

CAST IRON

CCG CI HB – GREY IRON (Replacing 2P)

Typical Analysis (Ave. values %)	C	Mn	Si	Ni	Cr	Mo	P	S	Al	Cu
	3.25	0.55	2.30	0.08	0.4	0.1	0.1	0.8	0.1	0.7
NEAREST STANDARD	AS		BS		DIN			JIS		
	1830-T260		1452-Grade 17		1691-GG35			FC-25		

DESCRIPTION	CCG CI HB is normally called for when exceptionally good wearing qualities are required or when the component design demands mechanical and physical properties superior to those of a softer, essentially ferritic cast iron centrifugally cast .
	Grade is essentially pearlitic in structure with the fine graphite flake size and dense homogeneous structure. These properties ensure its suitability in applications demanding the ability to withstand high pressures without leaking and to resist wear in sliding friction applications
	.Typical hydraulic operating pressure in which CCG CI HB normally operates is around 23 MPa. Tests have shown it will withstand 68 MPa hydraulic pressure across a 3mm thickness in hydraulic cylinder end caps.

APPLICATIONS	Pistons, end caps, glands, support bearings, control valves, rotors. Slide rails, gear wheels, cams, bushes, helical gears, spiral gears. Pistons, piston rings, liquid and vacuum pump rotors, cylinder liners. Burners, blow moulds, burn off chucks, bottom plates, blanks, moulds, and textile machinery parts, ship repairs.
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MECHANICAL PROPERTIES	Tensile Strength MPa	Compressive Strength MPa	Transverse Strength Kg	Hardness range HB
	220-260	800-850	ca 1800	215-269

GENERAL PROPERTIES	Machinability	Very good
	Micro finish	Excellent
	Galvanising	Very good
	Resistance to rust & acids	Very good
	Damping capacity	Very good
	Sliding	Excellent
	Wear resistance	Excellent
	Enamelling	Good
	Heat treatment	Oil quench & temper 400 HB max
Structure	Homogeneous fine grain. Oil & pressure tight.	
Surface	Free of sand	

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Round black										
SIZE RANGE	20	40	57.2	75	95	115	145	170	220	260
	25	45	60	80	100	120	150	180	230	310
	30	50	65	85	105	130	155	200	240	335
	35	55	70	90	110	140	160	210	250	360

Sizes normally stocked in Australia. Some branches may not hold the entire range.
Other sizes available on request.

Every care has been taken in listing this information, particularly specifications. Voestalpine High Performance Metals (Australia) Pty Ltd will not accept responsibility for any loss or other damage caused to any person or Company as a result of the use of information contained here.

CAST IRON

BU CCG CI – GREY IRON – Solids (Replacing 2P)

Typical Analysis (Ave. values %)	C	Mn	Si	Ni	Cr	Mo	P	S	Al	Cu
	3.25	0.55	2.30	0.08	0.4	0.1	0.1	0.8	0.1	0.7
NEAREST STANDARD	AS		BS		DIN			JIS		
	1830-T260		1452-Grade 17		1691-GG35			FC-25		

DESCRIPTION	<p>CCG CI is normally called for when exceptionally good wearing qualities are required or when the component design demands mechanical and physical properties superior to those of a softer, essentially ferritic cast iron.</p> <p>Grade is essentially pearlitic in structure with the fine graphite flake size and dense homogeneous structure. These properties ensure its suitability in applications demanding the ability to withstand high pressures without leaking and to resist wear in sliding friction applications</p> <p>.Typical hydraulic operating pressure in which CCG CI normally operates is around 23 MPa. Tests have shown it will withstand 68 MPa hydraulic pressures across a 3mm thickness in hydraulic cylinder end caps.</p>
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APPLICATIONS	<p>Pistons, end caps, glands, support bearings, control valves, rotors. Slide rails, gear wheels, cams, bushes, helical gears, spiral gears. Pistons, piston rings, liquid and vacuum pump rotors, cylinder liners. Burners, blow moulds, burn off chucks, bottom plates, blanks, moulds, and textile machinery parts, ship repairs.</p>
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MECHANICAL PROPERTIES	Tensile Strength MPa	Compressive Strength MPa	Transverse Strength Kg	Hardness range HB
	220-260	800-850	ca 1800	215-269

GENERAL PROPERTIES	<p>Machinability</p> <p>Micro finish</p> <p>Galvanising</p> <p>Resistance to rust & acids</p> <p>Damping capacity</p> <p>Sliding</p> <p>Wear resistance</p> <p>Enamelling</p> <p>Heat treatment</p> <p>Structure</p> <p>Surface</p>	<p>Very good</p> <p>Excellent</p> <p>Very good</p> <p>Very good</p> <p>Very good</p> <p>Excellent</p> <p>Excellent</p> <p>Good</p> <p>Oil quench & temper 400 HB max</p> <p>Homogeneous fine grain. Oil & pressure tight.</p> <p>Free of sand</p>
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Round black										
SIZE RANGE	20	40	57.2	75	95	115	145	170	220	260
	25	45	60	80	100	120	150	180	230	310
	30	50	65	85	105	130	155	200	240	335
	35	55	70	90	110	140	160	210	250	360

