EN(-1563)-GJS-500-7 (GGG50)

Continuously Cast Spheroidal Graphite Iron

Characteristics

Offers higher wear resistance, strength & heat-treatment response compared to EN-GJS-400-15 while still possessing good machinability and excellent surface finishes. Noise and vibration damping are good in this grade. Compares with standard **EN(-1563-GJS)-500-7 (GGG50 and Meehanite SFP500).**

Profile and Size Range

Round	25mm – 635mm + diameter
Square	Up to 520mm x 520mm
Rectangle	produced in a wide range of combinations, in height and width, up to 650mm x 510mm and 620mm x 370mm for example, other sizes to customer requirements can also be considered after consultation.
Ingots	Up to 1200mm diameter x 2100mm metre long (proof machined).
Ingot Blocks	Up to 800mm x 750mm x 2100mm long (proof machined).
Standart Lenght	Continuously Cast Bar 3 metres (other lengths available upon request).
Supply condition	As-cast, turned and peeled (Rounds). As-cast, milled and saw cut (rectangles and squares).
Non Standard	Sizes/profiles to customer design available on special order, subject to discussion.

Chemistry(Typical Ranges)

(Subordinate to Mechanical Properties)

Element	Typical
Carbon	3.25 – 3.70
Silicon	2.40 – 3.00
Manganese	0.10 – 0.30
Sulphur	0.005 – 0.020
Phosphorous	0.015 – 0.08
Magnesium	0.04 – 0.07
Others / Alloying	Residual
Iron	Balance

Mechanical Properties

(As taken from mid-radius of cast bar, not separately cast test bar)

	Anticipated Values		
EN-GJS 500-7:1997 (GGG40)	**Tensile strenght UTS N/mm²**	**0.2% Proof Stress N/mm²**	**Elongation %**
25mm – 50mm	500	320	7
55mm – 100mm	450	300	7
105mm – 200mm	420	290	5
205mm – 600mm +	420	290	5

BrinellHardness

(Range) 170-230 (10mm dia Ball 3000Kg load) depending on section size. Hardness readings are taken across the entire section of the bar. Hardness values for rectangles depend on the ratio of height to width and can be supplied upon request.

Microstructure

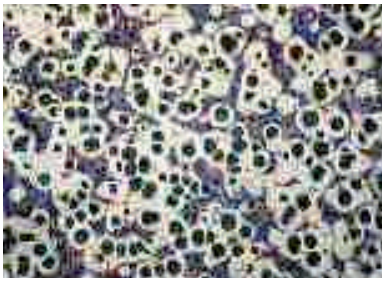
Contains Type I & II nodular (spheroidal) graphite in accordance with ASTM A247. The rim contains approximately 200/250 nodules/ mm2, and is predominately ferritic with the core containing 90/150 nodules/mm2. The core matrix is mixed ferritic/pearlitic (10–50% pearlite). Chill carbides will be less than 5%, well dispersed. (Photo 100x magnification)

Heat Treat Response

EN-GJS-500-7 can be hardened by conventional methods but EN-GJS 600-3 is recommended.

Density

7.3 g/cc



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