

ThyssenKrupp XABO® 500 T Structural Steel

Category : Metal , Ferrous Metal , Carbon Steel , Low Carbon Steel

Material Notes:

This Material Specification applies to thermo mechanically rolled flat products in thicknesses up to 60 mm. The criteria to distinguish the steel grades is the lowest test temperature for the notch-bar impact test. Application: These steels are applied in welded constructions such as supporting structures, vessels etc., where a secured prevention against cold cracking in the welded joints is required. Due to the low carbon equivalent, these steels are highly resistant against cold cracking. Information Provided by Thyssen Krupp

Order this product through the following link:

http://www.lookpolymers.com/polymer_ThyssenKrupp-XABO-500-T-Structural-Steel.php

Physical Properties	Metric	English	Comments
Density	7.85 g/cc	0.284 lb/in ³	

Mechanical Properties	Metric	English	Comments
Tensile Strength at Break	560 - 720 MPa	81200 - 104000 psi	
Tensile Strength, Yield	>= 460 MPa	>= 66700 psi	35<x=60mm
	>= 480 MPa	>= 69600 psi	
	@Thickness 16.0 - 35.0 mm	@Thickness 0.630 - 1.38 in	
	>= 500 MPa	>= 72500 psi	
	@Thickness 16.0 mm	@Thickness 0.630 in	
Elongation at Break	>= 16 %	>= 16 %	
Modulus of Elasticity	213 GPa	30900 ksi	
Charpy Impact	16.0 J	11.8 ft-lb	Transverse
	@Temperature -50.0 °C	@Temperature -58.0 °F	
	20.0 J	14.8 ft-lb	Transverse
	@Temperature -40.0 °C	@Temperature -40.0 °F	
	23.0 J	17.0 ft-lb	Transverse
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	27.0 J	19.9 ft-lb	Transverse
	@Temperature -20.0 °C	@Temperature -4.00 °F	
	27.0 J	19.9 ft-lb	Longitudinal
	@Temperature -50.0 °C	@Temperature -58.0 °F	

Mechanical Properties	Metric	English	Comments
	31.0 J	22.9 ft-lb	Longitudinal
	@Temperature -40.0 °C	@Temperature -40.0 °F	
	40.0 J	29.5 ft-lb	Longitudinal
	@Temperature -30.0 °C	@Temperature -22.0 °F	
	47.0 J	34.7 ft-lb	Longitudinal
	@Temperature -20.0 °C	@Temperature -4.00 °F	

Thermal Properties	Metric	English	Comments
Specific Heat Capacity	0.450 J/g-°C	0.108 BTU/lb-°F	
Thermal Conductivity	45.0 W/m-K	312 BTU-in/hr-ft ² -°F	

Component Elements Properties	Metric	English	Comments
Carbon, C	<= 0.15 %	<= 0.15 %	
Copper, Cu	<= 0.40 %	<= 0.40 %	
Manganese, Mn	<= 1.8 %	<= 1.8 %	
Nickel, Ni	<= 0.50 %	<= 0.50 %	
Niobium, Nb (Columbium, Cb)	<= 0.050 %	<= 0.050 %	
Other	<= 0.47 %	<= 0.47 %	Carbon Equivalent
Phosphorous, P	<= 0.025 %	<= 0.025 %	
Silicon, Si	<= 0.60 %	<= 0.60 %	
Sulfur, S	<= 0.010 %	<= 0.010 %	

Electrical Properties	Metric	English	Comments
Volume Resistivity	0.000030 ohm-cm	0.000030 ohm-cm	

Descriptive Properties	Value	Comments
Magnetic Properties	magnetizable	
Thermal diffusivity (cm ² /s)	0.13	

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