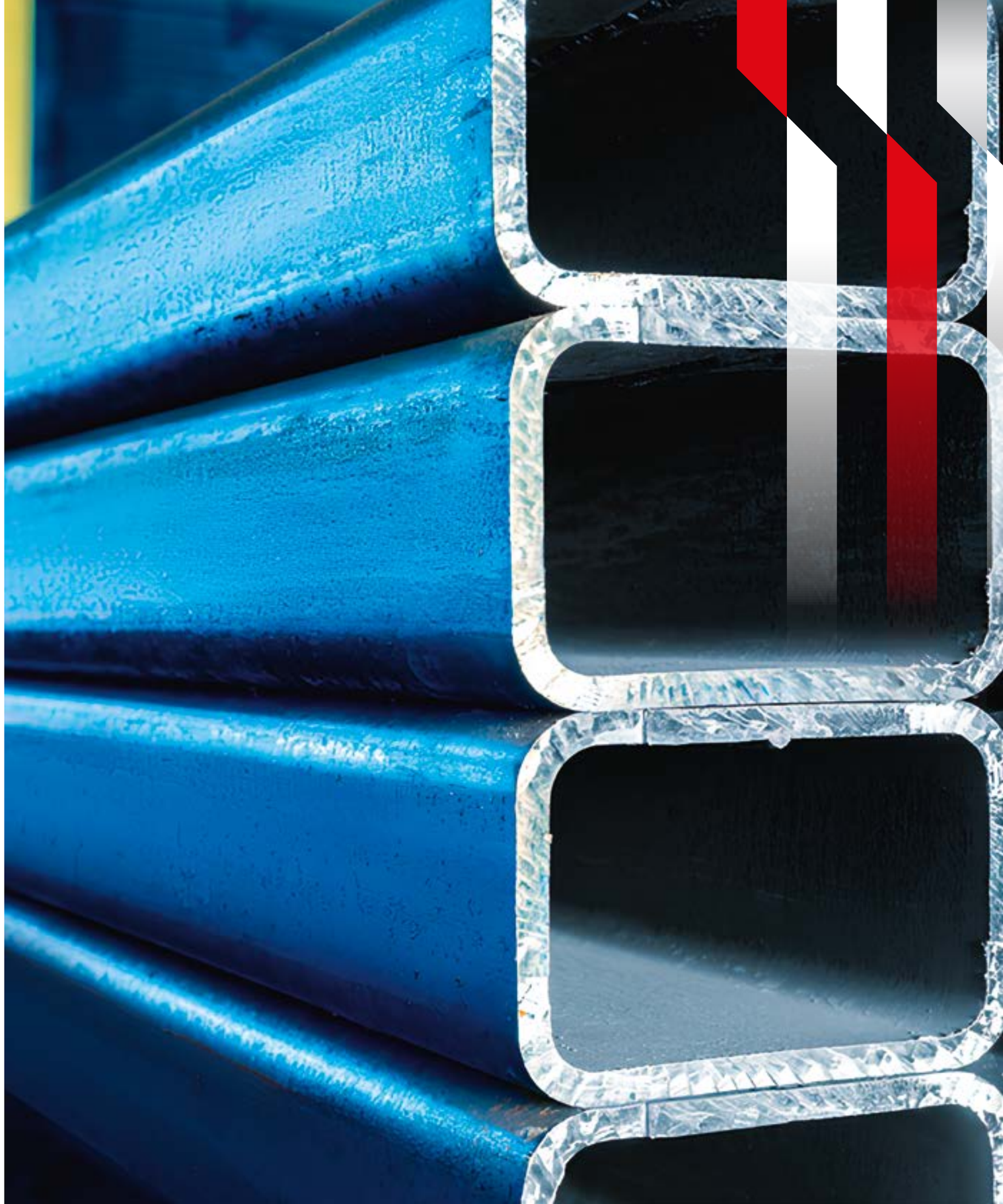
The external burr on the pipes shall be removed.

Wall thinning up to 0.1 mm beyond the negative tolerance is permissible at the burr removal area.

