



## EDELSTAHL GMBH J.P. SCHUMACHER

**SPECIAL STEEL \* BARS \* BLOCKS \* FORGINGS**



### W.1.2344 (similar to AISI H13)

#### Conventional melting (EF+LF+VD)

##### GENERAL

- Uniform and high level of machinability and polishability
- High level of toughness and ductility
- Good resistance to abrasion at both low and high temperatures
- Excellent through-hardening properties
- Good high-temperature strength and resistance to thermal fatigue
- Very limited distortion during hardening.

##### APPLICATIONS

- Moulds for :
- for extrusion (dies, backers, dieholders, liners, stems, dummy blocks)
  - plastic moulding applications (Injection moulding of thermoplastics and for higher surface requirements)
  - severe cold punching, scrap shears, hot shearing, wear resisting parts

##### CHEMICAL ANALYSIS %

C	Si	Mn	P	S	Cr	Mo	V
0,38 - 0,42	0,8 - 1,2	0,3 - 0,5	≤ 0,025	≤ 0,005	4,8 - 5,5	1,2 - 1,5	0,9 - 1,1

##### PHYSICAL PROPERTIES :

Coefficient of thermal expansion [10 <sup>-6</sup> m/(m x K)]	20-100° C	20-200° C	20-300° C	20-400° C	20-500° C	20-600° C	20-700° C
		10.9	11.9	12.3	12.7	13.0	13.3
Thermal conductivity [W/(m x K)]	20° C		350° C		700° C		
	20.0		23.0		26.2		

##### HEAT TREATMENT :

Hot forming	Soft annealing	Hardening	Tempering
1100 - 900° C	820 - 840° C	1020 - 1050° C	520 - 700° C



WARE HOUSE: PLOT NO 1442, ROAD NO 16,  
 KALAMBOLI WAREHOUSING COMPLEX, KALAMBOLI, NAVI MUMBAI 410218.  
 TEL: +91-22-2742 3998, 5590 3711 FAX: +91-22 5590 3712 EMAIL: ANAND\_STEEL@VSNL.COM



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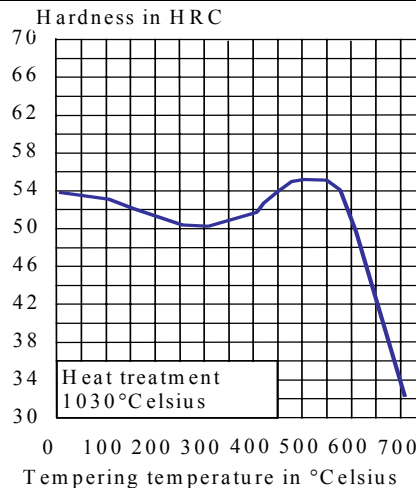


## W.1.2344 (similar to AISI H 13)

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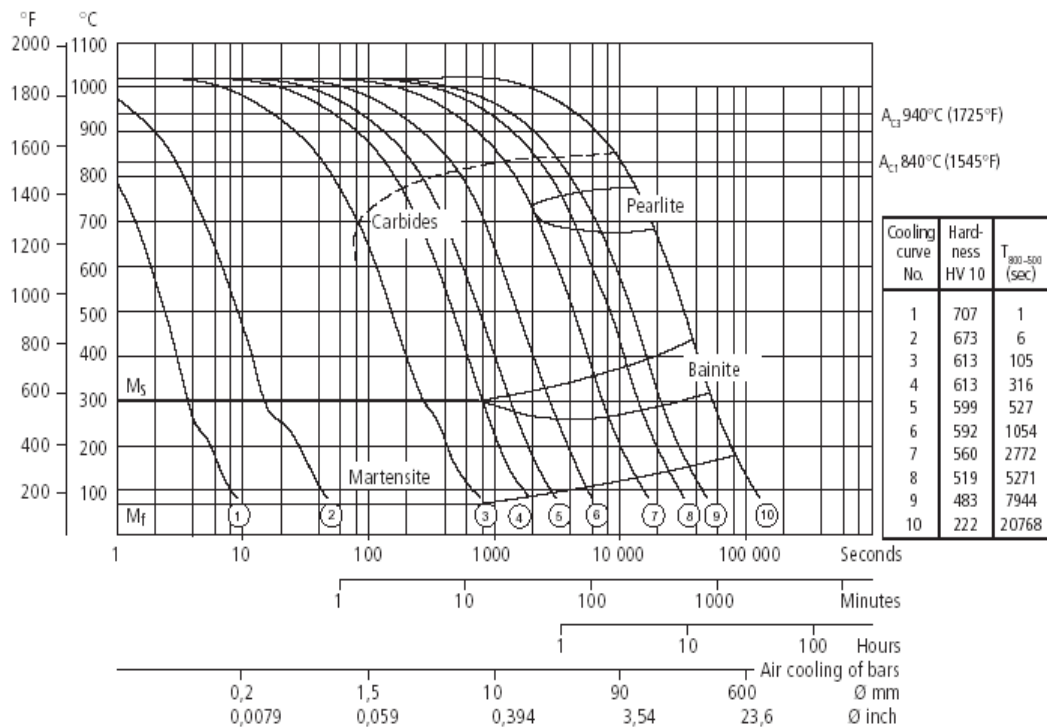
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#### TEMPERING DIAGRAM:



#### CCT GRAPH :

Austenitizing temperature 1020°C (1870°F). Holding time 30 minutes.





