

CONTINUOUS CAST GREY IRON – GRADE 4E

Floccast 4E grey cast iron consists of uniform eutectic graphite with a partial pearlitic structure ideally suited to high speed machining with significant improvements in tool life. Its typical fine grain size in a dense homogeneous matrix make it suitable for applications that are required to withstand high pressure without leaking.

Typical Applications:

Hydraulics, Pneumatics: Pistons, slide bearings, distributor blocks.

Machine Tools: Bushings, guide rails, gear wheels, spur gears.

Pumps, Compressors: Oil pump gears, impellers, plate valves.

Tools, Dies: Angle plates, V-blocks.

Automotive: Pistons, pulleys, gears.

General: Gears, racks, V-pulleys pinions, clutch drums, sprockets etc.

Production Range:

Rounds: 20mm – 610mm

Squares: 25mm – 300mm

Bar length: 3 metres (10 ft) standard.

Flats: up to 200mm per side

Bar length: 2metres standard.

Annealing:

Heat to 780 – 850°C for ½ - 3 hours

Cool in furnace to 400°C – 500°C

Alternatively for extreme softness:

Heat to 850 - 900°C for 1–6 hours

Cool in furnace to 690°C, and hold for 2-3 hours then

Cool in furnace to room temperature.

Typical Chemical Analysis

Carbon	3.00 – 3.70%
Silicon	2.20 – 2.90%
Manganese	0.20 – 0.70%
Phosphorus	0.10%
Sulphur	0.08%

Typical Mechanical Properties:

Tensile Strength	220 - 260 MPa
Hardness Brinell	170 - 220
Compressive Strength	700 - 800 MPa

Typical properties for guidance only

Related Standards:

AS 1830	T 250
ASTM A48	Classes 35-40
BS 1452	Grade 250
DIN 1691	GG35
JIS G 5501	FC 25

Technological Properties:

Machinability	Excellent
Micro finish	Excellent
Rust & acid resistance	Very good
Damping capacity	Very good
Sliding	Excellent
Wear resistance	Good
Enamelling	Good
Surface	Free of sand

Repair Welding:

Pre-heat at 300°C, cool very slowly.

Post-weld stress relieve at 650°C.

Welding details for guidance only