

Toolox33

Material no.: –

HASCO colour code: orange / white

Abbreviated DIN name: Special alloy

Chemical analysis (%):

C	Si	Mn	Cr	V	Ni	Mo
0,23	0,75	0,8	1,2	0,1	≤1,0	0,3

Hardness when supplied: hardened and tempered
max. 300 HB
(~ 1000 N/mm²)

Characteristics

Material properties: Very low-stress therefore dimensionally stable material, prehardened. Excellent machining properties and minimum sulphur content, due to the production process. ESR properties such as excellent polishability. Covers applications of steels 1.2311, 1.2312 and 1.2738.

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
(10⁻⁶·m)/(m·K)

20	200	300	400	500	600	700	°C
13,1	13,1						

Thermal conductivity
W/(m·K)

20	350	700	°C
35,0	35,0	30,0	

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 insert and component.

Hardening: Material is hardened to approx. 29 HRC when supplied and is not intended for further heat treatment.

Soft annealing: Not intended.

Stress relief annealing: To eliminate residual stresses after coarse machining at approx. 540°C, approx. 4h with slow heating and furnace cooling.

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