Table 5

Dimensional range of square and rectangular sections with zinc coating. Steel grades 08ps, 3sp; zinc coating class 100, 120, 140, 180, 200

Outside dimension, mm	Wall thickness, S, mm												
	0.70	0.80	0.90	1.00	1.10	1.20	1.25	1.35	1.40	1.50	1.75	1.90	2.00
15×15	+	+	+	+	+	+		+	+	+			
20×20	+	+	+	+	+	+		+	+	+			
25×25	+	+	+	+	+	+		+	+	+			
30×20	+	+	+	+	+	+		+	+	+			
30×30		+	+	+	+	+		+	+	+	+	+	+
40×40				+	+	+		+	+	+	+	+	+
50×50				+	+	+		+	+	+	+	+	+
60×60					+	+		+	+	+	+	+	+
40×20		+	+	+	+	+		+	+	+	+	+	+
50×25				+	+	+	+	+	+	+	+	+	+
50×30				+	+	+		+	+	+	+	+	+
60×30					+	+		+	+	+	+	+	+
60×40				+	+	+		+	+	+	+	+	+
70×50					+	+		+	+	+	+	+	+
80×40					+	+		+	+	+	+	+	+



Electric-welded straight-seam steel pipes of round and shaped sections according to STO 00186217-477-2019

Electric-welded straight-seam steel pipes made of carbon and low-alloy steel grades, without subsequent heat treatment, for general purposes and for the production of metal structures.

Pipes are manufactured in round, square, rectangular, flat-oval, semi-oval, and special sections. Pipes are supplied based on theoretical weight.

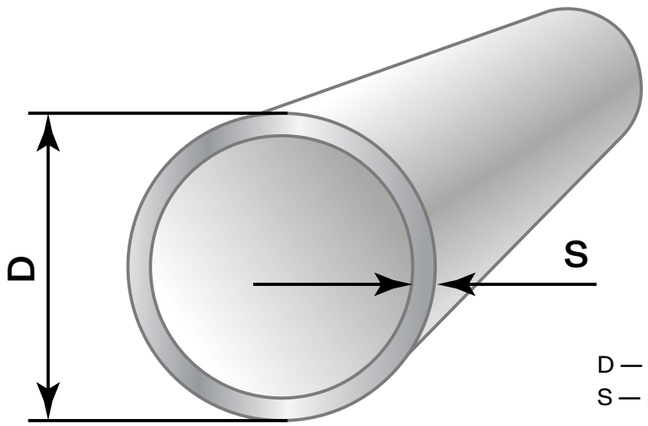
Pipes are produced from hot-rolled slit strip made of steel grades with chemical composition meeting the requirements of GOST 380, GOST 1050, GOST 9045, GOST 19281.

For steels of St3ps and St3sp grades, an increase in manganese content up to 1.8% and silicon content up to 0.35% is permissible. Additionally, silicon content in St3sp can be reduced down to 0.05%, provided that the required level of mechanical properties is ensured. Other requirements for chemical composition shall comply with GOST 380.

In steels of St1ps and St2ps grades, an increase in manganese content up to 0.8%, phosphorus up to 0.06%, and silicon up to 0.25% is permissible, provided that the required level of mechanical properties is ensured. Other requirements for chemical composition shall comply with GOST 380.

Round pipes

The shape and dimensions of round pipes shall correspond to those shown in Figure 1 and in the table.



D — nominal outside diameter, mm;
S — nominal wall thickness, mm.

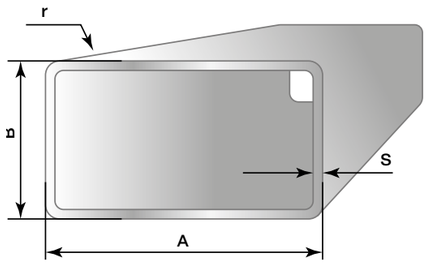
Table 6

Pipes made from hot-rolled slit strip

Outer diameter, D, mm	Wall thickness, S, mm									
	1.35	1.50	1.75	2.00	2.50	3.00	3.50	4.00	4.50	5.00
16	+	+								
18	+	+								
19	+	+								
20	+	+								
21.3	+	+	+	+						
22	+	+	+	+						
25	+	+	+	+	+					
26.75	+	+	+	+	+					
28	+	+	+	+						
30	+	+	+	+	+					
32	+	+	+	+	+					
33.5	+	+	+	+	+					
35	+	+	+	+	+					
36	+	+	+	+	+					
38	+	+	+	+	+	+	+	+		
40	+	+	+	+	+					
42	+	+	+	+	+	+	+	+		
45	+	+	+	+	+					
48	+	+	+	+	+	+	+	+		
50	+	+	+	+	+					
51	+	+	+	+	+	+	+	+		
57			+	+	+	+	+	+		
60			+	+	+	+				
63.5			+	+	+	+	+	+		
70			+	+	+	+				
76			+	+	+	+	+	+		
89				+	+	+	+	+	+	+
102							+	+	+	+
108							+	+	+	+
114								+	+	+
133								+	+	+
159									+	+

Rectangular pipes

The shape and dimensions of rectangular pipes shall correspond to those shown in Figure 2 and Table 7.



