

CONTINUOUS CAST DUCTILE IRON – GRADE 3D

Floicast 3D “Spheroidal Graphite” (SG) ductile cast iron consists of spherical particles of graphite in an essentially ferritic structure, having high elasticity and impact resistance. With generally higher strength than grey iron it is ductile rather than brittle, and is tough and readily machined, making it suitable for applications involving thermal and mechanical shock. It can be welded but not readily flame or induction hardened.

Typical Applications:

Pump bodies, glands, glass moulds, spur gears, worm gears, sprockets, heavy duty gears, impellers, rotors, plus those applications demanding resistance to corrosion, thermal and mechanical shock in the automotive, marine, agricultural, machine tool, hydraulic, railway and other general manufacturing industries..

Production Range:

Rounds:

40 - 210mm in 5mm increments

220 - 610mm in 10mm increments

Bar length: 3metres (10 ft) standard.

Repair Welding:

Pre-heat at 300°C, cool very slowly.

Post-weld stress relieve at 650°C.

Welding details for guidance only

Typical Chemical Analysis

Carbon	3.30 – 3.80%
Silicon	2.30 – 2.70%
Manganese	0.20 – 0.40%
Magnesium	0.03 – 0.05%
Nickel	0.02 – 0.04%

Typical Mechanical Properties:

Tensile Strength	415 MPa
0.2% Proof Stress	250 MPa
Hardness Brinell	187 Max

Typical properties for guidance only

Related Standards:

AS 1831	400-250-12
ASTM A536	65-45-12
BS 2789	420/12
DIN 1693	GGG 40
JIS G 5502	FCD 45

Technological Properties:

Machinability	Excellent
Microfinish	Excellent
Shock resistance	Excellent
Fatigue	Excellent
Rust & acid resistance	Very good
Damping capacity	Fair
Wear resistance	Fair
Surface	Free of sand
Galvanising, Enamelling	Good
Surface harden	Can be hard-faced

Structure: Oil and pressure-tight.

Free of blowholes and inclusions