1.3247

High Speed Steel

TECHNICAL SHEET

1 Comparision Standards

W.Nr	DIN	JIS equivalent	AISI/SAE	AFNOR	BS	UNI
1.3247	S2-10-1-8	SKH59	M-42	-	-	-

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

1.3247 is the designation for a high-speed steel alloy, also known as HS2-9-1-8, SKH59, and AISI M42. It's a popular choice for cutting tools due to its excellent wear resistance, red hardness, and toughness.

Applications:

- Thread Rolling Dies and Rolls
- Bandsaws and Cold Work Tools
- Twist Drills and Taps
- Punches
- Broaches Tools
- Reamers and End Mills

4 Production Route

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

5 Physical Properties (Reference Values)

	20-100°C	20-200°C	20-300°C	20-400°C
Thermal expansion coefficient (10-6/K)	8.5	9.8	10.8	11.1

	20°C	350°C	700°C
Thermal Conductivity (W/mk)	27.2	26.8	25.9

6 Heat Treatment

TREATMENT	TEMPERATURE	Cooling	Hardness
Annealing	Heat to 820-860 °C	Furnace	max. 277 HB
Stress relieving	Heat to 600 – 650 °C	Furnace	-

TREATMENT	TEMPERATURE	Cooling	Hardness
Hardening	Heat to 1130-1190 °C	Oil, pressure gas (N_2), Air or Hot Bath 500-550 °C	max. 277 HB

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SandeepEnterprises STEEL SOLUTIONS

1.3247

High Speed Steel

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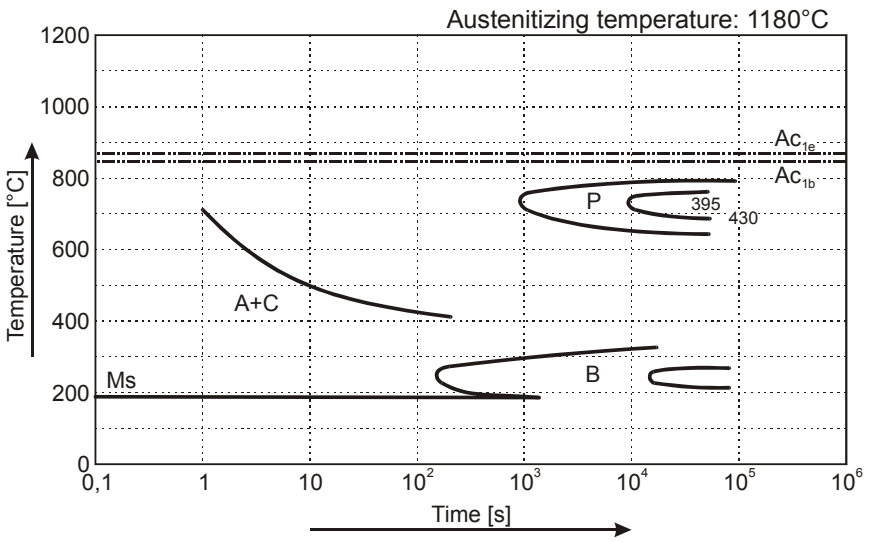
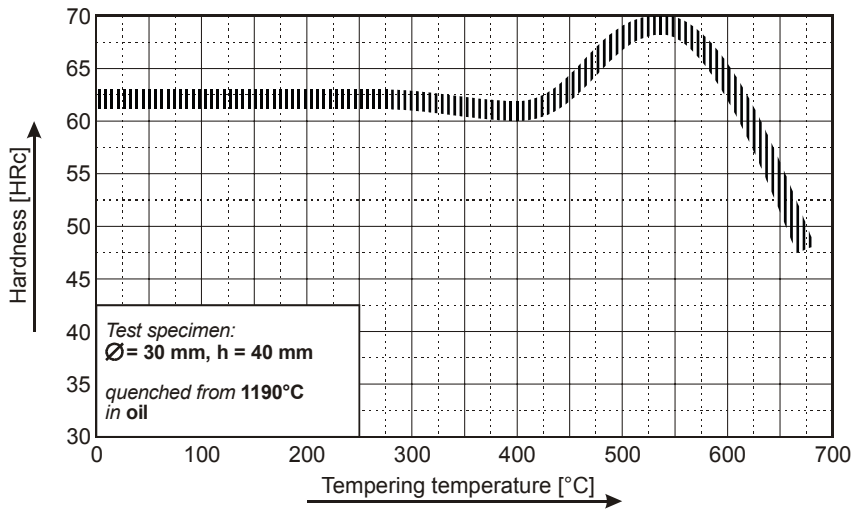
7 C.C.T. Curve



8 Tempering Curve



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