



CARBON STEEL ASME SA352 LCC

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. Typically referred to as a cast low temp steel, LCC is the common grade for regular temperature applications for cast steel valves. The three grades of ASTM A352/A352M are good for temperatures ranging from -50°F to 800° F (where corrosion resistance is not important). This specification covers carbon steel castings for valves, fittings, flanges and other pressure-containing parts for low temperature service and the quality required for assembly with other castings or wrought steel parts by fusion welding.

Chemical Composition

Element		%
Carbon	C	0.25 ²
Silicon	Si	0.6 maximum
Maganese	Mn	1.2 (1.4 max.) ²
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
Vanadium	V	0.03 maximum

² For each reduction of 0.01% below the specified Carbon content an increase in Manganese of 0.04% is allowed to a max. of 1.4%.”

Typical Mechanical Properties

Tensile Strength	485 - 655 MPa
Yield Strength	275 MPa min.
Elongation	22 % min.
Impact Test	20j min Charpy V-Notch (@ -46°C), 3 Tests
Reduction in the Area	35 % min.

Comparative Specifications

Material	Country/Standards
1.622	European Union/EN
G20Mn5	European Union/EN
J02505	ASTM
Grade LCC	USA/MIL
ZG240-450	China/GB

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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