

WELDOX[®] 1100

EXTRA HIGH STRENGTH STRUCTURAL PLATE

WELDOX 1100 is a general structural steel with a minimum yield strength of 1100 N/mm² intended for applications where its high strength permits weight savings to be made. The plate has very good cold bending properties and very good weldability. WELDOX 1100 can be obtained with guaranteed impact toughness at temperatures down to -60°C (-76°F).

Applications	Load carrying structures having very high demands on low weight.															
Designation	WELDOX 1100 E with impact testing at -40°C (-40°F). WELDOX 1100 F with impact testing at -60°C (-76°F).															
Chemical composition (ladle analysis)	C*	Si*	Mn*	P	S	B*	Nb*	Cr*	V*	Cu*	Ti*	Al*	Mo*	Ni*	N	CEV typical value %
	max %	max %	max %	max %	max %	max %	max %	max %	max %	max %	max %	min %	max %	max %	max %	0,70
	0,21	0,50	1,40	0,020	0,010	0,005	0,04	0,80	0,08	0,30	0,02	0,020	0,70	3,0	0,015	0,70
	*) Intentional alloying elements.															
Mechanical properties	Plate thickness mm		Yield strength R _{p0.2} min N/mm ²				Tensile strength R _m N/mm ²				Elongation ¹⁾ A ₅ min A ₅₀ min ²⁾ % %					
	5 – 25		1100				1250–1550				10 12					
	¹⁾ For transverse test pieces. ²⁾ Testing by agreement.															
Impact properties	Steel grade		Test temperature °C		Impact energy ¹⁾ for test on transverse Charpy V test pieces min, J 10x10 specimen ²⁾											
	WELDOX 1100 E		-40		27											
	WELDOX 1100 F		-60		27											
	WELDOX 1100F is delivered after specific agreement.															
	¹⁾ Average of three tests. Single value min 70% of specified average. ²⁾ For plate thicknesses under 12 mm subsize Charpy V-specimens are used. The specified minimum value is then proportional to the specimen's cross-section.															
Testing	Tensile testing in accordance with EN 10 002-1, per plate as heat treated. Impact testing in accordance with EN 10 045-1, per plate as heat treated.															
Delivery condition	Quenched, Q.															
Dimensions	WELDOX 1100 is supplied in plate thicknesses of 5–25 mm. More detailed information on dimensions is provided in our brochures E-5, (Int 5) or E-40. Certain width restrictions may apply with respect to E-5, (Int 5) or E-40. Thicker plate than 25 mm or thinner plate than 5 mm only after specific agreement.															
Tolerances	– Tolerances on thickness according to EN 10 029 Class A. – Tolerances on flatness according to Class N, brochures E-5, (Int 5) or E-40. (Fulfills the requirements of EN 10 029 Class N)															
Surface finish	According to EN 10 163-2. – Requirements according to Class A. – Repair conditions according to Subclass 1. Repair by welding is allowed.															

DATASHEET

WELDOX 1100

**General technical
delivery requirements**

According to our brochures E-5, (Int 5) or E-40, General Product Information.

**Heat treatment
and fabrication**

WELDOX 1100 has obtained its mechanical properties by a quenching process.
WELDOX 1100 is not suited for applications requiring hot working at temperatures above 200°C (390°F) since the material may then lose its good properties.

For information concerning welding and fabrication, see our brochures listed below or consult our Technical Customer Service.

Fabrication	Brochure No:
Fabrication	E-10
Welding	E-11
Bending	
Shearing	E-12
Flame cutting	E-14

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. Our Application Engineering Department will provide further information on request.

For further information please contact our Application Engineering Department