GOST - 380 - 71

CARBON STEEL OF ORDINARY QUALITY GRADES AND GENERAL TECHNICAL REQUIREMENTS

GOST : 380-71

TITLE : CARBON STEEL OF ORDINARY QUALITY GRADES AND GENERAL TECHNICAL REQUIREMENTS

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1.2. Depending upon the standardised parmeters, steel of each group is subdivided into six categories.

Steel of group A into categories 1, 2 and 3;

Steel of group Б(B) into categories 1 and 2;

Steel of group B (V) into categories 1, 2, 3, 4, 5 and 6.

Note: The above categories do not apply to steel sheets of thickness less than 4 mm.

(REVISED EDITION - ISI No. 1, 1973).

1.3. Steel is manufactured in the following grades:

Steel of group A - Ст0, Ст1, Ст2, Ст3, Ст4, Ст5, Ст6
(St0, St1, St2, St3, St4, St5, St6)

Steel of group Б(B) - БСт1, БСт2, БСт3, БСт4, БСт5, БСт6;
(BSt1, BSt2, BSt3, BSt4, BSt5, BSt6)

Steel of group B (V) - ВСт1, ВСт2, ВСт3, ВСт4, ВСт5.
(VSt1, VSt2, VSt3, VSt4, VSt5.

(REVISED EDITION - ISI No. 1, 1973).

1.4. Steel of grades 1, 2, 3 and 4 belonging to all groups are produced as rimmed, semikilled and killed depending on the degree of reduction. Steel of grades 5 and 6 belonging to all groups are produced as semikilled and killed steel.

Semikilled steel of grades 3 and 5 is produced with normal and increased percentage of manganese.

Steel of grade Ст0 (St0) and БСт0 (BSt0) have the same degree of reduction.

1.4.1. Degree of reduction for all groups is selected by the manufacturer, if it is not indicated in the order.

1.5. Steel of grades ВСт1 (VSt1), ВСт2 (VSt2) and ВСт3 (VSt3) for all degrees of of reduction and ВСт3 (VSt3) with increased manganese content are supplie with weldability guarantee. If the customer so desires, steel of

UDC 66?.14 - 122.4 (083.7?) Group B20 (V2

[illegible] STATE STANDARD

CARBON STEEL OF ORDINARY QUALITY
Grades and general Technical Requirements

GOST 380-7[illegible]
This supersedes
GOST 380-6[illegible]

Valid from 1.1.[illegible]

The present standard relates to carbon steel of ordinary quality: hot-rolled - assorted, sections, thick sheets, thin sh[illegible] wide strips (universal) and cold-rolled - thin sheets. The standard also covers the part relating to norms for chemical composition of ingots, blooms, slabs, sheet bars, blanks rolled and cast by continuous casting process, for steel tubes, forgings and stampings, tapes, wires and metal ware.

The standard does not cover steel produced by Bessemer convertion. This standard takes into account the CMEA recommendations PC 1-70 on standardisation.

1. GRADES

1.1. Depending upon end use, steel is divided into three groups as below:

A - Steel supplied as per mechanical properties;

Б (B) - Steel supplied as per chemical composition;

В (V) - Steel supplied as per mechanical properties and chemical composition.

grades Б Ст1, Б Ст2 and Б Ст3 of all degrees of reduction and of grade Б Ст3 with increased manganese content is also supplied with guaranteed weldability.

(REVISED EDITION - ISI No. 1, 1973).

1.5.1. Weldability is ensured by the production technology a by observing all requirements of chemical composition envisaged for steel of groups Б (В) and В (У).

(REVISED EDITION - ISI No. 1, 1973).

1.5.2. Supply of steel of group Б (В) with guaranteed weldabi is specified in the order and in the certificate.

(REVISED EDITION - ISI No. 1, 1973).

1.5.3. Steel containing more than 0.22% carbon in the finish rolled stock is used for welded structures under welding conditio which ensure reliability of the welded joint.

(REVISED EDITION - ISI No. 1, 1973).

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1.6. Alpha-numeric designation of steel grades must be used ordering, stamping and marking in the certificate, on the drawing in other documents.

