

STANDARD/SPECIFICATION	NUMBER
HIGH-GRADE SIZED STEEL	GOST 1051-73
SUPPLEMENTS 1001-60 IN PART OF SECTION 1 (SURFACE QUALITY) AND SECTIONS 2 AND 3 PART 1 OF 1	

This standard pertains to round, square, hexagonal and rectangular cold-drawn sized steel; carbon and alloy high-grade structural; automatic (free-cutting); high-speed; alloy and carbon tool steel; corrosion-resistant; heat-resistant; spring steel; heat-resistant and oxidation resistant steel.



I. ASSORTMENT. MASTER COPY

- 1.1. Steel is made
  - round, with diameter from 5 to 100 mm. to GOST 7417-57;
  - square, with side of square from 5 to 100 mm. to GOST 8589-57;
  - hexagonal, with diameter of inscribed circle from 5 to 100 mm. to GOST 8560-67;
  - rectangular, with thickness from 5 to 50 mm. width 12 to 63 mm. to GOST 11445-65.

FOR REFERENCE ONLY

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1.2. Ends of rod, bars should be cut uniformly, without burrs and bends. When cut on shears, warping of one cut end is allowed, provided the dimension of the other drawn end is preserved. With customer's approval warping of both cut ends is allowed.

Shear drag is allowed on the drawn end.

On customer's request, steel is manufactured with chamfer at one end, and by agreement between the parties - with chamfer at both ends. If necessary chamfer dimensions are set by agreement between the parties.

2. TECHNICAL REQUIREMENTS.

2.1. In accordance with the order, sized steel is made in cold-drawn or heat-treated condition (annealed, highly tempered, normalised, normalised with tempering, hardened with tempering, hardened).

2.2. Surface of sized steel should be clean, smooth, bright or dull, without cracks, blisters, laps and scales and is subdivided into groups, given in the table, depending on the quality of surface.

The group of steel surface quality and class of accuracy should be indicated in the order.

Spiral (helical) lines on the surface of steel due to dressing and drawing, caused during production and which do not violate the uniformity of the metal, are allowed if their

depth does not exceed the limits, established in the table for surface defects.

Group of surface quality	Class of accuracy	Permissible surface defects	Maximum depth of defects
4	3	Individual fine (minute) lines due to mechanical processes.	<sup>It</sup> IS set by agreement between the parties.
	3a		1/2 tolerance
5	3a,	Individual minute lines due to mechanical processes, cavities, black marks, lents, pock marks, slopy finish, marks due to abrasive.	Tolerance on dimension.
	4,		
	5		
B	3a,	Individual minute lines due to machining, cavities, black marks, dents, pock marks, slopy finish, marks due to abrasive, individual fine cracks.	Tolerance on dimension.
	4		
B	5	Individual fine lines due to machining, cavities, black marks, dents, pock marks, slopy finish, marks due to abrasive.	Tolerance to 8th class of accuracy
			Besides these, individual fine cracks. Tolerance to 4th class of accuracy

Contd.../-

3. Character of surface can be improved according to approved standards indicating the type and quantity of defects per unit surface.

4. On customer's request, steel is made :  
a) of group A and B with standard class of surface finish to roughness of 5-6-7<sup>th</sup> class.

The norms are set by agreement between the parties:

b) of group I and V - 3a and 4<sup>th</sup> class of accuracy with maximum depth of defect not exceeding  $\frac{1}{2}$  tolerance on dimension.

5. Elimination of defects by grinding (polishing) is allowed.

6. Sized steel of group A, class of accuracy 3 is supplied by agreement between the parties.

2.3. Chemical composition of steel and microstructure should correspond to the requirements of GOST 1090-74, GOST 4543-71, GOST 1928-73, GOST 5950-73, GOST 1435-74, GOST 1414-50, GOST 2449-01, GOST 14959-03, GOST 10500-63 and GOST 20072-74.

•In accordance with the order, steel is manufactured with one or several standard characteristics (mechanical properties, test for hot upsetting, microstructure, hardenability, corrosion resistance, decarburisation, etc), set by the above mentioned standards. Requirements, norms and test methods, which are not specified in these stds, are set by agreement between the parties.

2.4. Hardness of sized, cold-hardened and heat-treated steel should correspond to the norms, given in the standards which are listed in point 2.3.

Norms of hardness of heat-treated (normalised, normalised with tempering, hardened with tempering, hardened) sized steel, if not specified in the standards, should be set by mutual agreement.

### 3. RULES OF ACCEPTANCE.

3.1. General rules of acceptance-to GOST 7536-69.

3.2. Sized steel is supplied in batches, consisting of steel of same dimension, same group of surface finish, same grade, same melt, same machining finish.

NOTE: With Customer's approval, a batch consisting of metal of same grade but different melts is allowed.

### 4. TEST METHODS.

4.1. Volume and methods of inspection of properties, specified in point 2.3, should meet the requirements of the standard for respective grades.

In addition at least 3 specimens (one each from different rods or bars from a batch are taken for checking hardness and surface quality of steel if the exact no. of specimens is not specified in the stds. which are listed in

4.2. Surface quality of steel is checked by methods which do not spoil the specimens or by examination without using magnifying devices. If necessary, the surface is made bright using a file or grinding wheel. Depth of surficial defects is determined by finishing for testing purposes.

4.3. Roughness of surface is determined to GOST 2789-73.

4.4. Dimensions of steel section is determined at a distance of not less than 25 cm. from the end of rod or bar. Dimensions and shape of steel are checked with measuring instruments, which ensure the necessary accuracy of measurement.

4.5. Hardness of steel is determined to GOST 9012-69.

#### 5. PACKING AND MARKING.

5.1. Packing, marking and drawing-up of documents are done to GOST 7506-69.

5.2. Rods and bars of steel, excluding corrosion-resistant <sup>steel,</sup> ~~steel,~~ should be coated with grease, protecting them from corrosion.

By agreement between the parties, it is allowed to fix the composition of grease and coatings to be applied, and also to supply the steel without grease.

On Customer's request steel may be covered with special coatings in accordance with GOST 11352-69.

Replacements.

GOST 1050-74 Supersedes GOST 1050-60 in the part of carbon steels of Group 1 and steels of grades 600, 650 and 700 of group 2.

GOST 1435-74 Supersedes GOST 1435-54.

GOST 2780-73 Supersedes GOST 2780-50.

GOST 5950-73 Supersedes GOST 5950-63.

GOST 19255-73 Supersedes GOST 5952-63.

GOST 20072-74 Supersedes GOST 10800-63 in the portion of heat-resistant steel.

Other standards referred to in this standard:

GOST 7417-7	GOST 8559-57
GOST 8580-67	GOST 11443-65
GOST 1050-74	GOST 4519-71
GOST 19255-73	GOST 5950-73
GOST 1435-74	GOST 1414-64
GOST 5949-61	GOST 14951-59
GOST 10800-63	GOST 20072-74
GOST 7506-69	GOST 2780-73
GOST 5013-59	GOST 13168-69

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