A — nominal dimension of the longer side, mm;
B — nominal dimension of the shorter side, mm;
S — nominal wall thickness, mm;
r — external corner radius (edge zone), mm.

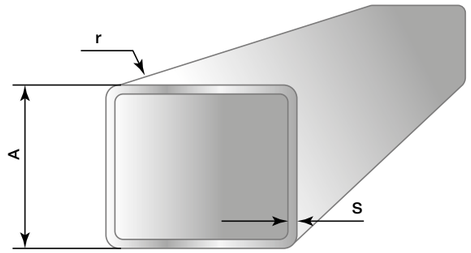
Table 7

Pipes made from hot-rolled slit strip

Outside diam., D, mm		Wall thickness, S, mm									
A	B	1.35	1.50	1.75	2.00	2.50	3.00	3.50	4.00	4.50	5.00
20	10	+	+								
20	15	+	+	+	+						
25	10	+	+	+	+						
25	15	+	+	+	+						
28	25	+	+	+	+						
30	10	+	+	+	+						
30	15	+	+	+	+						
30	20	+	+	+	+						
30	25	+	+	+	+						
35	15	+	+	+	+						
40	20	+	+	+	+	+	+	+	+		
40	25	+	+	+	+	+	+	+	+		
40	30	+	+	+	+	+					
45	20	+	+	+	+	+	+	+	+		
45	25	+	+	+	+	+					
50	10	+	+	+	+	+					
50	20	+	+	+	+	+					
50	25	+	+	+	+	+	+	+			
50	30	+	+	+	+	+	+	+	+		
50	40		+	+	+	+	+	+	+		
60	20		+	+	+	+	+	+	+		
60	30			+	+	+	+	+	+		
60	40			+	+	+	+	+	+		
70	30			+	+	+	+	+	+		
70	50			+	+	+	+	+	+		
80	30			+	+	+					
80	40			+	+	+	+	+	+		
80	60				+	+	+	+	+	+	+
90	50				+	+	+	+	+	+	+
100	40				+	+	+	+	+	+	+

Square pipes

The shape and dimensions of square pipes shall correspond to those shown in Figure 3 and Table 8.



A — nominal side dimension, mm;
S — nominal wall thickness, mm;
r — external corner radius (edge zone), mm.

Table 8

Pipes made from hot-rolled slit strip

Outside diam., D, mm		Wall thickness, S, mm									
A	B	1.35	1.50	1.75	2.00	2.50	3.00	3.50	4.00	4.50	5.00
15	15	+	+								
20	20	+	+	+	+						
25	25	+	+	+	+						
30	30	+	+	+	+	+	+	+	+		
35	35	+	+	+	+						
40	40	+	+	+	+	+	+	+	+		
45	45		+	+	+	+	+	+			
50	50		+	+	+	+	+	+			
60	60		+	+	+	+	+	+			
70	70			+	+	+	+	+	+	+	+
80	80						+	+	+	+	+
90	90							+	+	+	
100	100						+	+	+	+	

The finish of the outer surface of pipes shall comply with the manufacturing process. Cracks, slivers, tears, and laps are not allowed on the surface of pipes.

Pipes made from hot-rolled slit strip may have minor dents, scale, traces of detached scale, slight rust, indentations, straightening marks, scratches, ripple markings, and traces of defect removal, provided they do not cause the pipe dimensions or wall thickness to exceed permissible tolerances.

By agreement between the manufacturer and the customer, as specified in the order (specification), hot-rolled pipes may be packed in metal boxes (for lengths over 7,200 mm, in a top composite metal box) or, for lengths up to 12,000 mm, in inhibitor paper.

Hot-rolled pipes shall be preserved according to additional customer requirements, as specified in the order (specification).

The method and means of preservation shall be determined by the manufacturer.

Note. Hot-rolled pipes exceeding the following sizes shall not be subject to preservation:

- for round pipes — 76 mm;
- for square and rectangular pipes — semi-perimeter of 120 mm.

Roll-formed welded square and rectangular hollow steel sections for construction according to GOST 30245-2003

Sections are produced on specialized machines by forming a round tubular section with a longitudinal weld, followed by compression by rolls into a square or rectangular hollow section.