1.6.1. The letters Ст denote "steel" and the numerals 0 to denote the number of the grade depending upon the chemical composition of steel and its mechanical properties, for example Ст0, Ст1, Ст2, Ст3. (St0 St1, St2, St3)

1.6.2. The letters Б and В (В, У) before the designation of the grade indicate the group of steel; in the case of group A, the letter is not indicated before the designation of grade.

For Example - Б Ст3, ВСт3, Ст3.

1.6.3. Indices are added after the number of the grades in

(5)

order to designate the degree of reduction - кп (кр) - for rimming steel, пс (пс) - for semikilled steel, сп (сп) - for killed steel. For example, Ст3кп, Ст3 сп, БСт3сп, ВСт4сп. (Ст3кр, Ст3 ср, Б Ст3ср, Вст3ср)

1.6.4. The category of steel is designated by adding the number of the corresponding category at the end of the designation of the grade, for example - Ст3пс2, Б Ст3кп2, ВСт4пс2. (Ст3пс2, Бст3кр2 Вст4пс2)

1.6.5. Category 1 is not indicated in the designation of the grade of steel, for example - Б Ст3кп, ВСт3пс. (Бст3кр, Вст3пс)

1.6.6. While ordering steel of the necessary category without indicating the degree of reduction, the number of the grade and the number of the category are separated by a dash in the designation of steel, for example Ст3-2, Б Ст3-2. (Ст3-2, Б Ст3-2)

1.6.7. Semikilled steel with increased manganese content is designated by adding the letter Г(Г) after the number of the grade in the designation of the steel, for example Ст3Гпс, ВСт3Гпс, ВСт3Гпс (Ст3Гпс, Вст3Гпс Вст3Гпс)

1.6.8. Letters and numbers of the same height may be used for stamping.

Steel rolls made by hot stamping may be marked without indicating the designation of the group and the category of steel. These are indicated in the certificate. Groups and categories may be marked by mutual agreement

(REVISED EDITION - ISI No. 1 1973).

1.6.9. Melting process for steel of group В (В) and categories 4, 5, and 6 is indicated in the certificate.

Note: Melting process is to be indicated only upto 1st January, 197

1.6.10. Steel БСт3сп (Б Ст3сп) (in the form of ingots, blooms, slabs and blanks) intended for rerolling into sheets and supplied in categorie

4, 5 and 6 should meet the requirements of clause 2.4.5.

(ADDED - ISI No. 1, 1973).

2. TECHNICAL REQUIREMENTS

2.1. Steel should meet the requirements of the corresponding standards for individual rolled stock as to shape, sizes, deviation limits, surface condition and other technical requirements not envisaged in this standard.

2.2. STEEL OF GROUP A

2.2.1. Standardised parameters for steel of group A are given in Table 1.

Table 1

Category of steel	Grades of steel of all degrees of reduction and with increased manganese content	Ultimate strength	Relative elongation	Sag in cold condition	Yield limit
1	C_T0 - C_T6	+	+	-	-
2		+	+	+	-
3	C_T2 - C_T6	+	+	+	+

Note: 1. Sag in cold condition is not specified for steel of grade C_T6.

2. '+' sign means the parameter is specified and '-' sign means it is not specified.

(REVISED EDITION - ISI No. 1, 1973).

2.2.2. Mechanical properties of steel under tension and also test conditions for bending through 180° in cold condition should conform to the norms given in Table 2.

(REVISED EDITION - ISI No. 1 1973).

Table 2

Grade of steel	Ultimate strength kgf/mm²	Yield limit for thickness, mm kgf/mm²				Relative elongation %, for thickness, mm			Bending through 180° (a-sample thickness d-mandrel diameter) for thickness, mm	
		upto 20	Over 20 upto 40	Over 40 upto 100	Over 100	upto 20	Over 20 upto 40	Over 40	upto 20	Over 20
		Not less than								
Ст0	Not less than 31	-	-	-	-	23	22	20	d=2a	Diameter of mandrel is increased to the thickness of the sample
Ст1кп	31 to 40	-	-	-	-	25	34	32	d=0 (without mandrel)	
Ст1пс Ст1сп	32 to 42	-	-	-	-	34	33	31		
Ст2кп	33 to 42	22	21	20	19	33	32	30	d=0 (without mandrel)	
Ст2пс Ст2сп	34 to 44	23	22	21	20	32	31	29		
Ст3кп	37 to 47	24	23	22	20	27	26	24	d=0.5a	
Ст3пс Ст3сп	38 to 49	25	24	23	21	26	25	23		
Ст3Гпс	38 to 50	25	24	23	21	26	25	23		

