

# Material: Toolox 44



**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/mm<sup>2</sup>)

## Characteristics

### **Material Properties:**

Alloyed and pre hardened Tool Steel, specially suited to polishing and has a high dimension stability. Good machining properties and toughness due to the production process. Covers applications of steels 1.2343, 1.2344 and 1.2767.

### **Uses:**

Cavity plates and inserts for the plastics and die casting industry. Mould components subjected to high pressure. Other applications in mould design where relatively high strength is specified without subsequent heat treatment.

## Physical Properties

### **Thermal expansion coefficient**

(10<sup>-6</sup>·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	

## 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:** W x L : Max 1250 x 2050 mm  
H - : 6, 14, 18, 22, 25, 30, 40, 50, 60, 70, 80, 90, 100, 110, 130, 150