

Material: Toolox 44 - Round Bar



Material No.: TX44

Abbreviated DIN Name: Special Alloy

Chemical Analysis (%)	C	Si	Mn	Cr	V	Ni	Mo
	0,32	0,75	0,8	1,35	0,14	≤1,0	0,8

Hardness: Hardened & tempered
max. 450 HB (~1530 N/mm²)

Characteristics

Material Properties:

Toolox is based on a low carbon concept, which results in excellent machinability. The low carbon concept and high cooling rate have made Toolox two to three times tougher than comparable steels of similar hardness. The high hardness combined with excellent toughness ensures less wear and a longer operating life for components, when compared to standard steel.

Uses:

Suitable for engineering applications in tool holders and in different types of shafts and rolls, the diameter dimensions also provide a better solution for round parts in tooling applications like moulding and in dies for aluminium die casting.

Remarks

- Polishing:** Highly suitable for polishing through homogenous structure.
- Graining:** Well suited
- Nitriding:** Possible at temperatures up to 590°C. Improves wear resistance and prevents sticking of insets and components.
- Hardening:** Material is hardened to approx. 45 HRC when supplied and is not intended for further heat treatment.
- Soft annealing:** Not intended.
- Stress-relief annealing:** To eliminate residual stress after coarse machining at approx. 540°C, 4 h with slow heating and furnace cooling.
- Dimensions Available:** Max length 5000 mm up to 141 or can be cut to size
Max length 1000 mm from 192 to 405 or can be cut to size
H - : 26, 31, 36, 41, 46, 51, 61, 71, 81, 91, 101, 111, 126, 131, 141, 192, 262, 302, 353, 405

Physical Properties

Thermal expansion coefficient
(10⁻⁶·m) / (m·K)

20	200	300	400	500	°C
13,5	13,5		13,5		

Thermal conductivity

W / (m·K)	20	350	700	°C
	34,0	32,0	31,0	