

GRADE ST1 (SG IRON) Ductile Continuous Cast Iron

RELATED SPECIFICATIONS:

Australia	AS 1831 400 – 250 – 12
Great Britain	BS 2789 2789 SNG 27/12
USA	ASTM A536 – 65 – 45 – 12

DESCRIPTION:

The main characteristic of the ductile iron grades is a spheroidal shaped graphite structure that emphasises the strength, machinability and wear resistance.

ST1 is a ductile iron with graphite type I and II, in a ferritic/pearlite matrix obtained through as-cast or by heat treatment. This material has the ultimate tensile strength and yield strength similar to SAE 1030 hot rolled steel grade. Its main characteristics are good machinability, surface finish and leakage resistance.

APPLICATIONS:

This grade is good for applications such as machine components that suffer impact and are crack-resistance. Generally used for hydraulic components which operate in high pressure such as manifolds, piston, guides, cylinder heads, injector jackets, hydraulic pumps and dies.

CHEMICAL ANALYSIS:

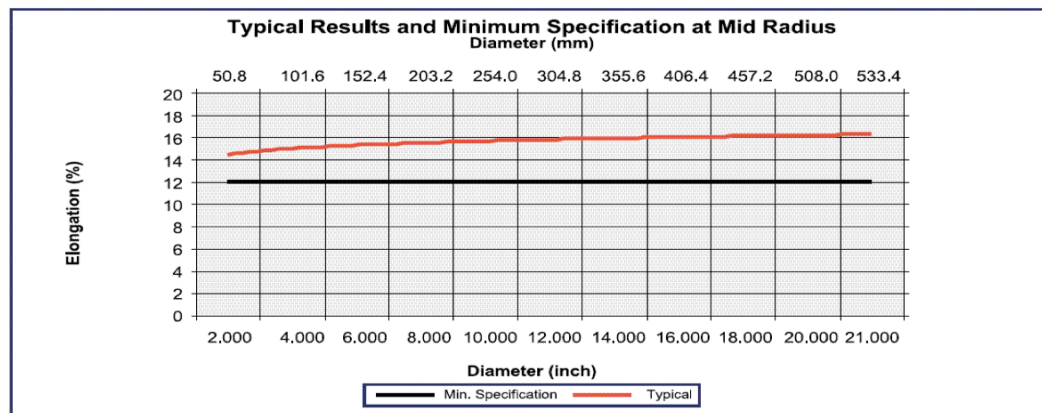
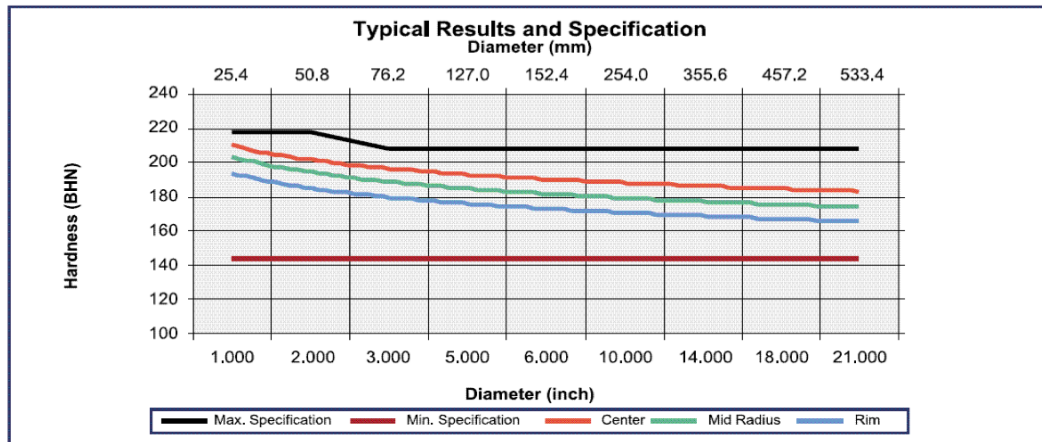
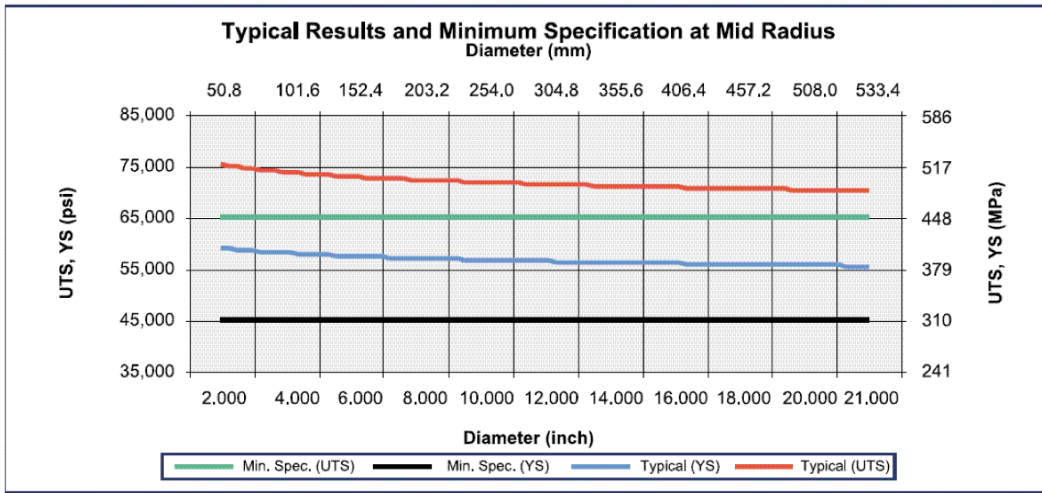
	C %	Si %	Mn %	P %	S %	Mg2 %
Min.	3.30	2.40	-	-	-	0.03
Max.	4.00	3.10	0.20	0.10	0.02	0.05

MECHANICAL PROPERTIES:

DIMENSION (mm)	UTS MPA (Min)	YIELD STRENGTH (Min)	ELONGATION (Min)	HARDNESS (BH)
25.4 – 50.8	450	310	12%	143 - 217
50.8 – 533.4	450	310	12%	143 - 207

HEAT TREATMENT:

ST1 can be oil quenched to achieve a hardness of, approx. 45 HRC. The material is not recommended for surface hardening such as flame and induction heat treatment. When a high superficial hardness is necessary, nitriding treatment is recommended.



COLOUR CODE: GREEN



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