

Various Special Steels

AISI T1 T1 DIN 3355

HS-18-0-1

C0.75 Si0.30 Mn0.35 Cr4.10 V1.25 W17.85

Steel properties Standard high-speed steel grade. Its well-balanced alloy composition forms the basis of its high toughness and good cutting edge retention, rendering it suitable for a large variety of applications.

Standards AISI T1 AFNOR-Z80WCV18-04-01

Physical properties

Thermal conductivity at °C	20	350	700
W/(m • K)	32.8	23.5	25.5

Applications For all metal-cutting tools for roughing or finishing such as twist drills, diverse milling cutters, thread dies, broaches, reamers, countersinks, thread chasers, circular saw segments, shaping tools and woodworking tools. Also highly suitable for cold-forming tools such as cold extrusion rams and dies, as well as cutting and precision cutting tools, plastic moulds with elevated wear resistance and screws.

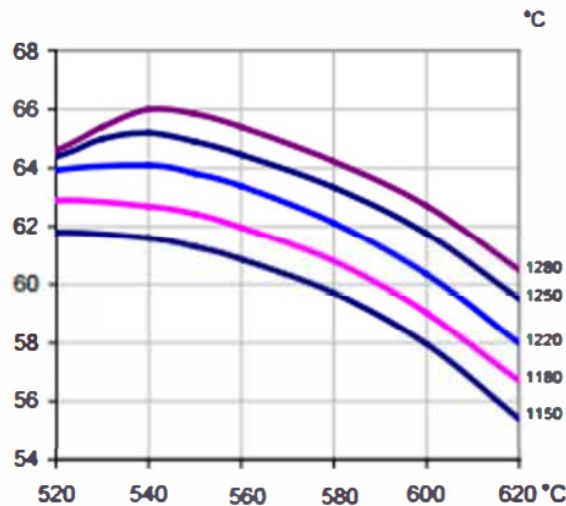
Heat treatment

Soft annealing °C 870-900 Cooling slowly Hardness HB max. 270

Stress-relief annealing °C 610-700 Cooling Furnace

1st pre-heating °C up to approx 400 in an air-circulating furnace	2nd and 3rd pre-heating °C a) 850 b) 850 and 1000	Hardening °C 1190-1230	Quenching a) Saltbath, at least 550 °C b) Oil c) Air	Tempering °C at least twice 530-560	Hardness after tempering HRC 64-66
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Tempering Graph



Hardness after hardening, quenching and tempering

Tool	Hardening	Tempering
Single-edge cutting tools	1280°C	550-570°C
Multi-edge cutting tools	1180-1280°C	550-570°C
Cold work tools	1150-1200°C	550-570°C