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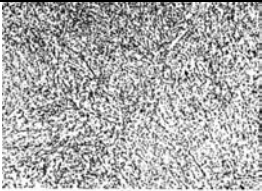
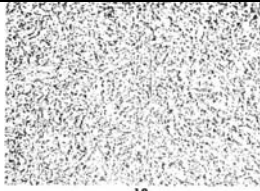
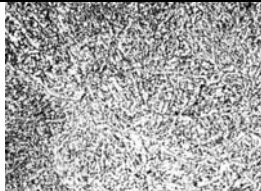
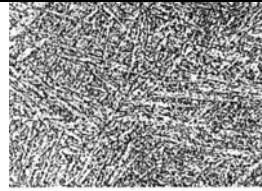
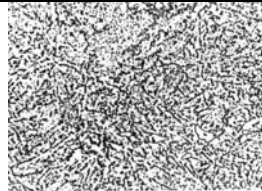

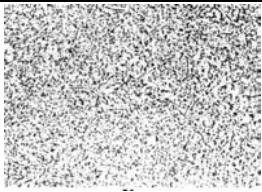
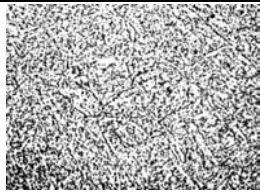
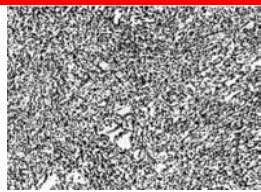
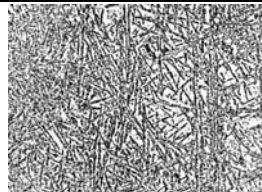
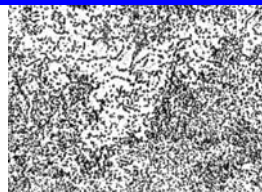
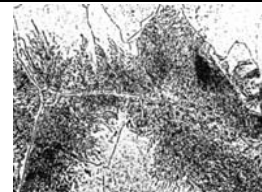
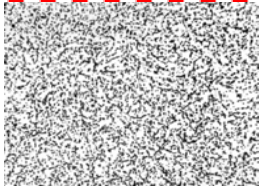
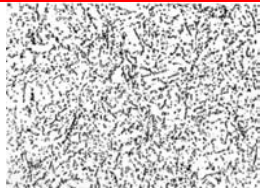
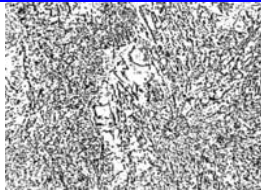

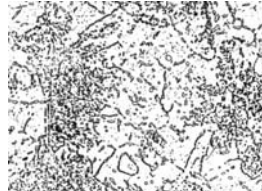
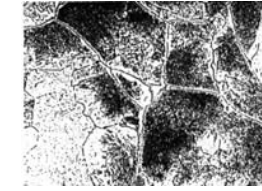
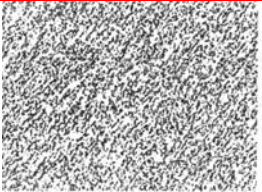





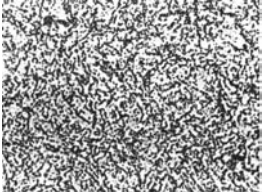
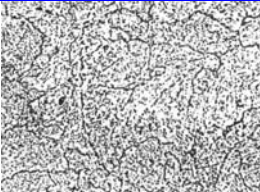
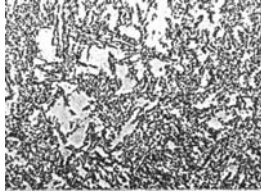



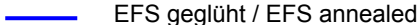
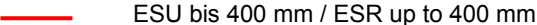
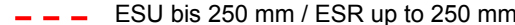
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### W.1.2344 (similar to AISI H13)

<b>DELIVERY CONDITION :</b>
Soft annealed with a hardness of a maximum of 229HB Or hardened and tempered acc. to your request
<b>SERVICE STRENGTH:</b>
30 - 55 HRC
<b>IMPACT STRENGTH:</b>
Unnotched test sample 10x7x55 [mm] VDG M82 Ed.02/1993 or SEP 1614 285 J/cm <sup>2</sup> or acc. to your request
<b>ULTRASONIC:</b>
ASTM A388 - FBH max. 5 mm (1/5 inch) Or SEP 1921 – test group 3 – class D , d Or Acc. to your request
<b>CLEANLINESS:</b>
ASTM E45- Method A with type A ≤ 1,5 , B; C and D each ≤ 2  DIN 50602– K4 ≤ 20  acc. to your request
<b>STRUCTURE:</b>
Fine annealed structure See next page
<b>DELIVERY SIZES:</b>
Rounds – up to 600 mm Blocks – up to 500 mm thickness Other sizes acc. request

**Rating Chart for the Evaluation of Microstructure of Annealed Hot-Work Tool Steel**

	GA	GB	GC	GD	GE	GF		
1	 GA1	 GB1	 GC1	 GD1	 GE1	 GF1		
2	 GA2	 GB2	 GC2	 GD2	 GE2	 GF2		
3	 GA3	 GB3	 GC3	 GD3	 GE3	 GF3		
4	 GA4	 GB4	 GC4	 GD4	 GE4	 GF4		
5	 GA5	 GB5	 GC5	 GD5	 GE5	 GF5		
 EFS gegläht / EFS annealed			 ESU bis 400 mm / ESR up to 400 mm			 ESU bis 250 mm / ESR up to 250 mm		