

# Weldox 1030

## High Strength Steel

Weldox 1030 is a general structural steel with a minimum yield strength of 1030 MPa.

**Applications** Load carrying structures having very high demands on low weight.

**Designation** Weldox 1030E with guaranteed impact toughness at -40°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 %
0,21	0,50	1,60	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	0,53	0,34		CET = $C + \frac{Mn+Mo}{10} + \frac{Cr+Cu}{20} + \frac{Ni}{40}$
12 mm	0,59	0,35		

## Mechanical properties

Plate thickness mm	Yield strength <sup>1)</sup> R <sub>p0,2</sub> min MPa <sup>2)</sup>	Tensile strength <sup>1)</sup> R <sub>m</sub> MPa <sup>2)</sup>	Elongation <sup>1)</sup> A <sub>5</sub> min %
4,0 - 4,9	1030	1200 - 1500	8
5,0 - 12,0	1030	1200 - 1500	10

<sup>1)</sup> For transverse test pieces

<sup>2)</sup> 1 MPa = 1 N/mm<sup>2</sup>

## Impact properties

Steel grade and quality	Test temperature °C	Impact energy (J) for test on transverse Charpy V 10 x 10 test specimens <sup>1)</sup> , min.
Weldox 1030E	-40	27

<sup>1)</sup> Average of three tests. Single value min 70% of specified average.

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.

<b>Delivery condition</b>	Q   Quenched or quenched and tempered at our discretion.												
<b>Dimensions</b>	Weldox 1030 is delivered in plate thicknesses of 4-12mm. More detailed information on dimensions is provided in our brochure 41-General product information Weldox, Hardox, ArmoX and Toolox-UK.												
<b>Tolerances</b>	- All plates are produced with AccuRollTech™ thickness precision guarantee.  AccuRollTech™ meets the requirements of EN 10 029, but offers more narrow tolerances.  - Tolerances on flatness according to Class N (Normal tolerances).  More detailed information is given in our brochure 41-General product information Weldox, Hardox, ArmoX and Toolox-UK as well as at <a href="http://www.weldox.com">www.weldox.com</a>												
<b>Surface condition</b>	According to EN 10163-2, Class A, Subclass 1 (repair by welding is allowed).												
<b>General technical delivery requirements</b>	According to our brochure 41-General product information Weldox, Hardox, ArmoX and Toolox-UK.												
<b>Heat treatment and fabrication</b>	<p>Weldox 1030 has obtained its mechanical properties by a quenching process. Weldox 1030 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, see our brochures listed below. You can also visit <a href="http://www.weldox.com">www.weldox.com</a> or consult our Technical Customer Service.</p> <table><tr><td>Fabrication</td><td>Brochure No</td><td>As for steel grade</td></tr><tr><td>Machining</td><td>E-10</td><td>Weldox 1100E</td></tr><tr><td>Welding</td><td>E-11</td><td>Weldox 960E</td></tr><tr><td>Bending, shearing</td><td>E-12</td><td>Weldox 1100E</td></tr></table> <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>	Fabrication	Brochure No	As for steel grade	Machining	E-10	Weldox 1100E	Welding	E-11	Weldox 960E	Bending, shearing	E-12	Weldox 1100E
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