

U-01-1-2
F.No.82
Sl.No.6

CASTINGS MADE OF GREY CAST IRON
AND ANTIFREEZE CAST IRON
TECHNICAL SPECIFICATIONS
172.TY7

Contract No.PB/835606213601

The present technical specifications (TY) intended for castings made of grey and antifreeze cast iron. The requirements of present TY are intended even for the castings of which the reference for 54.TYP2-1 has been given in drawings.

1. TECHNICAL REQUIREMENTS

Castings should be produced in accordance with the requirements of present TY, component drawing, OST3-4025, GOST 1412, GOST 1585, GOST 26645 and also technological process of manufacturing plant.

Castings having deviations from drawing and present TY may be allowed for production in consultation with customer representative.

Chemical composition and mechanical properties of castings should conform for the castings made of grey cast iron – GOST 1412 and for castings made of antifreeze cast iron – GOST 1585.

Cracks and their rectification are not allowed on casting surfaces.

Castings should be chipped off and cleaned from sticking sand mixture and scales, risers and pouring gates are removed.

Casting defects within the limits of $\frac{3}{4}$ of the allowance for machining is allowed on machining surfaces.

Cavities and other types of defects are not allowed on threaded surfaces.

Unevenness of surface are allowed in the limits of tolerance on wall thickness.

On non-machined surfaces, casting defects of non-grouped location in an amount not more than three numbers per surface, but not more than eight numbers per component with depth not more than $\frac{1}{5}$ wall thickness, but not more than 5 mm with maximum measurement upto 0.2 cm^2 , are allowed without rectification.

On machined surfaces, casting defects of non-grouped location in an amount not more than six numbers per surface with maximum

			172.TY7		
ISSUE	SHEET	REFERENCE			
APPROVED			CASTINGS MADE OF GREY CAST IRON AND ANTIFREEZE CAST IRON TECHNICAL SPECIFICATIONS	Page No	No. of pages
CHECKED				2	7
DRAWN					

measurement and to a depth not more than 3mm, are allowed without rectification. Cavities on edges are not allowed.

Clear single cavities with maximum measurement not more than 1mm should not be considered for sizing.

Castings may be subjected to heat treatment for the removable of internal stresses and measurement of structure and hardness in accordance with the instructions in drawing.

The type and mode of heat treatment should be specified by customer representative.

All specified discrepancies are intended for those surfaces of components, for which, there are no special instructions in the drawing.

On machined and non-machined surfaces, rectification of defects by welding to a depth not more than 1/2 of the wall thickness is allowed. The total area of defective places should not exceed 5 % the area of castings.

Carry out welding in accordance with the instructions of the plant for the rectification of cast iron components.

Components not passed the air tightness test may be rectified by welding or by impregnating with the sealing compounds resistant to specific liquids.

Carry out rectification in consultation with customer representative.

Small sized defects not affecting component strength, for pressing the trademark, may be rectified with epoxy based resin compounds if it is specified in the component drawing.

			172.01.TY7	PAGE
				3
ISSUE	SHEET	REFERENCE		

2 ACCEPTANCE RULES AND METHODS INSPECTION

Manufacturing plant QID should carry out the acceptance of components for the conformity of their drawings and present TY.

100% components are subjected to inspection.

The following are checked while accepting the castings:

- chemical composition;
- surface condition;
- hardness;
- dimensions.

Melting with deviation by chemical composition is allowed for the production after receiving reports from the central laboratory of the plant and approved by the chief metallurgist of the plant by ensuring the standards of mechanical properties and structure meeting to the requirements of corresponding standards.

Inspection for hardness should be carried out on castings at random by 5 - 10 % of the batch. In case, the hardness is unsatisfactory, then the entire batch should be subjected to complete inspection.

Methods of inspection for castings are specified in OST 3-4025.

			172.TY7	PAGE
ISSUE	SHEET	REFERENCE		4

3 MARKING, PACKING, STORAGE AND TRANSPORTATION.

- 3.1 On each accepted casting, inscribe the number of melt and QID stamp in places not subjected to machining.
- 3.2 Methods of packing, storing and transporting of castings should ensure their preservation from mechanical damages and corrosion.

			172.TY7	PAGE
ISSUE	SHEET	REFERENCE		5

Standard reference documents

Designation of document on which reference is given	Number sheets on which reference is available
GOST 1412-85	2
GOST 1585-85	2
GOST 26645-85	2
OST3-4025-78	2, 4

			172.TY7	PAGE
				6
ISSUE	SHEET	REFERENCE		

SHEET FOR RECORDING THE AMENDMENTS

Issue no	Page/Sheet No.				Total number of pages in Document.	Document No.	Entry No of the accompanying document and date	Signature	Date
	Amended	Replaced	Newly introduced	Deleted					
7						172M.177A-92			

			172.TY7	PAGE
ISSUE	SHEET	REFERENCE		7