

Technical information

TOOLOX33



Usage

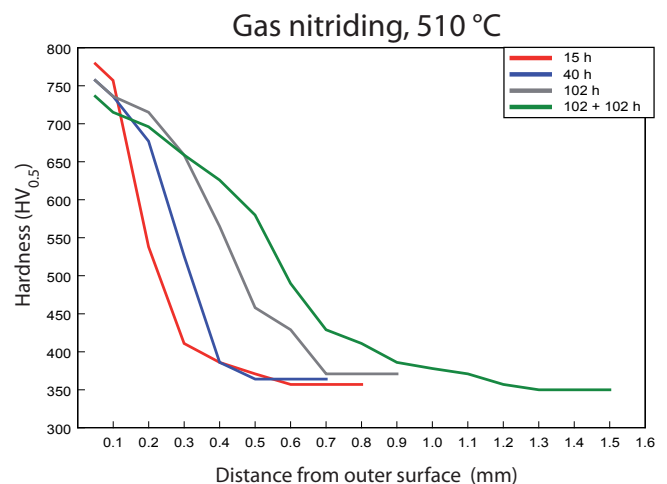
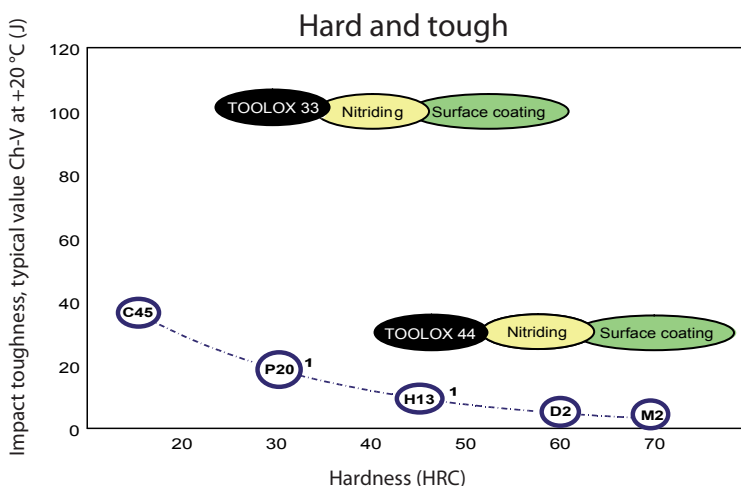
TOOLOX 33 is a new steel delivered quenched and tempered with high impact toughness and very low residual stresses to get good dimensional stability. TOOLOX 33 has a low carbide content, and is therefore excellent to machine. TOOLOX 33 is suitable for plastic moulding, for rubber moulding and machine components. With proper surface treatment, the service life of the tool/component can be prolonged.

Typical Values

Chemical composition		Mechanical properties					
C	0.22-0.24%		+20°C	+200°C	+300°C	+400°C	+500°C
Si	0.6-1.1%	Tensile strength, R_m [MPa]	980	900			
Mn	0,8%	Yield strength, $R_{p0,2}$ [MPa]	850	800			
P	max 0.010%	Elongation, A_5 [%]	16	12			
S	max 0.003%	Compressive yield strength, $R_{c0,2}$ [MPa]	800	750	700	590	560
Cr	1.0-1.2%	Impact toughness [J]	100	170	180	180	
Mo	0.30%	Hardness, [HBW]	310				
V	0.10-0.11%	Hardness, [HRC]	29				
Ni	max 1%						
CE _{IIW}	0.62-0.71						
CET	0.40-0.44						

Inclusions		Physical properties				
Inclusion size (equiv. diam)	6µm		+20°C	+200°C	+400°C	+600°C
Area fraction	0.015%	Heat conductivity [W/m · K]	35	35	30	23
Aspect ratio	1.2	Thermal expansion coefficient [10 ⁻⁶ /K]	13.1	13.1		

Surface technology



Footnote 1: P20 = W.Nr 1.2311 and H13 = W.Nr 1.2344

TOOLOX®
PREHARDENED TOOL & MACHINE STEEL

SSAB
OXELÖSUND