

S690QL

S690QL is a high yield strength structural steel with good comprehensive properties like high strength, good low temperature impact toughness and welding performance etc, in quenched and tempered condition

Chemical Composition (ladle analysis)

C	Si	Mn	P	S	N	B	Cr	Cu	Mo	Nb	Ni	Ti	V	Zr
max	max	max	max	max	max	max	max	max	max	max	max	max	max	max
%	%	%	%	%	%	%	%	%	%	%	%	%	%	%
0.2	0.8	1.7	0.02	0.01	0.015	0.005	1.5	0.5	0.7	0.06	2	0.05	0.12	0.15

Max CEV (based on Ladle Analysis)

S690QL thickness ≤100mm 0.65% max

CEV = C + Mn / 6 + (Cr + Mo + V) / 5 + (Cu + Ni) / 15

Mechanical Properties

Min Yield Strength		Tensile Strength		Elongation after Fracture
MPa		MPa		min % LO = 5.65 VSO
thickness/mm	thickness/mm	thickness/mm	thickness/mm	
≥ 4 - 50	≥ 50 - 100	≥ 4 - 50	≥ 50 - 100	14
690	650	770-940	760-930	

	Test Temperature	Impact Energy
	°C	J
Impact Properties	0	50
Longitudinal Test	-20	40
Charpy-V 10x10mm test specimen	-40	30

S690QL

Delivery Condition

Q.T. (Quenched and Tempered)

Tolerance

Thickness tolerance

According to EN 10029 Class B, and offer tighter tolerances upon request

Shape, length, width tolerances

According to EN 10029 .

Flatness Tolerance

According to EN 10029 Class-N type-H .

Surface Properties

According to EN 10163-2:2004 Class A Subclass 1.

Ultrasonic Testing

According to EN 10160:2004 Class S1E1 .

Recommendations

S690QL steel plates shall be preheated for welding