

<b>DIN - Material - No.</b>	1.3343
<b>Code</b>	S 6-5-2
<b>Comparable standards</b>	AISI: M2, EU: HS6-5-2

<b>Chemical composition</b>	C	Cr	Mo	V	W
(Typical analysis %)	0.90	4.10	5.00	1.90	6.40

**Steel properties** Molybdenum high - speed tool steel. Very high resistance to softening at elevated temperatures and wear. Good toughness and cutting capability. Deep hardening response.

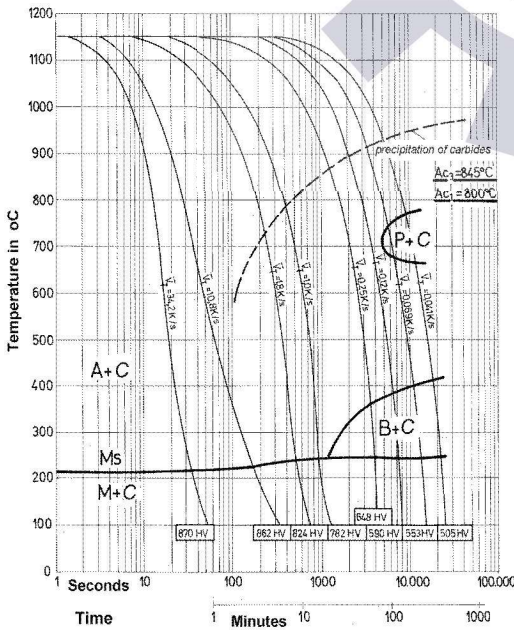
<b>Physical properties</b>	Thermal conductivity W/(m.K)	$\frac{20^{\circ}\text{C}}{19}$																
	Density g/cm <sup>3</sup>	$\frac{20^{\circ}\text{C}}{8.12}$																
	Coefficient of linear thermal expansion																	
	$10^{-6} \text{ }^{\circ}\text{C}^{-1}$	<table border="1"> <tr> <td>20-100</td> <td>20-200</td> <td>20-300</td> <td>20-400</td> <td>20-500</td> <td>20-600</td> <td>20-700</td> <td>20-800<sup>o</sup>C</td> </tr> <tr> <td>10.7</td> <td>11.7</td> <td>11.9</td> <td>12.4</td> <td>12.7</td> <td>13.1</td> <td>13.4</td> <td>13.4</td> </tr> </table>	20-100	20-200	20-300	20-400	20-500	20-600	20-700	20-800 <sup>o</sup> C	10.7	11.7	11.9	12.4	12.7	13.1	13.4	13.4
20-100	20-200	20-300	20-400	20-500	20-600	20-700	20-800 <sup>o</sup> C											
10.7	11.7	11.9	12.4	12.7	13.1	13.4	13.4											

**Applications** Knives, thread cutting and twist drills, broaching and milling tools, woodworking tools, cold working tools, Sendizimir rolls, reamers circular saw segments, cold forming like cold extrusion rams and dies, plastic moulds with elevated wear resistance and screws

**Stress Relieving** Holding at approx 650<sup>o</sup>C for one hour.

<b>Heat treatment</b>	Soft annealing <sup>o</sup> C	Cooling	Hardness HB									
	820 - 880	furnace	225 - 280									
	Heat up	Preheating 1. step	Preheating 2. step	Hardening from	in	Tempering	As tempered hardness HRC					
	<sup>o</sup> C	<sup>o</sup> C	<sup>o</sup> C	<sup>o</sup> C	oil, air, thermal bath 550 <sup>o</sup> C	<sup>o</sup> C	min. 64					
	450 - 600	850	1050	1180 - 1230		3 x 1 h 540 - 560						
	Tempering	<sup>o</sup> C	200	300	400	500	525	550	575	600	650	700
		HRC	63	61	61	62.5	64	65	64	62.5	57	47

**Time - Temperature - Transformation - Diagram**



**Tempering Diagram**