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(Illegible)

Grade of steel	Ultimate strength kgf/mm^2	Yield limit kgf/mm^2 for thickness, mm				Relative elongation δ_5, for thickness, mm			Bending through 180° (a-sample thickness d-mandrel diameter) for thickness, mm	
		upto 20	Over 20 upto 40	Over 40 upto 100	Over 100	upto 20	Over 20 upto 40	Over 40	upto 20	Over 20
		Not less than								
Ст4кп	41 to 52	26	25	24	23	25	24	22	d=2a	Diameter of mandrel is increased to the thickness of the sample
Ст4пс, Ст4сп	42 to 54	27	26	25	24	24	23	21		
Ст5пс, Ст5сп	50 to 64	29	28	27	26	20	19	17	d=3a	
Ст5пс	46 to 60	29	28	27	26	20	19	17		
Ст6пс, Ст6сп	Not less than 60	32	31	30	30	16	14	12	-	

Note:

1. The upper limit of ultimate tensile strength may be exceeded by 3 kgf/mm^2 as compared to the value indicated above, provided all other norms are fulfilled. Such excess may be unlimited, if the customer agrees.

2. Yield limit may be lowered by 1 kgf/mm^3 as compared to the value indicated above for sheets and wide strips of all thicknesses and for steel profiles of thickness over 20 mm.

3. Relative elongation may be reduced by 1% absolute for each millimetre decrease in thickness for sheet steel of thickness from 8 to 4 mm. Norms of relative elongation for sheets of thickness less than 4 mm are defined in the corresponding standards.

4. Relative elongation of sheets, widestrips and profile of all thicknesses may fall short by 1% (absolute).

5. Yield limit of reinforcement steel of periodic profiles made out of steel of grades BCt3nc, BCt3cn and of thickness upto 40 mm should be not less than 30 kgf/mm².

6. Norms of mechanical properties for sheet steel of thickness above 60 mm are optional upto 1st January, 1974.

2.2.3. Chemical composition of steel is not regulated but is indicated in the certificate.

2.3. STEEL OF GROUP $\frac{B}{(B)}$.

2.3.1. Standardised parameters for steel of group $\frac{B}{(B)}$ are given in Table 3.

Table 3

Category of steel	Grades of steel of all degrees of reduction and with increased manganese content	Proportion of carbon manganese, silicon, phosphorous, sulphur arsenic and nitrogen	Proportion of chromium, nickel and copper
1	BCt0 to BCt6	+	-
2	BCt1 to BCt6	+	+

Note:

1. Only carbon, phosphorus and sulphur content norms are standardised for $\frac{BCt0}{Bst0}$ grade of steel.

2. '+' sign means the paramter is standardised and '-' sign means it is not.

2.3.2. Chemical composition of steel as per melt analysis of ladle sample should conform to the norms given in Table 4.

(REVISED EDITION - ISI No. 1, 1973).

