

Whiteheat Malleable Iron Castings

YOM. 4. 7

KES

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Contents

1. Scope of Application
2. Type and Symbol
3. Manufacturing Method
4. Mechanical Properties
5. Amount of Residual Carbon
6. External Appearance
7. Shape and Dimensions
8. Test
9. Inspection
10. Retest

 **KIA MOTORS**

1. Scope of Application

This standard specifies whiteheat malleable iron castings(hereinafter referred to as "malleable products").

2. Type and Symbol

Types and symbols of malleable products shall conform to Table 1. Types 1 and 2 shall be the standard types and types 3, 4 and 5 shall be the pearlite types.

Table 1.

Types	Symbols
Type 1	WMC 34
Type 2	WMC 38
Type 3	WMC 45
Type 4	WMC 50
Type 5	WMC 55

3. Manufacturing Method

After casting malleable products with white pig iron, in order to give viscosity strength to them, perform heat treatment to decarburize standard types, and also to decarburize and adjust the pearlite structure of pearlite types.

4. Mechanical Properties

Tensile strength, proof stress and elongation rate shall conform to Table 2.

Table 2.

Type	Symbol	Major thickness (mm)	Diameter of test piece (mm)	Tensile strength Kg f/mm ²	Proof stress Kg f/mm ²	Elongation rate (%)
1	WMC 34	Less than 5	6	32 or more	-	8 or more
		5 or more, less than 9	10	34 or more	17 or more	5 or more
		9 or more	14	36 or more	20 or more	3 or more
2	WMC 38	Less than 5	6	36 or more	-	14 or more
		5 or more, less than 9	10	38 or more	19 or more	8 or more
		9 or more	14	40 or more	22 or more	6 or more
3	WMC 45	-	14	45 or more	27 or more	6 or more
4	WMC 50	-	14	50 or more	31 or more	4 or more
5	WMC 55	-	14	55 or more	35 or more	3 or more

- Remarks**
1. In case the thickness of major parts is not uniform, mechanical properties for thickness 5 or more~less than 9 shall be used.
 2. Use permanent elongation rate of 0.2% to determine proof stress, However, total elongation rate of 0.5% under loaded condition may be used.
 3. In case it is difficult to determine the thickness of major parts, regulations of mechanical properties shall conform to the agreement between Kia and the manufacturer.

Reference

Reference value of the hardness of malleable products shall conform to the following reference table. Also, hardness of pearlite type shall be measured after clearing off 0.5~1.5mm of the casting surface.