GOST 10706-76 LONGITUDINALLY WELDED LARGE DIAMETER GENERAL-PURPOSE PIPE

Pipe shall have the diameters from 530 to 1620 mm and wall thickness 7 to 20 mm; for details, see table 1.

Table 1 Size range and diameter tolerances for longitudinally welded general-purpose pipe

Outside diameter, mm	Wall thickness, mm	Limit tolerance for diameter, %
530; 630	7.0; 8.0; 9.0; 10; 11; 12	± 0.7
720; 810	7.0-12.0; 13; 14; 15; 16; 17; 18; 19	
820; 920	7.0-19.0; 20.0	
1020	8.0-20.0	
1120	8.0-20.0	± 0.6
1220; 1320	9.0-20.0	
1420; 1520	10.0-20.0	
1620	10.0-20.0	

Pipe length shall be random, not shorter than 5 m. On special agreement pipe ends may have different tolerances for diameter at end parts of pipe, varying from 1.5 to 5.0 mm.
Pipe curvature shall not be over 1.5 mm per meter length.

Technical requirements. Pipe to standard 10706-76 shall be manufactured of carbon and low alloy steel grades.
Depending on quality level pipe shall be delivered in the following grades:

A - with mechanical properties specified and hydraulic test required;

B - with chemical composition specified and hydraulic test required;

V - with chemical composition and mechanical properties specified, hydraulic test required, and impact resistance of the base and weld metal on request;

D - without chemical composition and mechanical properties specified, but with hydraulic test required.

Pipe grades A and B shall withstand tensile test of the weld metal according to GOST 6996-66.

Table 2 Mechanical properties of pipe metal

Steel grades	Tensile strength, MPa	Yield limit, MPa	Elongation, %
Ст2кп, ВСт2кп	324	216	22
Ст2пс, Ст2сп, ВСт2пс, ВСтсп	334	226	22
Ст3кп, ВСт3кп	363	235	20
Ст3пс, Ст3сп, ВСт3пс, ВСт3сп	373	245	18

Table 3 Impact toughness of tube metal

Steel grades	Wall thickness, mm	Impact toughness, kJ/м², of temperatures, ° C	
		+20	-20
ВСт3пс3	От 5 до 9	600	-
	Свыше 9 до 20	500	-
ВСт3сп3	От 5 до 9	600	-
	Свыше 9 до 20	500	-
ВСт3пс4	От 5 до 9	-	196
	Свыше 9 до 20	-	98
ВСт3сп4	От 5 до 9	-	196
	Свыше 9 до 20	-	98

Tensile strength of the weld metal shall be equal to that of the base metal.

Pipe with diameters 820 mm and smaller may have one longitudinal and one circular weld seam; pipe with larger diameters (820 mm and over) may have two longitudinal and one circular seams.

The height of outside weld seam reinforcement shall be within the limits given below.

Table 4

Толщина стенки, мм Wall thickness, mm	до 8 under 8	8 -14 8 to 14	14 - 17 14 to 17	свыше 17 over 17
Высота валика, мм Height of seam reinforcement, mm	0.5 to 3	0.5 to 3.5	0.5 to 4	0.5 to 5

The height of inside weld seam reinforcement shall not be lover than 0.5 mm. Pipe ends shall be cut square and bevelled at 25-30 degrees.

Each pipe length shall withstand hydraulic pressure calculated from the formula given in GOST 3845-76; for grade A fiber stress R in pipe metal shall be taken equal to 0.5 of the tensile strength for a particular steel grade.
Pipe lengths (grades B and D) shall be tested with hydraulic pressure not lower than 2.5 MPa; for larger diameters, this pressure shall be equal to 2 MPa.

On special request weld seams shall be tested by non-destructive testing methods.