TOOLOX44

Pre-hardened steel
Grinded and rolled plates cut to size

Toolox44 is a pre-hardened steel with a hardness of 45 HRC and a yield strength of 1300 N/mm^2. It is easy to work with suitable tools. Because of the low levels of internal stress, large sections may be machined without movement and stress relieving is neither necessary nor recommended. This steel which is used in mechanical engineering and tool making may be polished and etched with excellent results.

FINISHES

GRINDED	
Thickness	grinded Ra1.6 (N7)
Tolerance	+0.2 /+0.1 mm
Parallelism	≤0.05 mm
Flatness	≤0.2 mm
ROLLED	
Thickness	walzroh
Tolerance	DIN/EN 10029 class C
Parallelism	DIN/EN 10029
Flatness	≤0.5 mm
BLANKS OF ALL SIZES	
Length/width	Ra6.3-12.5 cut with a precision circular saw
HABA standard tolerance	nominal size +0.8/+0.3 mm
Customer-specific tolerance	within a tolerance field of 0.4 mm

We can also produce milled blanks on request as well as special thicknesses and tolerances.

TECHNICAL SPECIFICATIONS

Tensile strength	R_m	1450 (N/mm^2)
Yield strength	$R_{p0.2}$	1300 (N/mm^2)
Breaking strain	(L_o = 5 d_o) A_5	≥13 %
Impact energy	A_V (J)	typical values 130J/20°C
		guaranteed values 20J/20°C
Brinell hardness	HBW	450
	HRC	45
Density		7.85 kg/dm^3

COAT

All coatings at temperatures below 590°C are possible. With the influence of heat > 590°C the Toolox properties may get lost and can no longer be guaranteed.

CHEMICAL COMPOSITION

Carbon	C	0.32 %	Chromium	Cr	1.35 %
Silicium	Si	0.60-1.10 %	Molybdenum	Mo	0.80 %
Manganese	Mn	0.80 %	Nickel	Ni	≤1.00 %
Phosphor	P	≤0.010 %	Vanadium	V	0.14 %
Sulfur	S	≤0.002 %	Nitrogen	N	-
CET		0.55 - 0.57	CEIIW		0.94 - 0.98

MATERIAL IN USE

Mechanical engineering
Toolmaking
Jig manufacturing
Mould construction

APPLICATIONS

Rack gears
Guide rails
Forming tools
Plastic / Rubber moulds
Machine components for high tensility demands

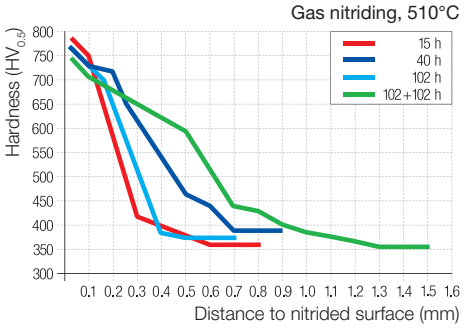
PROPERTIES

stability	great
free machining	relatively
hardness	very high
tensil strength	very high

ideal for nitriding and PVD

NITRIDING

Toolox44 is excellent for gas nitriding and PVD. The table below shows the achievable hardnesses and case depths for different nitriding times. Additional oxidising protects against corrosion.



HABA Solutions in plates

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