

Steel grade

Material No. / Werkstoff-Nr.	PREMIUM HSS 1.3343
Description	HS6-5-2C
AISI/SAE	M2; T11302
Search for alternatives in the ABRAMS STEEL GUIDE®	www.steel-guide.eu/alternatives/M2

Specifications



€co-Präz* [€co]
L: 500 mm



Precision round steel [PRS]
bright drawn / ground, ISO h9
L: 1.000 mm



Precision round steel [PRS]
with machining allowance [PRS/BA]
peeled / rough-turned
L: 500 mm
L: 1.000 mm

Chemical composition AISI/SAE M2 (reference value %)

C	Si	Mn	P	S	Cr	Mo	V	W
0,86 - 0,94	0 - 0,45	0 - 0,4	0 - 0,03	0 - 0,03	3,8 - 4,5	4,7 - 5,2	1,7 - 2,1	5,9 - 6,7

Physical properties

Hardness (delivery condition)	max. 270 HB, annealed			
Tensile strength R_m (as received condition)	approx. 920 N/mm ²			
Working hardness	max. 65 HRC			
Thermal expansion coefficient $10^{-6}m/(m \cdot K)$	20 - 100°C	20 - 200°C	20 - 300°C	20 - 400°C
	10,8	11,8	12,0	12,5
Thermal conductivity $W/(m \cdot K)$	20°C	350°C	700°C	
	32,8	23,5	25,5	

Technical properties

This high speed steel is the most frequently used among the high speed steels. Its composition allows it to be used for a wide range of applications. High impact toughness, good compression strength, excellent wear resistance.

Applications

Machining tools, milling cutters, twist drills, screw taps, reamers, broaching tools, rotary knives, planer knives, gear shaper cutters, circular saw segments, metal saws, woodworking tools, screw dies, countersinks, chasers, cold extrusion punches, precision cutting tools, dies, punches, plastic moulds with high wear resistance.

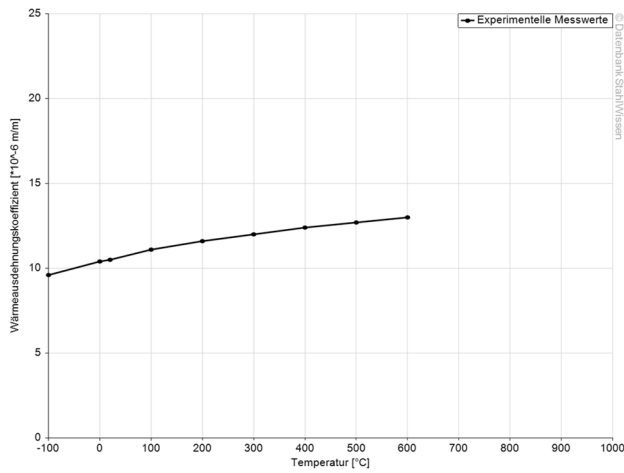
Heat treatment

Soft annealing	Temperature	Cooling	Hardness
	770 - 860°C	Furnace	max. 270 HB
Stress relief annealing	Temperature	Cooling	
	630 - 650°C	Furnace	
Hardening	Temperature	Quenching in	Hardness after tempering
	1190 - 1230°C	Oil, hot basin (550°C), compressed gas (N ₂)	64 - 66 HRC
Tempering (min. 2 times tempering)	530 - 560°C		



