

WELDOX® 1300

Special data sheet

HIGH STRENGTH STRUCTURAL STEEL PLATE

WELDOX 1300 is a general structural steel with a minimum yield strength of 1300 MPa.

Applications

Load carrying structures having very high demands on low weight.

Designation

WELDOX 1300E with guaranteed impact toughness at -40°C

WELDOX 1300F with guaranteed impact toughness at -60°C

Chemical composition

(ladle analysis)

C*	Si*	Mn*	P	S	B*	Nb*	Cr*	V*	Cu	Ti	Al* total	Mo*	Ni*	N
max %	max %	max %	max %	max %	max %	max %	max %	max %	max %	max %	min %	max %	max %	max %
0,25	0,50	1,40	0,020	0,005	0,005	0,04	0,80	0,08	0,10	0,02	0,020	0,70	2,0	0,010

* Intentional alloying elements. The steel is grain-refined

Plate thickness	CEV	CET	Typical values % %	$CEV = C + \frac{Mn}{6} + \frac{Cr+Mo+V}{5} + \frac{Ni+Cu}{15}$
8 mm	0,63	0,40		$CET = C + \frac{Mn+Mo}{10} + \frac{Cr+Cu}{20} + \frac{Ni}{40}$
10 mm	0,65	0,42		

Mechanical properties

Plate thickness mm	Yield strength ¹⁾ $R_{p0,2}$, min MPa ²⁾	Tensile strength ¹⁾ R_m MPa ²⁾	Elongation ¹⁾ A_5 , min %
4,0 - 10,0	1300	1400 - 1700	8

¹⁾ For transverse test pieces

²⁾ 1 MPa = 1 N/mm²

Impact properties

Steel grade and quality	Test temperature °C	Impact energy (J) for test on transverse ¹⁾ Charpy V 10 x 10 test specimens ²⁾ , min.
WELDOX 1300E	-40	27
WELDOX 1300F	-60	27

¹⁾ Unless otherwise agreed, transverse impact testing according to EN 10025 option 30 will apply.

²⁾ For plate thicknesses less than 12 mm, subsize Charpy V-specimens are used.

The specified minimum value is then proportional to the cross section of the specimen.

Testing

Testing according to EN 10025.

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Delivery condition	Q Quenched and tempered.
Dimensions	WELDOX 1300 is delivered in plate thicknesses of 4-10mm. More detailed information on dimensions is provided in our brochure 42-General Product Information WELDOX, HARDOX and ARMOX-UK.
Tolerances	<ul style="list-style-type: none"> - All plates are produced with AccuRollTech™ thickness precision guarantee. <p>AccuRollTech™ meets the requirements of EN 10 029, but offers more narrow tolerances.</p> <ul style="list-style-type: none"> - Tolerances on flatness according to Class N (Normal tolerances). <p>More detailed information is given in our brochure 42-General Product Information WELDOX, HARDOX and ARMOX-UK as well as at www.weldox.com</p>
Surface condition	According to EN 10163-2, Class A, Subclass 1 (repair by welding is allowed).
General technical delivery requirements	According to our brochure 42-General Product Information WELDOX, HARDOX and ARMOX-UK.
Heat treatment and fabrication	<p>WELDOX 1300 has obtained its mechanical properties by a quenching and tempering process. WELDOX 1300 is not suited for applications requiring hot working at temperatures above 200° C since the material may then lose its guaranteed properties.</p> <p>For information concerning welding and fabrication, consult our Technical Customer Service.</p> <p>Appropriate health and safety precautions must be taken when welding, cutting, grinding or otherwise working on the product. Grinding, especially of primer coated plates, may produce dust with high particle concentration.</p>