

Thermodur 2365 EFS / 2365 EFS Superclean

32CrMoV12-28

C 0.32 Cr 3.00 Mo 2.80 V 0.50

Steel properties

Excellent high-temperature strength and tempering resistance, thermal conductivity, low susceptibility to hot cracking. May be water-cooled to a limited extent. Suitable for cold hobbing.

Standards

AISI H10 AFNOR 32CDV12-28

Physical properties

Coefficient of thermal expansion at °C

20 – 100	20 – 200	20 – 300	20 – 400	20 – 500	20 – 600	20 – 700
$10^{-6} \text{ m}/(\text{m} \cdot \text{K})$	11.8	12.5	12.7	13.1	13.5	13.8

Thermal conductivity at °C

W/(m · K) Annealed	20	350	700
W/(m · K) Quenched and tempered	32.8	34.5	32.2
	31.4	32.0	29.3

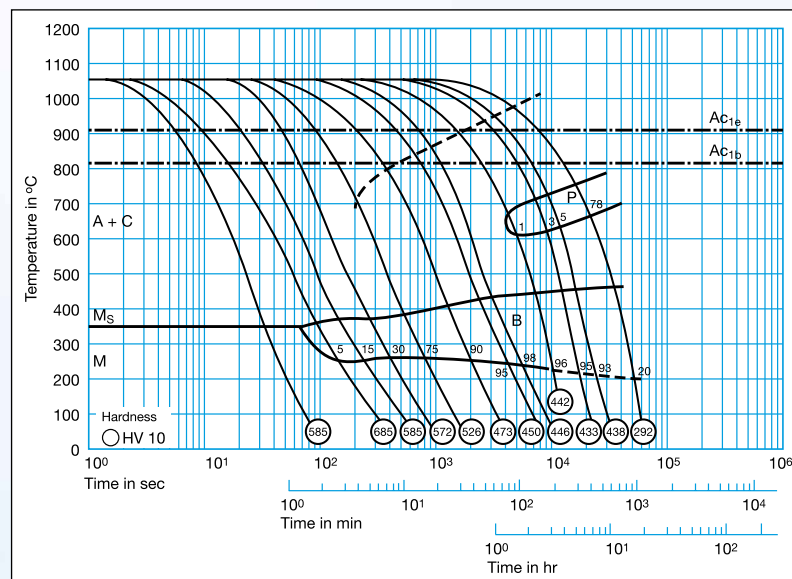
Applications

Press and piercing mandrels, die inserts, heavy metal die casting tools.
For your most challenging requirements, we recommend Thermodur 2365 EFS Superclean (ESR).

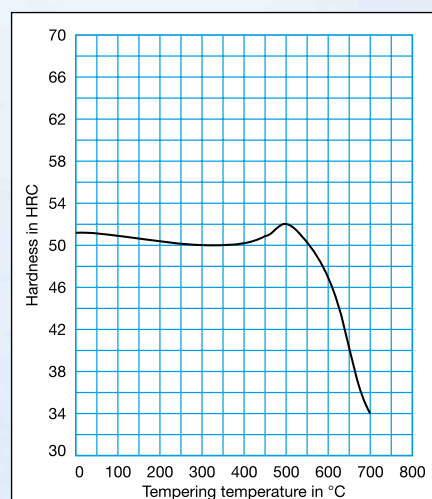
Heat treatment

Soft annealing °C 750 – 800	Cooling Furnace	Hardness HB max. 185
Hardening °C 1030 – 1050	Quenching Oil or hot bath, 500 – 550 °C	Hardness after quenching HRC 52
Tempering °C HRC	100 200 300 400 500 550 600 650 700	51 50 50 50 52 50 47 40 34

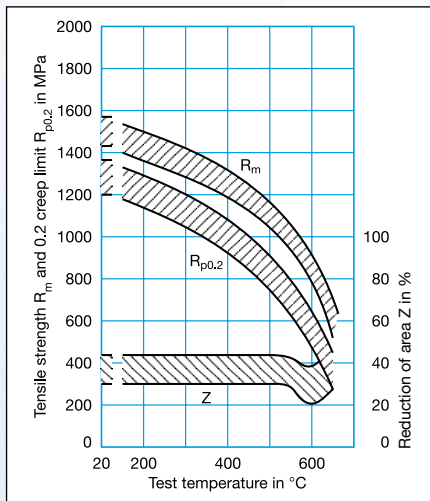
Time-temperature-transformation diagram



Tempering diagram



High-temperature strength diagram



Creep behavior

