



Material - ASTM A352 Gr.LCB

Standard Specification for Steel Castings, Ferritic and Martensitic, for Pressure-Containing Parts, Suitable for Low-Temperature Service

MATERIAL DATASHEET

GROUP
Ferrous Mild Steel Alloys

SUB GROUP
ASTM A216 / A216M Steel Castings

INDUSTRY
Investment Casting

ASTM A352 LCB is a low-carbon cast steel grade specifically engineered for pressure-containing components operating in low-temperature environments. It combines good strength, toughness, and weldability with excellent impact resistance at temperatures as low as -46°C. Its normalized and tempered microstructure ensures reliable mechanical performance, making it a preferred material for valves, pumps, flanges, and general engineering applications in oil & gas, petrochemical, power generation, and industrial processing industries where low-temperature service is required.



CHEMICAL COMPOSITION

ELEMENT	SYMBOL	COMPOSITION
Carbon	C %	0.300 max.
Silicon	Si %	0.600 max.
Manganese	Mn %	1.000 max.
Phosphorus	P %	0.040 max.
Sulphur	S %	0.045 max.
Chromium	Cr %	0.500 max.
Nickel	Ni %	0.500 max.
Molybdenum	Mo %	0.200 max.
Copper	Cu %	0.300 max.
Vanadium	V %	0.030 max.
Iron	Fe %	Balance



MECHANICAL PROPERTIES

PERFORMANCE SPECIFICATIONS

Tensile Strength 450 - 620
Minimum Value MPa

Yield Strength 240
Minimum Value MPa

Elongation 24
Minimum Value %

Reduction of Area 35
Minimum Value %

✓ HEAT TREATMENT
Normalising/Harding & Tempering



INDUSTRY APPLICATIONS

Industrial valves



Pump casings



Petrochemical plants



Steam service



Piping



DISCLAIMER: All information in this datasheet is indicative only and is not intended to be a substitute for the full specification. It provides typical values for comparison between metal alloy options rather than a definitive statement of mechanical performance. Values may vary with temperature, product type, and application. This data does not constitute any guarantee of properties.

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