



CARBON STEEL ASME SA216 WCB

One of the most widely used Carbon Steels in the industry. This material is used not only in many of the water- and steam-pressure containing systems in power plants but also in the supports for these systems. SA-216/SA-216M Steel Castings, is a Carbon Steel suitable for Fusion Welding in high-temperature service applications: Steel castings for valves, flanges, fittings or other pressure-containing parts for high temperature service and of quality suitable for assembly with other castings or wrought steel parts by fusion welding.

Chemical Composition

Element		%
Carbon	C	0.3 ¹
Silicon	Si	0.6 maximum
Manganese	Mn	1.0 (1.28 max.) ¹
Phosphorus	P	0.04 maximum
Sulphur	S	0.045 maximum
Chromium	Cr	0.5 maximum
Nickel	Ni	0.5 maximum
Molybdenum	Mo	0.2 maximum
Copper	Cu	0.3 maximum
Vanadium	V	0.03 maximum

¹ For each reduction of 0.01% below the specified Carbon content and increase in Manganese of 0.04% is allowed to a max. of 1.28%.”

Typical Mechanical Properties	
Tensile Strength	485 - 655 MPa
Yield Strength	275 MPa min.
Elongation	22 % min.
Reduction in the Area	35 % min.

Heat Treatment

Castings shall be furnished in the annealed or normalized or normalized and tempered condition. Heat treatment shall be performed after castings have been allowed to cool below the transformation range.

Comparative Specifications

Material	Country/Standards
Grade WCB	USA / MIL
IS 2856 Grade 2	India / IS
J03002	USA / UNS

To discuss your requirements, call a member of NovaCast's team on +44 (0) 1225 707466, or email sales@novacast.co.uk

All information in our data sheets and website is indicative only and is not intended to be a substitute for the full specification from which it is extracted. It is intended to provide typical values to allow comparison between metal alloy options rather than a definitive statement of mechanical performance or suitability for a particular application as these will vary with temperature, product type and product application. It is presented apart from contractual obligations and does not constitute any guarantee of properties or of processing or application possibilities in individual cases. Our warranties and liabilities are stated exclusively in our terms of trading.

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