



## SuperElso® 690 QL Heavy Plate

A High Yield Strength steel for mechanical applications

SuperElso 690 QL by Industeel, is a 690 Mpa (100 ksi) yield strength steel, quenched and tempered. Industeel can supply that grade up to 250 mm (10") especially for mechanical applications.

Steel is manufactured with electric furnace including dephosphorisation, ladle refining and vacuum degassing to provide a reproducible, clean and homogenous quality.

Industeel can provide this type of steel with very good mechanical properties, even for heavy and thick plates.

**Industeel elaborates on a regular basis S690 QL as well as S690 QL1 - Astm A514 grade Q - A517 grade Q - A517 Grade Q modified - EQ 70.**

On request, can also melt your own analysis / specification.

### Chemical analysis - Weight %

Max values

C	Mn	P	S	Si	Ni	Cr	Mo	Cu	N	B	Nb	Ti	V
.20	1.70	.02	.01	.80	2.0	1.5	.70	.50	.015	.005	.06	.05	.12

Valid for thickness range >150 mm (>6")

Conforms to EN10025-6

### Heat treatment

Products are quenched and tempered.

### Mechanical properties

Thickness	Re MPa <i>Ys ksi</i>	Rm Mpa <i>UTS ksi</i>	Elongation %	Charpy* (J) -40°C / - 40°F mini L/T	Charpy** (J) typical** L/T
> 150 to 250mm > 6" to 10"	630 90	710-900 103-130	14	30/27 J 22/20 ft.lbs	60/50 J 44/37 ft.lbs

\* On 1/4 thicknesses

\*\* For information

## Tolerances

Flatness (in mm)	Standard	Special on request*
mm/M	5mm/M	3mm/M
mm/2M	8mm/2M	5mm/2M
Width	0 / + 50	0 / + 20
Length	0 / + 20	0 / + 20
Thickness	0 / + 5	EN10029 Class C

\* With additional surcharge

## Ultrasonic Tests

Plates are controlled according to ultrasonic tests: EN 10160 S1E1

## Marking

Standard hard stamping includes: Grade - Heat nb - Plate nb - Mill stamp - CE logo

## Certificate

Standard : mill certificate 3.1

## Sizes

Standard

Width between 2000 (78") and 2500 (96")

Length between 4000 (156") to 8000 (312")

Thicknesses 150 to 250mm ( 6 to 10")

On request we can roll other sizes

For any information

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Nota - Technical data and information are to the best of our knowledge at the time of printing. However, they may be subject to some slight variations due to our ongoing research programme on HYS Steels. Therefore, we suggest that information be verified at time of enquiry or order.

Furthermore, in service, real conditions are specific for each application. The data presented here are only for the purpose of description, and considered as guarantees when written formal approval has been delivered by our company.