1. Grade of steel
2. Carbon
3. Manganese
4. Silicon
5. Phosphorus
6. Sulphur
7. Chromium
8. Nickel
9. Copper
10. Arsenic

Proportion of elements, % Table 4

Steel grade	Марка стали	Содержание элементов, %									
		углерод C	марганец Mn	кремний Si	фосфор P	сера S	хром Cr	никель Ni	медь Cu	мышьяк As
					не более / not more than					
St0	Ст0	Не более 0,23 / Not more than 0.23	—	—	0,07	0,06	—	—	—	—
St1kp	Ст1кп	0,06–0,12	0,25–0,50	Не более 0,05 / Not more than 0.05	0,01	0,05	0,30	0,30	0,30	0,08
St1ps	Ст1пс	0,06–0,12	0,25–0,50	0,05–0,17	0,01	0,05	0,30	0,30	0,30	0,08
St1sp	Ст1сп	0,06–0,12	0,25–0,50	0,12–0,30	0,04	0,05	0,30	0,30	0,30	0,08
St2kp	Ст2кп	0,09–0,15	0,25–0,50	Не более 0,07 / Not more than 0.07	0,04	0,05	0,30	0,30	0,30	0,08
St2ps	Ст2пс	0,09–0,15	0,25–0,50	0,05–0,17	0,04	0,05	0,30	0,30	0,30	0,08
St2sp	Ст2сп	0,09–0,15	0,25–0,50	0,12–0,30	0,04	0,05	0,30	0,30	0,30	0,08
St3kp	Ст3кп	0,14–0,22	0,30–0,60	Не более 0,07 / Not more than 0.07	0,04	0,05	0,30	0,30	0,30	0,08
St3ps	Ст3пс	0,14–0,22	0,40–0,65	0,05–0,17	0,04	0,05	0,30	0,30	0,30	0,08
St3sp	Ст3сп	0,14–0,22	0,40–0,65	0,12–0,30	0,04	0,05	0,30	0,30	0,30	0,08
St3Gps	Ст3Гпс	0,14–0,22	0,80–1,10	Не более 0,1	0,04	0,05	0,30	0,30	0,30	0,08

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Steel grade	Марка стали	Содержание элементов, %									
		C углерод	Mn марганец	Si кремний	фосфор P	сера S	хром Cr	никель Ni	медь Cu	мышьяк As
					не более / not more than					
St4kp	Ст4кп	0,18–0,27	0,40–0,70	Не более 0,07	0,04	0,05	0,30	0,30	0,30	0,08
St4ps	Ст4пс	0,18–0,27	0,40–0,70	0,05–0,17	0,04	0,05	0,30	0,30	0,30	0,08
St4sp	Ст4сп	0,18–0,27	0,40–0,70	0,12–0,30	0,04	0,05	0,30	0,30	0,30	0,08
St5ps	Ст5пс	0,28–0,37	0,50–0,80	0,05–0,17	0,04	0,05	0,30	0,30	0,30	0,08
St5sp	Ст5сп	0,28–0,37	0,50–0,80	0,15–0,35	0,04	0,05	0,30	0,30	0,30	0,08
St5Gps	Ст5Гпс	0,22–0,30	0,80–1,20	Не более 0,1	0,04	0,05	0,30	0,30	0,30	0,08
St6ps	Ст6пс	0,38–0,49	0,50–0,80	0,05–0,17	0,04	0,05	0,30	0,30	0,30	0,08
St6sp	Ст6сп	0,38–0,49	0,50–0,80	0,15–0,35	0,04	0,05	0,30	0,30	0,30	0,08

1. Arsenic content upto 0.15% and phosphorus upto 0.050% are allowed in steel smelted from Kerch-based ores.

2. Silicon content of less than 0.05% is allowed when semikilled steel is reduced by aluminium, titanium or other reducing agents not containing silicon and by using more than one reducing agent (ferro silicon and aluminium, ferro silicon and titanium and other) reduction by titanium, aluminium and other reducing agents not containing silicon is specified in the certificate.

3. Manganese content may be reduced by 0.10% in rolled stock from steel of grade numbers 3, 4, 5 and 6 (for all degrees of reduction) and thickness upto 12 mm inclusive.

4. Nitrogen content in finished rolled stock and also in ingots, blooms, slabs, sheet bars and blanks from oxygen laced Bessemer converter and open hearth, intended for further rolling should be not more than 0.008%.

5. Silicon content upto 0.15% is allowed in finished rolled stock for chemically plugged rimmed steel except in cases when the steel is intended for cold upsetting and drawing or stamping which should be specified in the order.

2.3.3. Permissible deviations in chemical composition of finished rolled stock from norms indicated in Table 4 should correspond to those given in Table 5.