Sections are manufactured from the following steels:

- general-purpose carbon and low-alloy steels S245, S255, S345, S355 according to GOST 27772;
- high-quality carbon steel grade 20 according to GOST 1050-2013;
- low-alloy steel 09G2S, 10×SND, 17G1S according to GOST 19281;
- commercial quality steels St3ps, St3sp according to GOST 380-2005

Equivalent steel grades S355 and 09G2S may be ordered with double certification, if S355 is certified to GOST 27772-2021 and 09G2S is certified to GOST 19281-2014.

Table 9

Dimensional range of square hollow sections

Outside dimension, mm	Wall thickness, S, mm																												
	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0	8.5	9.0	9.5	10.0	10.5	11.0	11.5	12.0	12.5	13.0	13.5	14.0	14.5	15.0	15.5	16.0
50×50				+																							
60×60	+	+	+																								
70×70	+	+	+	+	+																						
80×80	+	+	+	+	+																						
90×90				+	+																						
100×100	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+												
120×120	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+												
140×140		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+								
150×150		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+								
160×160			+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+								
180×180					+	+	+	+	+	+	+	+	+	+	+	+	+	+	+								
200×200					+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+			+				
250×250					+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+			+				
300×300					+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+

Table 10

Dimensional range of rectangular hollow sections

Outside dimension, mm	Wall thickness, S, mm																												
	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0	6.5	7.0	7.5	8.0	8.5	9.0	9.5	10.0	10.5	11.0	11.5	12.0	12.5	13.0	13.5	14.0	14.5	15.0	15.5	16.0
70×50					+																								
80×60			+	+	+		+																						
90×50			+		+																								
100×40			+		+																								
100×50	+	+	+	+	+																								
100×60			+	+	+	+	+																						
100×80					+		+																						
120×60					+		+																						
120×80			+	+	+	+	+	+	+	+	+	+	+	+	+	+	+												
140×100				+	+	+	+	+	+	+	+	+	+	+	+	+	+												
140×110											+																		
140×120				+	+	+	+	+	+	+	+	+	+	+	+	+	+												
150×100			+	+	+	+	+	+	+	+	+	+	+	+	+	+	+												
160×80			+	+	+	+	+	+	+	+	+	+	+	+	+	+	+												
160×100											+		+			+													
160×120					+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+								
160×140					+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+								
180×80					+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+								
180×100					+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+								
180×120					+		+		+		+		+		+		+		+		+	+							
180×140					+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+							
200×100					+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+								
200×120					+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+								
200×160							+	+	+	+	+	+	+	+	+	+	+	+	+	+	+								
240×100							+	+	+	+	+	+	+	+	+	+	+	+	+	+	+								
240×120					+		+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+							
240×160							+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+							
250×150							+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+							
250×200										+																			
260×130											+		+																
260×180													+																
300×100							+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+							
300×130																	+												
300×200									+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
350×250											+		+																

Steel electric-welded round pipes according to GOST 10705-80

Depending on quality indicators, pipes of the following groups are manufactured:

- A — with standardized mechanical properties of killed and semi-killed steels of grades St1, St3 according to GOST 380-2005;
- B — with standardized chemical composition:
  - for killed and semi-killed steel grades St1, St3 according to GOST 380-2005;
  - for killed and semi-killed steel grades 10, 20 according to GOST 1050-2013;
  - for low-alloy steels of grades 09G2S, 17G1S according to GOST 19281-2014.
- C — with standardized mechanical properties and chemical composition:
  - for killed and semi-killed steel grades St1, St3 according to GOST 380-2005;
  - for killed and semi-killed steel grades 10, 20 according to GOST 1050-2013;
  - for low-alloy steels of grades 09G2S, 17G1S according to GOST 19281-2014.

Table 11

Dimensional range of rounds

Outside dimension, mm	Wall thickness, S, mm																																						
	2.0	2.5	2.8	3.0	3.2	3.3	3.5	3.7	4.0	4.2	4.5	4.6	4.7	5.0	5.5	6.0	6.5	7.0	7.5	8.0	8.5	9.0	9.5	10.0	10.5	11.0	11.5	12.0	12.5	13.0	13.5	14.0	14.5	15.0	15.5	16.0
38				+	+	+	+	+	+																													
42				+	+	+	+	+	+																													
48				+	+	+	+	+	+																													
51				+	+	+	+	+	+																													
57			+	+	+	+	+	+	+																													
63		+	+	+	+	+	+	+	+																													
70		+	+																																		
76		+	+	+	+	+	+	+	+																													
89				+	+	+	+	+	+		+			+																							
102				+	+	+	+	+	+		+			+																							
108					+	+	+	+	+		+			+																							
114							+	+	+	+	+			+																							
133								+	+		+			+																							
159				+			+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+										
219									+		+			+	+	+	+	+	+	+	+	+	+	+	+	+	+					+					
273									+					+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+					
325														+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
377																+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+
426																+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+

Steel water and gas pipes according to GOST 3262-75

Pipes are intended for water and gas pipelines, heating systems, and for components of water and gas pipeline structures.

