

MATERIAL DATA SHEET · LOW-TEMPERATURE CARBON STEEL (LTCS)

ASTM A352 LCB — Chemical Composition & Mechanical Properties

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ASTM A352 LCB is a low-temperature carbon steel (ltcs) grade for low-temperature steel castings (UNS J03003, EN / W.Nr 1.1156). This sheet summarises its chemical composition limits, minimum mechanical properties, heat treatment and typical service. Teshi Group manufactures valves with bodies in this grade.

At a glance

Material family	Low-temperature carbon steel (LTCS)
Product form	Low-temperature steel castings
UNS	J03003
EN / W.Nr	1.1156
Also known as	LCB

Mechanical properties

Tensile strength, min	450 MPa
Yield strength (0.2 % offset), min	240 MPa
Elongation, min	24 %
Charpy V-notch test temperature	-46 °C (18 J avg)
Hardness	Not specified

Chemical composition (weight %)

C 0.30 max	Mn 1.00 max	P 0.04 max	S 0.045 max	Si 0.60 max
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Single values are maximums unless shown as a range or "min".

Heat treatment

Normalised and tempered, or quenched and tempered

Typical service

Valve bodies for -46 °C service

International equivalents (nearest)

USA — ASTM / ASME	ASTM A352 LCB · ASME SA-352 LCB
USA — UNS	J03003
Europe — EN designation	G17Mn5 (EN 10213)
Europe — W.Nr	1.1131
Japan — JIS	SCPL1 (JIS G5152)
China — GB / NB	LCB (GB/T 12229) / ZG240-450D
UK — BS (withdrawn)	BS 1504-161 LT

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