Table 5

Elements	Permissible deviations, %	
	for rimmed steel	killed and semikilled steel
Carbon	± 0.03	+0.03 -0.02
Manganese	+ 0.05 - 0.04	+0.05 -0.03
Silicon	-	+0.03 -0.02
Phosphorus	+0.006	+0.005
Sulphur	+0.006	+0.005

Note:

Plus deviations for carbon are not allowed in steels of grade 5Gt3 for all degrees of reduction and grade 5Gt3ps supplied with weldability guarantee as per the requirements of the customer.

(REVISED EDITION - ISI No. 1, 1973).

2.3.4. Chemical analysis of finished rolled stock at the manufacturer's premises need not be carried out provided the manufacturer ensures all established norms.

2.3.5. Chemical analysis for the proportion of chromium, nickel, copper, arsenic, nitrogen in steels of all degrees of reduction and also for silicon content in rimmed steel need not be carried out provided the manufacturer ensures all established norms.

Determination of arsenic content in steel smelted from kerch-based ores is mondatory.

2.4. STEEL OF GROUP B (V)

2.4.1. Standardised parameters for steel of group B (V) are given in Table 6.

Table 6

Categories of steel	Grades of steel of all degrees of reduction and with increased manganese content	Chemical composition	Ultimate tensile strength	Yield limit	Relative elongation	Bending in cold condition.	Impact strength at a temperature of °C		Impact strength after mechanical ageing
							+20	-20	
1	BCT1 to BCT5	+	+	-	+	+	-	-	-
2	BCT2 to BCT5	+	+	+	+	+	-	-	-
3	BCT3 to BCT4	+	+	+	+	+	+	-	-
4		+	+	+	+	+	-	+	-
5	BCT5	+	+	+	+	+	-	+	+
6		+	+	+	+	+	-	-	+

Note:

1. Steel of categories 3, 4, 5 and 6 is supplied as semikilled and killed. Steel of grades BCT3 and BCT4 category 3 may be supplied as rimmed by mutual agreement. In this case the norms of impact strength at +20°C are taken in accordance with the norms for killed and semikilled steel of grades BCT3 and BCT4 mentioned in Table 7.

2. '+' sign means the parameter is standardised and '-' sign means it is not.

(REVISED EDITION - ISI No.1, 1973).

2.4.2. Mechanical properties of steel under tension and [illegible] condition [illegible] should [illegible] 2.

2.4.3. [illegible] of steel [illegible], BCт3пс, BCт3 пс, category 3, 4, 5 and 6 [illegible] steel of grades 10т4пс, [illegible] category 5 should [illegible] to the norms given in Table 7.

(REVISED EDITION - ISI No. 1, 1973).

2.4.4. Chemical composition of steel of group B (V) should [illegible] to the norms given for steel of group Б (B) in Table 4 except f[illegible] lower limit of carbon content. Deviation from the lower limit carbon content does not constitute grounds for rejection. Upp[illegible] limit of manganese content may be exceeded by 0.2% over the va[illegible] given in Table 4 for all grades of steel except grades BCт3Гпс[illegible] BCт5Гпс.

(REVISED EDITION - ISI No. 1, 1973).

2.4.5. Reduction of steel intended for rolling into sheet grade BCт3сп (VSt3sp) category 4, 5 and 6 is done by aluminium. Other complex-reducing agents and nitride forming elements may also be used. Proportion of residual (soluble in acid) aluminium, steel should be not less than 0.02%. Residual aluminium need be determined in the case of compound reduction and only impac[illegible] strength of 4 sheets or 2 rolls from a batch need be tested af[illegible] mechanical ageing. Reducing agents used are indicated in the certificate.

(REVISED EDITION - ISI No. 1, 1973)

2.4.6. Arsenic content should be not more than 0.15% for steel of category 4, 5 and 6 smelted on the base of Kerch ores. It should not exceed 0.08% if the customer so stipulates. Pho[illegible] content should not exceed 0.05% for steel of categories 1, 2, [illegible] 0.04 for steel of categories 4, 5 and 6.

2.4.7. Carbon and manganese contents should be 0.30 - 0.39 % and 0.6 - 0.9 % respectively for steel of grade BCt5nc (Vst5ps) meant for reinforcement steel of periodic profile and diameter 10 to 28 mm inclusive. For diameters greater than 28 mm these should be 0.28 - 0.37% and 0.8 - 1.1 % respectively.

