

## 4. Cold-rolled carbon steel

### 4.5. STRUCTURAL ROLLED STEEL

**Table 4.11. Mechanical properties of steel**

Strength category	Steel grade	Standard	Tensile strength, MPa, N/mm <sup>2</sup>	Yield point, MPa, N/mm <sup>2</sup>		Mandrel diameter at bending	Erichsen indent depth, mm	Application
K270V	08ps, 10 ps	GOST 16523-97	270–410	...	25	d=0	8,4–11,9	*
K310V	15ps	GOST 16523-97	310–440	...	24	d=0	8,0–9,2	*
K330V	15	GOST 16523-97	330–460	...	24	d=0	8,0–9,2	*
K350V	20ps	GOST 16523-97	350–500	...	23	d=0	8,0–9,2	*
OK300V	St1ps St2ps	GOST 16523-97	300–480	...	24	d=0	...	*
OK360V	St 3ps	GOST 16523-97	360–530	...	22	d=a	...	*
OK370V	St 3ps	GOST 16523-97	370–530	...	22	d=a	...	*
OK400V	St 5ps St 5sp	GOST 16523-97	400–680	...	19	-	...	*

... — parameter not limited by standard

\* — - building structures, formed sections, gas cylinders, welded pipes

a — strip thickness

Rolled steel may be produced with special mechanical properties on demand by customer.

**Table 4.12. Chemical composition of steel**

Steel grade	C	Si	Mn	Al	S	P	Cr	Ni	Cu	N
08ps	0,05–0,10	0,10 max	0,25–0,50	0,02–0,07	0,035 max	0,30 max	0,10 max	0,20 max	0,20 max	0,007 max
20ps	0,17–0,21	0,17 max	0,35–0,60	0,02–0,07	0,035 max	0,30 max	0,15 max	0,20 max	0,20 max	0,008 max
10ps	0,07–0,14	0,17 max	0,35–0,65	0,02–0,07	0,035 max	0,30 max	0,15 max	0,20 max	0,20 max	0,008 max
15ps	0,12–0,19	0,17 max	0,35–0,65	0,02–0,07	0,035 max	0,30 max	0,15 max	0,20 max	0,20 max	0,008 max
15	0,12–0,19	0,17–0,37	0,35–0,65	0,02–0,07	0,035 max	0,30 max	0,15 max	0,20 max	0,20 max	0,008 max
St1ps	0,06–0,12	0,15 max	0,25–0,50	0,02–0,07	0,035 max	0,30 max	0,15 max	0,20 max	0,20 max	0,008 max
St2ps	0,09–0,15	0,15 max	0,25–0,50	0,02–0,07	0,035 max	0,30 max	0,15 max	0,20 max	0,20 max	0,008 max
St3ps	0,14–0,22	0,15 max	0,40–0,65	0,02–0,07	0,035 max	0,30 max	0,15 max	0,20 max	0,20 max	0,008 max
St5ps	0,28–0,37	0,05–0,15	0,50–0,80	0,02–0,07	0,035 max	0,30 max	0,15 max	0,20 max	0,20 max	0,008 max

**Table 4.13. Shape and dimension tolerances**

Standard for technical specification	GOST 16523-97
Standard for product mix, geometry and tolerances	GOST 19904-90

**Figure 4.4. Thickness-to-width relation**

Strip thickness, mm	Strip width, mm		
	900	1520	1650
0.5			
0.7			
1.5			
2.5			

Rolled steel with other dimensional requirements, including those to thickness-to-width relation, may be produced to special order upon additional agreement.