1.3243

High Speed Steel

TECHNICAL SHEET

1 Comparision Standards

W.Nr	DIN	JIS equivalent	AISI/SAE	AFNOR	BS	UNI
1.3243	S6-5-2-5	SKH55	M-35	Z85WDKCV06-05-04-02	BM35	HS6-5-2-5

2 Chemical Composition

C	Si	Mn	P (max)	S (max)	Co	Cr	Mo	V	W
0.87-0.95	≤ 0.45	≤ 0.40	0.03	0.03	4.5-5.0	3.80-4.50	4.70-5.20	1.70-2.10	5.90-6.70

Supply Condition	Supply Hardness (HB)
Annealed	240

3 Main Characteristics and Applications

The high cobalt content (1.3243) in these high-performance high-speed steels contributes to excellent red hardness and tempering resistance. This makes this grade particularly well-suited for applications with thermal stresses and intermittent cutting.

Applications:

- Broaches
- Milling cutters and Saw blades
- Twist Drills and Taps
- Profile Knives

4 Production Route

EAF - LF - VD - Forging / Rolling + Annealing
- Machining if Required

5 Physical Properties (Reference Values)

	20-100°C	20-300°C	20-500°C	20-700°C
Thermal expansion coefficient (10-6/K)	9.7	11.0	11.5	12.5

	20°C	350°C	700°C
Thermal Conductivity (W/mk)	24.4	27.2	26.0

6 Heat Treatment

TREATMENT	TEMPERATURE	Cooling	Hardness
Annealing	Heat to 770 – 860 °C	Furnace	max. 269
Stress relieving	Heat to 630 – 650 °C	Furnace	-

1st pre-heating °C	2nd and 3rd pre-heating °C	Hardening1 °C	Quenching	Tempering °C	Quenching
up to approx. 400 in an air-circulating furnace	a) 850	1190 – 1230	a) Saltbath, 550 °C	at least twice 530 – 560	64 – 67
-	b) 850 and 1050	-	b) Oil	-	-
-	-	-	C) Air	-	-

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SandeepEnterprises STEEL SOLUTIONS

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High Speed Steel

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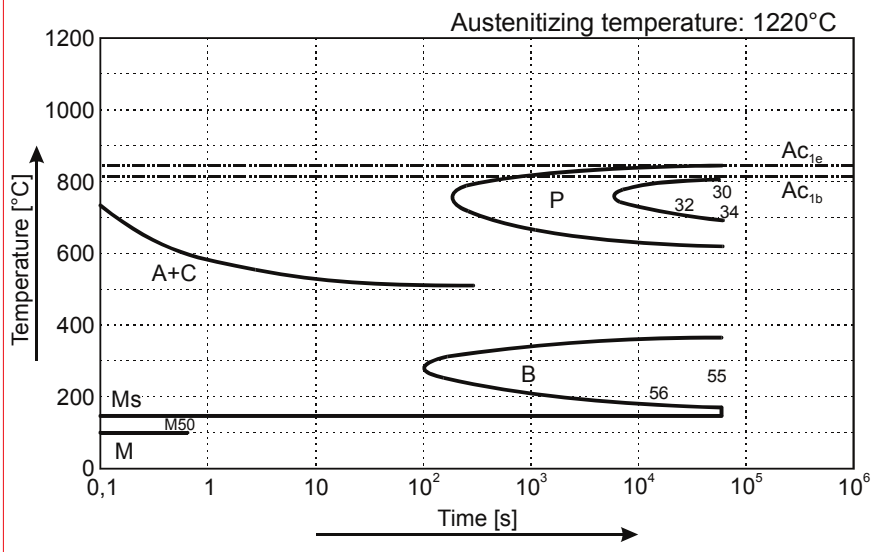
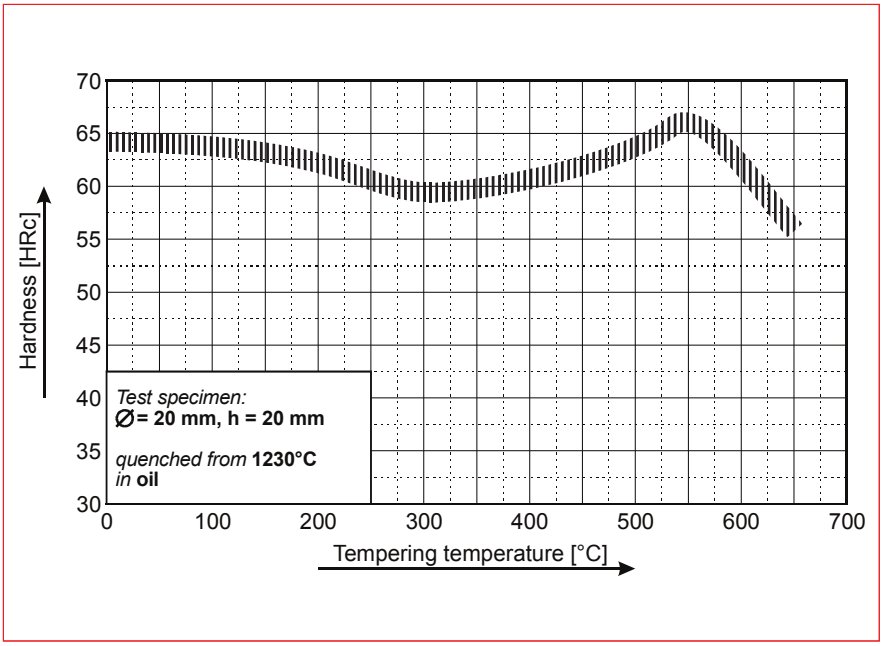
7 C.C.T. Curve



8 Tempering Curve



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