They are manufactured from commercial quality steel grades St1ps, St2ps, St3ps, St3sp according to GOST 380-2005.

Table 12

Dimensional range of rounds

Outer dimension, mm	Wall thickness, S, mm							
	2.35	2.50	2.80	3.00	3.20	3.30	3.50	4.00
15	+							
20	+	+						
25		+	+					
32		+	+	+	+			
40			+	+	+	+	+	+
50			+	+	+	+		
65					+			+
80							+	+

New types of pipes

High-strength roll-formed welded sections Powerweld Tube, Powerform Tube

For building structures, lifting and transport equipment, agricultural machinery, and components of trailer frame structures

Steel grade	Yield strength at Rp0.2 (MPa)	Tensile strength, Rm (MPa)	Elongation, A (%), minimum	Section dimensions, mm	Wall thickness, mm	Length, mm
Powerweld Tube 420	420–480	540–720	20	100x100 ÷ 300x300	4.0–12.0	6,000–16,000
Powerform Tube 550	550–650	600–760	10	100x100 ÷ 300x300	6.0–12.0	6,000–16,000

High-strength Powerform Tube 500

for scaffolding and formwork

Steel grade	Yield strength at Rp0.2 (MPa)	Tensile strength, Rm (MPa)	Elongation, A (%), minimum	Section dimensions, mm	Wall thickness, mm	Length, mm
Powerform Tube 500	500–630	550–700	14	48 (additional sizes upon request)	2.0–3.0	5,000–12,000

High-strength welded section

for cargo trolleys for warehouses and distribution centers

Steel grade	Yield strength at Rp0.2 (MPa)	Tensile strength, Rm (MPa)	Elongation, A (%), minimum	Section dimensions, mm	Wall thickness, mm	Length, mm
S355MC	355	430–550	19	25x25	2	4,000–7,100

High-strength weather-resistant steel pipes

for power line poles, metal structures operating in harsh conditions, and marine and railway containers

Steel grade	Yield strength at Rp0.2 (MPa)	Temperature mode	Section dimensions, mm
A606 and equivalents	480–550	No property changes down to -60°C	40x40x2.5–300x300x12

Additional section sizes

Standard sizes	Thickness, mm
Ø 168	3.5–10
Ø 159 3.5 mm	3.5
Ø 124	3–6
80×80 with wall thickness less than 3 mm	2–2.9

Pipes made from thin cold-rolled billets (0.7–0.9 mm thick)

Pipes with enhanced surface quality

Pipes for further processing by tapering and reducing

for furniture, household items, and shelving

Pipes made from hot-rolled pickled and skin-passed products

Additional services

- Ultrasonic testing
- Pipes and sections with surface for galvanic chrome plating (Ra less than 0.8 μm)
- Flattening, expansion and bending test of pipes
- Galvanizing of the weld seam for galvanized steel pipe

Packaging and shipment

Packaging

- Metal boxes
- Metal boxes with film and cardboard
- Braided polymer material (white sleeve)
- Braided polymer material with inhibitor paper
- Top or composite top box
- Inhibitory paper with film

Shipment (our requirements to order sizes)

Number of items per railway car:

- max. 4 for ERW Lines (1025, 2056, 5076, 2189) — minimum item weight — 10 t
- max. 3 for Roll Forming Mils (28) — item weight shall be a multiple of 8 t (with certain exceptions, carload shall be 64 t, loading schemes by tonnage: 32+32, 48+16, 8+56, 16+16+32, 24+24+16). Mill 28 shall not be loaded with other mills
- max. 3 for Sheksna Pipe Mill, minimum item weight — 15 t

The carload varies for different section sizes. The configuration of prefabricated cars shall be calculated using the sums of the item shares in each car (item weight divided by carload).

Follow the online store instructions regarding carloads.
This will reduce the time taken to process orders.

Trucks and self-pickup:

- for Rollforming Shop, the order weight and item quantity shall be a multiple of 20 t, minimum item weight — 20 t
- for Sheksna Pipe Mill: a multiple of 18 t for round pipes (same as minimum item weight), a multiple of 20 t for shaped pipes (same as minimum item weight)