

GOST 550-75 SEAMLESS STEEL TUBES FOR OIL INDUSTRY

This standard specifies the size range (Table 1) and technical requirements to hot-finished steel tubes for high pressure, high temperature uses under oil production and processing conditions.

According to the use, tubes to GOST 550-75 shall be delivered in two grades:

- Grade A for heavy duty conditions;
- Grade B for normal operation.

Size range and limit tolerances for tubes grade B shall be to GOST 8732-78 (hot-finished).

Tubes grade A shall have outside diameter 57 to 219 mm and wall thickness 4.0 to 25 mm (see Table above).

Tubes grade A shall be supplied only as specified length: diameters 57 and 80 mm shall have 9 meters length; diameter 60 mm shall have 10 meters length. The rest of the diameters shall have 12 to 12.2 meters length except heavy-wall tubes of 219 mm diameter whose length shall depend on wall thickness:

	T	T	T	T	T	T
Толщина стенки, мм						
Wall thickness, mm	<16	16	18	20	22	25
Длина трубы, м						
Tube length, m	12	10	9	8	7.5	6.7
L						

Limit tolerances for diameter and wall thickness for grade A shall conform to those given in Table 1.

Curvature for tubes grade A is given below: local for any meter length shall be not over 1.5 mm;

Table 1. Size range and limit tolerances for seamless steel tubes for oil production and processing

Наружный диаметр, мм	Толщина стенки, мм	Предельные отклонения, %	
		наружного диаметра труб	толщины стенки
Outside diameter, mm	Wall thickness, mm	Limit tolerances, %	
		of outside diameter	of wall thickness
57.0	4.0; 5.0	(+ 0.5) - (-1.25)	для S<15 мм:
60.0	4.0; 5.0; 6.0		for t<15 mm:
76.0	4.0; 5.0; 6.0; 8.0		±12.5
80.0	4.0; 5.0		
89.0	4.0; 5.0; 6.0; 7.0; 8.0	(+ 0.5) - (-1.25)	для S>15 мм:
102.0	5.0; 6.0; 7.0; 8.0; 9.0;		for t>15 mm:
	10.0; 11.0; 12.0; 13.0;		±10.0
	14.0		
108.0	4.0; 5.0; 6.0; 7.0; 8.0		
114.0	6.0; 7.0; 8.0; 9.0;		
	10.0; 11.0		
127.0	6.0; 7.0; 8.0; 9.0;		
	10.0; 11.0; 12.0; 14.0		
133.0	5.0; 6.0; 7.0; 8.0; 9.0		
146.0	11.0		
152.0	6.0; 7.0; 8.0; 9.0;		
	10.0; 11.0; 12.0; 14.0		
159.0	6.0; 7.0; 8.0; 9.0; 10.0		
	11.0; 12.0; 14.0; 16.0		
168.0	11.0; 12.0		
194.0	7.0; 8.0; 9.0; 10.0;		
	12.0		
219.0	8.0; 9.0; 10.0; 11.0;		
	12.0; 14.0; 16.0; 18.0		
	20.0; 22.0; 25.0		

Total curvature for a tube length shall be not over 8 mm.

Technical requirements to this standard refer to steel grades, mechanical properties and testing procedures.

Tubes grade A and B shall be delivered in steel grades 10 and 20 to GOST 1050-88, 10G2 to GOST 4543-71, 12MN, 15H5, 15H5M, 15H5VF, 12H2VF to GOST 20072-74 and steel grade H8 of the chemical composition given below:

C	Mn	Si	Cr	S	P	Ni	Ca
0.12*	0.3-0.6	0.17-0.37	7.5-9.0	0.03	0.035*	0.4*	0.25*
* - не более				* - not greater			

Mechanical properties are given in Table below. Tubes grade A and B shall be delivered in normalized condition. Tubes of steel grades 10, 20 and 10G2 may be delivered without special heat treatment if their properties conform to the requirements of this standard. For hot-finished tubes, tensile strength, yield strength, elongation, reduction in area and Brinell hardness number are determined.

Mechanical properties of seamless tubes for oil production and processing industries.

Марка стали	Временное сопротивле- ние разрыву МПа	Предел текучести, МПа	Относитель- ное удлине- ние, %	Относитель- ное суже- ние, %	Ударная вязкость кДж/м	Число по Бри- неллю, не более
			не менее			
Steel grade	Tensile strength, MPa	Yield strength, MPa	Elongation, %	Reduction in area, %	Impact energy, kJ/m	BHN, not over
			not lower			
10	353	216	25	50	780	137
20	432	255	22	50	780	156
10Г2	471	256	21	50	1180	197
12МХ	412	245	21	45	670	156
15Х5	392	216	24	50	980	170
15Х5М	392	216	22	50	1180	170
15Х5ВФ	392	216	22	50	1180	170
12Х8ВФ	392	167	22	50	980	170