Table 7

Grade of steel	Type of rolled stock	Location of sample with respect to rolled stock	Thickness, mm	Impact strength kgf,m/mm^2		
				at temperature of °C		After mechanical ageing
				+ 20°	-20	
(Vst3ps) BCt3nc, BCt3cn (Vst3sp)	Sheets	Transverse	5 to 9	8	4	4
			10 to 25	7	3	3
			26 to 40	5	-	-
	Wide strips	Longitudinal	5 to 9	10	5	5
			10 to 25	8	3	3
			26 to 40	7	-	-
	Assorted and profiles	Longitudinal	5 to 9	11	5	5
			10 to 25	10	3	3
			26 to 40	9	-	-
BCt3fnd (Vst3ps)	Sheets	Transverse	5 to 9	8	4	4
			10 to 30	7	3	3
			31 to 40	5	-	-
	Wide strips	Longitudinal	5 to 9	10	5	5
			10 to 30	8	3	3
			31 to 40	7	-	-
	Assorted and profiles	Longitudinal	5 to 9	11	5	5
			10 to 30	10	3	3
			31 to 40	9	-	-
(Vst4ps) BCt4nc, BCt4cn (Vst4sp)	Sheets	Transvere	5 to 9	7	-	-
			10 to 25	6	-	-
			26 to 40	4	-	-
	Assorted and profiles	Longitudinal	5 to 9	10	-	-
			10 to 25	9	-	-
			26 to 40	7	-	-

Note:

1. "-" sign indicates that impact strength test is not conducted.

2. Impact strength is determined for

- round steel - having diameter 1[illegible] mm [illegible]
- square [illegible] - having side [illegible] mm and more
- profile [illegible] steel - having thickness [illegible] which the sample may be cut [illegible] in accordance with GOST 9454-60.

3. Impact strength at +20°C for sheet steel rolled on continuous rolling mills and having thickness 5 to 9 mm may be reduced by 2 kgf. m/cm² upto 1st January. 1974.

2.4.8. Permissible deviations in chemical composition of finished rolled stock from those envisaged in clause 2.4.4 should conform to Table 5, except for plus deviations of carbon which are not allowed in steel BCт3 of all degrees of reduction and in steel of grade BCт3Г nc.

Sulphur and phosphorus contents in finished rolled stock should not exceed 0.055 and 0.045% respectively.

Phosphorus content in finished rolled stock from steel smelted on the base of kerch ores should not exceed 0.045% for categories 4, 5 and 6 and 0.055% categories 1, 2 and 3. The sulphur content should not exceed 0.055% for all categories.

(REVISED EDITION ISI No. 1, 1973).

2.4.9. Chemical analysis of finished rolled stock in the absence of customer's requirements and also of steel of all degrees of reduction for determining the proportion of chromium, nickel, copper, arsenic and nitrogen need not be carried out, if the manufacturer ensures all established norms. Similarly, for rimmed steel also the analysis for determining the above mentioned elements as well as silicon need not be carried out, if the manufacturer ensures all established norms.

(REVISED EDITION - SIS No. 1 1973).

3. ACCEPTANCE RULES AND METHODS OF TESTING

3.1. Acceptance rules, sample selection methods and procedure for testing are defined in the standards relating to the corresponding type of rolled stock.

4. PACKING, MARKING, TRANSPORT AND STORAGE

4.1. Packing, marking and formulation of documents are defined in the standards relating to the corresponding type of rolled stock.

4.2. Steel is marked by indelible paint. Colours indicated in Table 8 are used irrespective of the group of steel and degree of reduction.

Table 8

Grade of Steel	Colour for Marking
C_T0 (St0)	Red and Green
C_T1	White and black
C_T2	Yellow
C_T3	Red
C_T4	Black
C_T5	Green
C_T6 (St6)	Blue
C_T3fnc (St3Gps)	Red and Blue
C_T5fnc (St5Gps)	Green and white

Paint marking may be omitted mutual consent.

(REVISED EDITION - ISI No. 1, 1973).

