

TECHNICAL SPECIFICATIONS S690QL

Areas of application

S690QL is a high-strength fine-grain structural steel. It is suitable for steel structures exposed to heavy loads with medium wear resistance (300HB).

This EN 1.8928 material is used, among other things, to manufacture cranes and hoisting machines, as well as base structures (according to the U.S. standard for bridges in ASTM A709 similar to HPS 100 + 100W) and mining machines.

Withstands maximum application temperatures up to 500°C, as specified in U.S. literature.

Average chemical analysis

S690QL	C	Si	Mn	P	S	Cr	Ni	V	Al	Cu	Ti	B	Zr
Min									0,015				
Max	0,20	0,80	1,7	0,02	0,01	1,5	0,7	2,00		0,015	0,05	0,05	0,15

Nominal mechanical properties

S690QL	YS MPa	TS MPa	Elong %	Imp Energy J (0°C)	Imp Energy J (-20°C)	Imp Energy J (-40°C)	Imp Energy J (-60°C)
	700	940	14	60	50	40	30

Other properties

S690QL is easy to weld and cut. Targeted heat treatment is recommended to avoid cold cracks in thicknesses above 25 mm.

Inventory

Hardened and tempered flat steel plate.

Alternate uses

S690QL steels are also used in the sugar, paper, textile, dairy and engineering industries and in more complex areas such as oil, gas, petrochemical, chemical and fertiliser, as well as power generation and the nuclear industry.

Equivalences

ASTM A514, EN 10149-2 Grade S700MC, AS/NZS 3579 Grade 700, Bisalloy 80, Weldox 700