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BU DUCTILE CI – DUCTILE IRON (3D)

Typical Analysis (Ave. values %)	C	Mn	Si	Ni	Cr	Mo	P	S	Mg	Cu
	3.55	0.30	2.50	0.03	0.02	0.01	0.1	0.01	0.04	0.05
NEAREST STANDARD	AS		BS		DIN			JIS		
	1831-400-250-12		2789-SNG 27/12		1693-GGG 40			FC-D45		

DESCRIPTION	BU DUCTILE CI is spheroidal graphite (nodular) ductile iron.
	Ductile irons differ from the grey irons in that the graphite occurs as spheroids or nodules instead of flakes. The resulting material has generally higher strength than grey iron, is ductile rather than brittle, tough and readily machined.
	Grade is an essentially ferritic grade, having high elasticity and resistance to impact, suitable for applications involving thermal and mechanical shock. It can be welded but cannot be readily flame or induction hardened.

APPLICATIONS	Typical applications demanding resistance to corrosion and thermal and mechanical shock in marine, automotive, hydraulic, agricultural, railroad, machine tool and general manufacture. Pump bodies, glands, glass moulds, spur gears, worm gears, sprockets, heavy duty gears, impellers and rotors.
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MECHANICAL PROPERTIES	Tensile Strength MPa	Permanent set stress MPa	Elongation %	Hardness range HB
	415	277	12	187 max

GENERAL PROPERTIES	Machinability	Excellent
	Micro finish	Excellent
	Galvanising Enamelling	Good
	Resistance to rust & acids	Very good
	Damping capacity	Fair
	Fatigue	Excellent
	Wear resistance	Fair
	Shock resistance	Excellent
	Heat treatment	Not applicable
	Structure	Homogeneous fine grain. Oil & pressure tight.
Surface	Free of sand	

Round black										
SIZE RANGE	40	65	90	115	140	170	200	250	360	
	45	70	95	120	145	175	210	260	410	
	50	75	100	125	150	180	220	285	460	

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	55	80	105	130	155	185	230	310	485	
	60	85	110	135	160	190	240	335		

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BU GREY CI – GREY IRON (4E)

Typical Analysis (Ave. values %)	C	Mn	Si	Ni	Cr	Mo	P	S	Al	Cu
	3.35	0.45	2.60	0.08	0.08	0.01	0.10	0.08	0.01	0.30
NEAREST STANDARD	AS		BS		DIN			JIS		
	1830-T250		1452-Grade 17		1691-GG35			FC-25		

DESCRIPTION	<p>BU GREY CI continuous cast bars consist of a uniform partial pearlitic structure from the bar surface to the core. This material is ideally suited to high speed machining with significant improvements in cutting tool life and reductions in drill wander which occurs when the drill point gravitates to a softer surface.</p> <p>Grade has a typical fine grain size of 7-8 in dense homogeneous matrix. These properties ensure its suitability in applications demanding the ability to withstand high pressures without leaking.</p>
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APPLICATIONS	<p>Pistons, support bearings, glands, slide bearings, distributor blocks, manifolds. Guide rails, scale bars, spindle sleeves spacers, bushings, gear wheels, spur gears, change gears, pulleys, gear racks. Oil pump gears, impellers, plate valves. Angle plates, marking plates, V-blocks, round-tables. Gears, V-pulleys, sprockets, clutch drums, taper-lock brakes, racks, pinions, plus countless components covering many industries. Moulds, blow moulds.</p>
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MECHANICAL PROPERTIES	Tensile Strength MPa	Compressive Strength MPa	Hardness range HB
	220-260	700-800	170-220

GENERAL PROPERTIES	Machinability	Excellent.
	Micro finish	Excellent.
	Enamelling	Good.
	Resistance to rust & acids	Very good.
	Damping capacity	Very good.
	Sliding	Excellent.
	Structure	Homogeneous, extremely fine grain. Oil pressure tight, free of blow holes.
	Surface	Free of sand.

Round black										
SIZE	25	50	75	100	130	160	185	230	335	

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RANGE	30	55	80	105	140	1650	190	240	360	
	35	60	85	110	145	170	200	260	385	
	40	65	90	115	150	175	210	285	410	
	45	70	95	120	155	180	220	310		
Square black										
SIZE RANGE	50x50									

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