DIN - Material - No. 1.3243

Code S 6-5-2-5

Comparable standards AISI: M35, EU: HS6-5-2-5

Chemical composition (Typical analysis %)

C	Cr	V	W	Co
0.92	4.10	1.90	6.40	4.80

Steel properties

Molybdenum high - speed tool steel. Very high resistance to wear and to softening at elevated temperatures. High resistance of cutting edge and good toughness. Deep hardening response. High hot hardness.

Physical properties

Thermal conductivity W/(m.K) at 20°C: 19

Density g/cm³ at 20°C: 8.01

Coefficient of linear thermal expansion

10^{-6} °C^{-1}	20-100	20-200	20-300	20-400	20-500	20-600	20-700°C
	9.7	10.5	11.0	11.4	11.5	12.0	12.5

Applications

Highly stressed twist drills, heavy duty milling cutters, profile cutting tools, tap and spiral drills, cold forming tools.

Stress Relieving

Holding at approx 650°C for one hour.

Heat treatment

Soft annealing °C	Cooling	Hardness HB
820 - 880	furnace	230 - 300

Heat up °C	Preheating 1. step °C	Preheating 2. step °C	Hardening from °C	in	Temparing °C	As tempered hardness HRC
450 - 600	850	1050	1210 - 1250	oil, air, thermal bath 550°C	3 x 1h 540 - 560	64 - 66

Tempering	°C	200	300	400	500	525	550	575	600	650	700
	HRC	63	61	62	64	64.5	65	64	63	55	46

Transformation Temperatures
Ac_1 = 824 C, Ac_3 = 853 C

Tempering Diagram