

S420QL – Technical Datasheet

1. Chemical & Mechanical Properties

A. Chemical Composition

Element	% Composition
Carbon (C)	≤ 0.20%
Silicon (Si)	≤ 0.80%
Manganese (Mn)	≤ 1.70%
Phosphorus (P)	≤ 0.020%
Sulphur (S)	≤ 0.010%
Chromium (Cr)	≤ 0.30%
Nickel (Ni)	≤ 1.00%
Molybdenum (Mo)	≤ 0.70%

B. Mechanical Properties

Property	Value
Yield Strength (YS)	≥ 420 MPa (≤50 mm)
Tensile Strength (TS)	520 – 680 MPa
Elongation	≥ 19%
Impact Test	≥ 30 J at -40 °C

2. Equivalent / Alternative Grades

Standard	Grade	YS (MPa)	TS (MPa)	Impact
ISO 630-6	S420Q	420	520-680	≥ 30 J @ -40 °C
ASTM A572	Gr 65 (QT)	450	550-700	≥ 27 J @ -40 °C
JIS G3106	SM570-QT	420	570-720	≥ 27 J @ -40 °C

3. Common Applications

- Hydraulic cranes & booms
- Heavy transport chassis
- Offshore structures
- Mobile crane outriggers

4. Standard Conformance

EN 10025-6:2004 + A1:2009 – High-yield Q&T structural steel.

"S" structural, "420" minimum yield (MPa), "Q" quenched & tempered, "L" -40 °C impact.

5. Disclaimer

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