

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

ASTM A333 Grade 6 — Chemical Composition & Mechanical Properties

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ASTM A333 Grade 6 is a low-temperature carbon steel (ltcs) grade for seamless & welded pipe (UNS K03006). It is also known as LTCS. This sheet summarises its chemical composition limits, minimum mechanical properties, heat treatment and typical service. Teshi Group supplies this grade as a stockist and supplier, and manufactures matching flanges and fittings.

At a glance

Material family	Low-temperature carbon steel (LTCS)
Product form	Seamless & welded pipe
UNS	K03006
Also known as	LTCS

Mechanical properties

Tensile strength, min	415 MPa
Yield strength (0.2 % offset), min	240 MPa
Elongation, min	30 %
Charpy V-notch test temperature	-45 °C (18 J avg, full size)
Hardness	Not specified

Chemical composition (weight %)

C 0.30 max	Mn 0.29–1.06	P 0.025 max	S 0.025 max	Si 0.10 min
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Single values are maximums unless shown as a range or “min”.

Heat treatment

Normalised, or normalised and tempered

Typical service

LTCS pipe for -45 °C service — refrigeration, LNG/LPG

International equivalents (nearest)

USA — ASTM / ASME	ASTM A333 Grade 6 · ASME SA-333 Grade 6
USA — UNS	K03006
Europe — EN designation	P265NL (EN 10216-4)
Europe — W.Nr	1.0453
Japan — JIS	STPL380 (JIS G3460)
China — GB / NB	16MnDG (GB/T 18984)
China — old GB designation	16MnDG
UK — BS (withdrawn)	BS 3603 HFS 430 LT

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