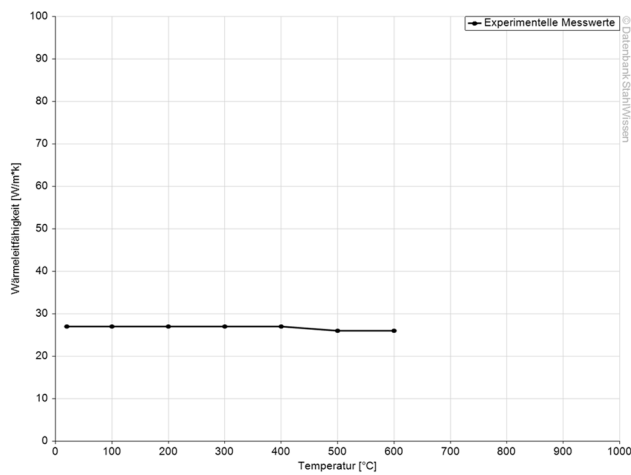
Thermal expansion coefficient diagram

Werkstoff: HS6-5-2C, 1.3343



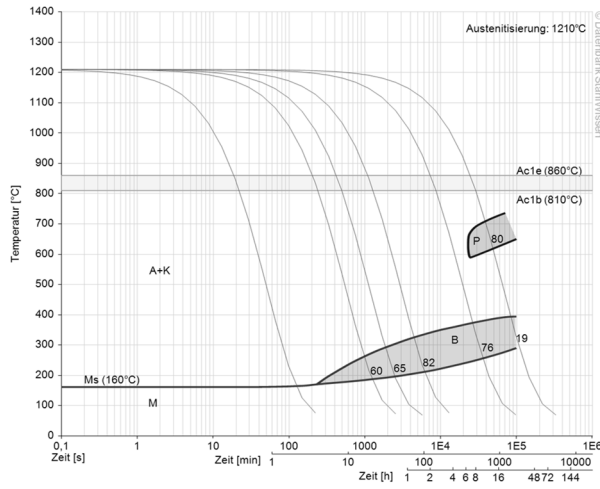
Thermal conductivity diagram

Werkstoff: HS6-5-2C, 1.3343



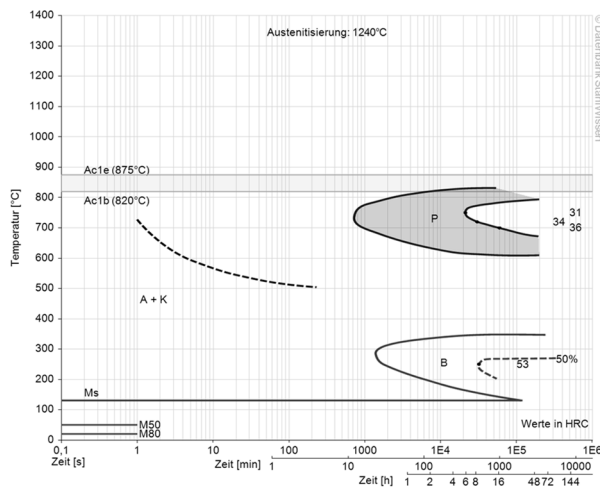
Continuous ZTU-diagram

Werkstoff: HS6-5-2C, 1.3343

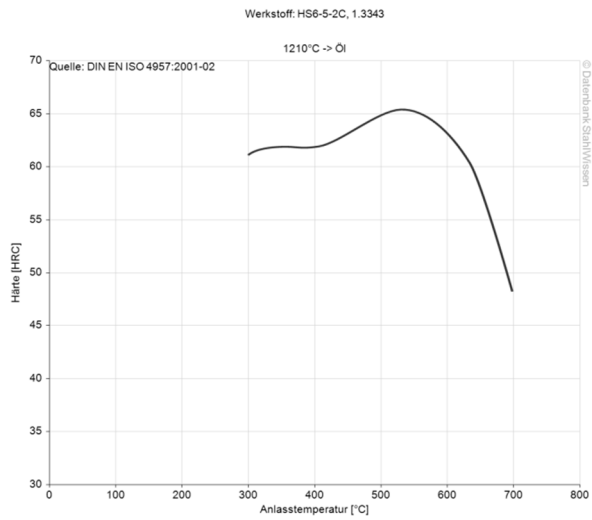


Isothermal ZTU-diagram

Werkstoff: HS6-5-2C, 1.3343



Tempering diagram



The data shown here is to be used only as an indication of the statistics, thus we accept no liability.
 Diagrams are taken from Datenbank StahlWissen Dr. Sommer Werkstofftechnik
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