

Rapidur 3333

HS3-3-2

C 1.00 Cr 4.00 Mo 2.60 V 2.30 W 3.00

Steel properties High-speed steel with economic use of alloys, universally applicable at medium performance. Suitable for series tooling.

Applications Twist drills, circular saws, hacksaws, reamers and milling cutters.

Heat treatment	Soft annealing °C	Cooling	Hardness HB							
	770 – 840	Furnace	max. 255							
Heat treatment	Stress-relief annealing °C	Cooling	Hardness HB							
	630 – 650	Furnace	max. 255							
1st pre-heating °C	2nd and 3rd pre-heating °C	Hardening ¹ °C	Quenching	Tempering °C			Hardness after tempering HRC			
up to approx. 400 in an air-circulating furnace	a) 850 b) 850 and 1050	1180 – 1220	a) Saltbath, 550 °C b) Oil c) Air	at least twice 540 – 560			62 – 64			
Tempering °C		100	200	300	400	500	525	550	575	600
HRC		63	61	60	58	62	63	64	63	62

¹ For cold-forming tools with a complex geometry, a hardening temperature at the lower end of the quoted range is recommended. The stated hardening temperatures apply to saltbath hardening only. For vacuum hardening, we suggest a reduction of 10 °C to 30 °C.