

# S460QL – 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)	≤ 0.50%
Nickel (Ni)	≤ 1.50%
Molybdenum (Mo)	≤ 0.70%

### B. Mechanical Properties

Property	Value
Yield Strength (YS)	≥ 460 MPa (≤50 mm)
Tensile Strength (TS)	540 – 720 MPa
Elongation	≥ 17%
Impact Test	≥ 30 J at -40 °C

## 2. Equivalent / Alternative Grades

Standard	Grade	YS (MPa)	TS (MPa)	Impact
ISO 630-6	S460Q	460	540-720	≥ 30 J @ -40 °C
ASTM A709	HPS 70W (QT)	485	570-760	≥ 27 J @ -40 °C
JIS G3106	E460R-QT	460	570-730	≥ 27 J @ -40 °C

## 3. Common Applications

- Long-span bridges
- High-rise buildings
- Penstocks & pressure vessels
- Mobile crane booms

## 4. Standard Conformance

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

"S" structural, "460" minimum yield (MPa), "Q" quenched & tempered, "L" -40 °C impact.

## 5. Disclaimer

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