Strenx® 700 OME

General Product Description

A structural steel developed for use in demanding load-bearing structures within the Offshore and Marine Industry.

Strenx® 700 OME exceeds the requirements of S690QL, EN 10 025-6. Strenx® 700 OME can be ordered with dual steel grades certificate, where the additional steel grade is defined and approved by one of the Classification Societies listed below.

The dual certification offers You the benefits of excellent mechanical properties, extra tight tolerances, formability and consistency of SSAB Strenx® Guarantees.

Classification society:

- American Bureau of Shipping AB EQ70, 4.8 to 130 mm thickness.
- DNV - GL NV E690, VL E690, 6 to 80 mm thickness.
- Lloyds Register LR EH 69, 8 to 80 mm thickness.

Dimension Range

Strenx® 700 OME is available as plate in thicknesses of 4.0 – 130.0 mm and available in widths up to 3350 mm and lengths up to 14630 mm depending on thickness. More detailed information on dimensions is provided in the dimension program for Strenx® 700 E/F at www.ssab.com.

Mechanical Properties

Thickness (mm)	Yield strength[1] $R_{p0.2}$ (min MPa)	Tensile strength[1] R_m (MPa)	Elongation A_5 (min %)
4.0 - 130.0	700	780 - 930	14

[1] For transverse test pieces according to EN 10 025.

Impact Properties

Grade	Min transverse test, impact energy, Charpy V 10x10 mm tests specimens[1]
Strenx®700 OME	69 J/ -40 ^{0}C

[1] Unless otherwise agreed, only transverse impact testing.

Additional Options for Mechanical properties:

Option 1 - Min guaranteed impact energy (J) for transverse testing Charpy V 10x10 mm tests specimens 50 J/ -60^{0}C.

Option 2 - Improved deformation properties perpendicular to the surface. Through- thickness tensile testing according to EN 10 164, Class Z35, Z25 and Z15.

Chemical Composition (ladle analysis)

C *) (max %)	Si *) (%)	Mn *) (max %)	P (max %)	S (max %)	Cr *) (max %)	Cu*) (max %)	Ni*) (max %)	Mo*) (max %)	B *) (max %)
0.20	0.10 - 0.55	1.60	0.015	0.003	0.80	0.30	2.0	0.70	0.005

The steel is grain refined. *) Intentional alloying elements.

Maximum Carbon Equivalent CET(CEV)

Thickness	4 - 30	(30) - 100	(100) - 130
Strenx 700 OME: CET(CEV)	0.38 (0.57)	0.39 (0.58)	0.41 (0.67)

$$CET = C + \frac{Mn + Mo}{10} + \frac{Cr + Cu}{20} + \frac{Ni}{40} \qquad CEV = C + \frac{Mn}{6} + \frac{Cr + Mo + V}{5} + \frac{Cu + Ni}{15}$$

Tolerances

More details are given in SSAB's brochures Strenx® Guarantees or on www.ssab.com.

Thickness

Tolerances according to Strenx® Thickness Guarantees.
Strenx® Guarantees meet the requirements of EN 10 029 Class A, but offers narrower tolerances.

Length and Width

According to SSAB's dimension program. Tolerances conform with EN 10 029 or to SSAB's standard after agreement.

Shape

SSAB offers tolerances according to EN 10 029.

Flatness

Tolerances according to Strenx® Flatness Guarantee Class C, which are more narrow than EN 10 029 Class N.

Surface Properties

According to EN 10 163-2 Class A, Subclass 3.

Bending

Tolerances according to Strenx® Bending Guarantee Class A.

Delivery Conditions

The delivery condition is Q+T (Quenched and Tempered). The plates are delivered with sheared or thermally cut edges.

Delivery requirements can be found in SSAB's brochure Strenx® Guarantees or on www.ssab.com.

Fabrication and Other Recommendations

Welding, bending and machining.

Recommendations are found in SSAB's brochures at www.ssab.com or consult Tech Support, techsupport@ssab.com.

Workshop guidelines for Strenx® 700 OME refer to the same recommendations as for Strenx® 700.

Strenx® 700 OME has obtained its mechanical properties by quenching and subsequent tempering. The properties of the delivery condition cannot be retained after exposure to temperatures in excess of 580^0C.

Appropriate health and safety precautions must be taken when welding, cutting, grinding or otherwise working on this product. Grinding, especially of primer coated plates, may produce dust with a high particle concentration.

Contact Information

www.ssab.com/contact