

TECH SUPPORT



Tech Support provides you with technical support over the phone and via e-mail. You will receive an answer straight away or at the latest within 24 hours. We welcome questions in any language and invite you to work close-ly with our Technical Managers and expert groups. Our aim is to simplify your work in design, materials selection, fatigue, deflection, bending, drilling, machining and welding.

CONTACT

SSAB
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www.ssab.com/contact/tech-support



Wear plate for maximum payload & longer service life.



High-strength, high-performance structural steel.



Ready-to-use engineering & tool steel for saving time to market.

TOOLOX® ENGINEERING AND TOOL STEEL

Temperature °C (°F)	Hardness guaranteed HBW	Impact energy guaranteed Min. J (ft-lb)	Yield strength R _{p0.2} MPa (ksi)*	Tensile strength R _m MPa (ksi)*	Elongation A ₅ (%)*	Yield strength R _{p0.2} MPa (ksi)*	Impact energy J (ft-lb)*	Plate thickness mm (inches)
Toolox® 33 – A quenched and tempered engineering and tool steel, designed to have low residual stresses – resulting in good dimensional stability.								
-40 °C (-40°F)								6 – 130 mm (0.236" – 5.12")
-20 °C (-4°F)								
20 °C (68°F)	275–325	35 J (26 ft-lb)	850 (123)	980 (142)	16	800 (116)	100 J (74 ft-lb)	
200 °C (392°F)			690 (116)	900 (131)	12	750 (108)	170 J (125 ft-lb)	
300 °C (572°F)			680 (99)			700 (101)	180 J (133 ft-lb)	
400 °C (752°F)			590 (86)			590 (86)	180 J (133 ft-lb)	
500 °C (932°F)			560 (81)			560 (81)		

Plates are tested in transverse direction. Bars are tested in longitudinal direction. * Typical values are for guidance only.

Temperature °C (°F)	Hardness guaranteed HBW	Impact energy guaranteed Min. J (ft-lb)	Yield strength R _{p0.2} MPa (ksi)*	Tensile strength R _m MPa (ksi)*	Elongation A ₅ (%)*	Yield strength R _{p0.2} MPa (ksi)*	Impact energy J (ft-lb)*	Plate thickness mm (inches)
Toolox® 40 – Quenched and tempered engineering and tool steel with very low residual stresses – in combination with a typical hardness around 40 HRC.								
-40 °C (-40°F)								6 – 130 mm (0.236" – 5.12")
-20 °C (-4°F)								
20 °C (68°F)	360–420	20 J (15 ft-lb)	1150 (167)	1260 (183)	14		38 J (28 ft-lb)	
200 °C (392°F)			1010 (146)	1170 (170)	14			
300 °C (572°F)			990 (144)	1160 (168)	14			
400 °C (752°F)			900 (131)	1060 (154)	15			
500 °C (932°F)			780 (112)	900 (131)	16			

Plates are tested in transverse direction. * Typical values are for guidance only.

Temperature °C (°F)	Hardness guaranteed HBW	Impact energy guaranteed Min. J (ft-lb)	Yield strength R _{p0.2} MPa (ksi)*	Tensile strength R _m MPa (ksi)*	Elongation A ₅ (%)*	Yield strength R _{p0.2} MPa (ksi)*	Impact energy J (ft-lb)*	R _{c0.2} after 170 hrs soaking time at actual temperature* MPa (ksi)	Plate thickness mm (inches)	Bar diameter mm (inches)
Toolox 44® – Quenched and tempered engineering and tool steel with very low residual stresses. Despite a typical hardness of 45 HRC, it has very good machinability, unmatched in the market.										
-40 °C (-40°F)										6 – 130 mm (0.236" – 5.12") 21 – 172 mm (0.826" – 6.771")
-20 °C (-4°F)										
20 °C (68°F)	410–475	18 J (13 ft-lb)	1300 (189)	1450 (210)	13	1250 (181)	30 (22)			
200 °C (392°F)			1150 (174)	1380 (200)	10	1120 (162)	60 (44)			
300 °C (572°F)			1120 (162)			1120 (162)	80 (59)			
400 °C (752°F)			1060 (168)			1060 (154)	80 (59)	1060 (154)		
500 °C (932°F)			930 (135)			930 (135)		910 (132)		

Plates are tested in transverse direction. Bars are tested in longitudinal direction. All other values are tested randomly and are for information only. The typical testing temperature for Toolox® is room temperature. * Typical values are for guidance only.

SALES CONTACTS



Find your local sales contact at www.ssab.com

Certain restrictions apply to the product program.

This is an extract from the product data sheets and recommendations.

Consult www.ssab.com for complete recommendations and properties.