PROCEDURAL INSTRUCTIONS

[illegible]

1. GENERAL CONDITION

1.1. GOST 380-71 supersedes GOST 380-60 and comes into effect from 1-1-1972. All revisions and corrections in state and regional standards, technical specifications and technical documentation containing references to the current GOST 380-60 should be identified and brought to the notice of the organisations using such documentation before implementing the GOST 380-71.

1.2. Revisions in and corrections to the current state standards resulting from the introduction of GOST 380-71 are worked out and agreed upon by the corresponding ministries and departments and sent for approval to the USSR STATE STANDARD in the established manner to the extent these standards are reexamined . The present procedural instructions together with the current standards containing references to GOST 380-60 should be used till the revisions are introduced or till they are reexamined.

1.3. Instructions on steel melting are excluded from all standards and technical documentation which presently regulate steel melting as per GOST 380-60.

1.4. In case there are instructions "as per customer's requirements" as envisaged in GOST 380-60 in standards, orders and other documentation, such requirements,except for weldability guarantee, are not indicated. Instead, the group and category envisaging the necessary requirements have been introduced in the designation of

grade of steel in GOST 380-71. For example, the conformity of the categories and grades of steel as per GOST 380-71 with the requirements and grades of GOST 380-60 is given in the Table below, taking killed steel of grade number 3, as an example.

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Groups of steel, additional requirements envisaged in clauses 2.3.8, 2.4.8 and 2.5.2, designation of grades of steel as per GOST 380-60 and the groups of steel corresponding to them and the categories and designations of grade of steel as per GOST 380-71.

(Taking killed steel of grade number 3 as an example)

GOST 380-60			GOST 380-71		
Group of steel	Designation of grades	Clauses containing additional requirements	Group of steel	Category	Designations of grades
A	Ст.3сп Ст.3пс	— cl. п.2.3.6а	А	1 2	Ст3сп Ст3сп2
	Ст.3сп	cl. п.2.3.6а,б		3	Ст3сп3
Б (Б)	МСт.3сп КСт.3сп	—	Б (Б)	1	БСт3сп Вст3пс
	МСт.3сп КСт.3сп	п.2.4.8а		2	БСт3сп2
	ВМСт.3сп ВКСт.3сп	п.2.5.2б	В (В)	1	БСт3сп
	ВМСт.3сп ВКСт.3сп	п.2.5.2б		2	БСт3сп2 ВСт3пс2
	ВМСт.3сп ВКСт.3сп	п.2.5.2б,в		3	БСт3сп3
	ВМСт.3сп ВКСт.3сп	п.2.5.2б,г		4	БСт3сп4
	ВМСт.3сп ВКСт.3сп	п.2.5.2б,г,д		5	БСт3сп5
	ВМСт.3сп ВКСт.3сп	п.2.5.2б,з		6	БСт3сп6

1.5. Requirements as to guarantee of weldability for steel of groups $\underset{(D)}{B}$ and $\underset{(V)}{B}$ are given in the text.

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2. SUBSTITUTION OF REFERENCES TO GOST 380-60

in standards and technical specifications on metal products.

2.1. If GOST 380-60 has been referred to without indicating the grade of steel, GOST 380-71 is substituted. If it has been referred to with indication of grade of steel, the requirements of section 1 GOST 380-71 and the Table of the present procedural instructions should be followed.

2.2. If Bessemer process of melting is indicated in the text or in the designation of grade of steel, the reference to GOST 380-60 is excluded.

Bessemer steel is supplied as per technical specifications or regional standards approved in the established manner.

2.3. Acceptance rules, sample selection methods, method of testing, marking, packing, storage of metal products and formulation of documents as a rule are indicated in state and regional standards and technical specification for the corresponding types of products.

If these instructions are not already available, they should be introduced in the corresponding standards and technical specifications.

3. SUBSTITUTION OF REFERENCES TO GOST 380-60 IN STANDARDS, TECHNICAL SPECIFICATIONS AND OTHER TECHNICAL DOCUMENTATION RELATING TO MACHINES, MECHANISMS AND STRUCTURES.

3.1. While substituting the references to GOST 380-60 in standards and the corresponding technical documentation relating to machines, mechanisms and structures the requirements section 1 (7)