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1.2316 VICTORY ESR

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ESR = Electro-slag-remelting							
COMPARABLE GRADES:							
S136; M300 ESR extra							
GENERAL:							
- corrosion-resistant - hardened and tempered die steel - wear-resistant - tough - good warm-strength properties - uniform hardness across the cross-section - high polishability - high surface finish - very low inclusion content - constant cycle times							
APPLICATIONS:							
- tools used to process plastics which are chemically - especially aggressive (thermo plastics) - dies for similar use							
CHEMICAL ANALYSIS: %							
C	Si	Mn	P	S	Cr	Mo	Ni
0,33 - 0,43	≤ 1,00	≤ 1,00	≤ 0,025	≤ 0,002	15,5 – 17,0	1,0 – 1,2	≈ 0,5
PHYSICAL PROPERTIES:							
Coefficient of thermal expansion	20-100 °C	20-200 °C]	20-300 °C	20-400 °C	20-500 °C		
[10 ⁻⁶ m/(m x K)]	10,4	10,8	11,2	11,6	11,9		
Thermal conductivity	20 °C	350 °C	700 °C				
[W/(m x K)]	17,2	21,0	24,7				
ULTRASONIC:							
ASTM A388 - FBH max. 3 mm (1/8 inch) or							
SEP 1921 – test group 3 – class E , e or acc. to your request							
CLEANLINESS:							
ASTM E45- Method A with type A ≤ 0,5 ,B; C and D each ≤ 1 or							
DIN 50602– K1 ≤ 10 or							
acc. to your request							
DELIVERY CONDITION:							
hardened and tempered							
STRUCTURE:							
fine uniform martensitic structure							



Schmiedewerke Gröditz

GmbH · since 1779 · High-Grade Steel

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HEAT TREATMENT:

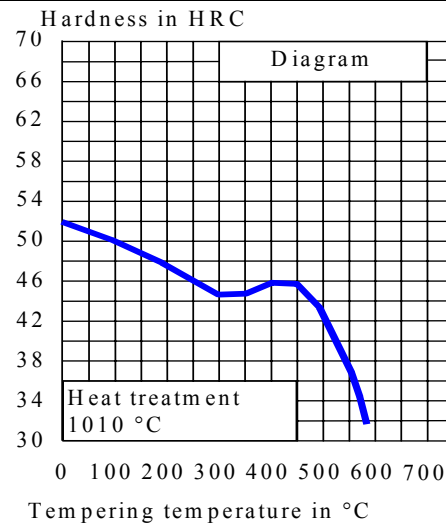
<i>Hot forming</i>	<i>Soft annealing</i>	<i>Hardening</i>	<i>Tempering</i>
1100 - 900°C	780 - 820°C	1000 - 1040°C	600 - 700°C #

TEMPERING DIAGRAM:

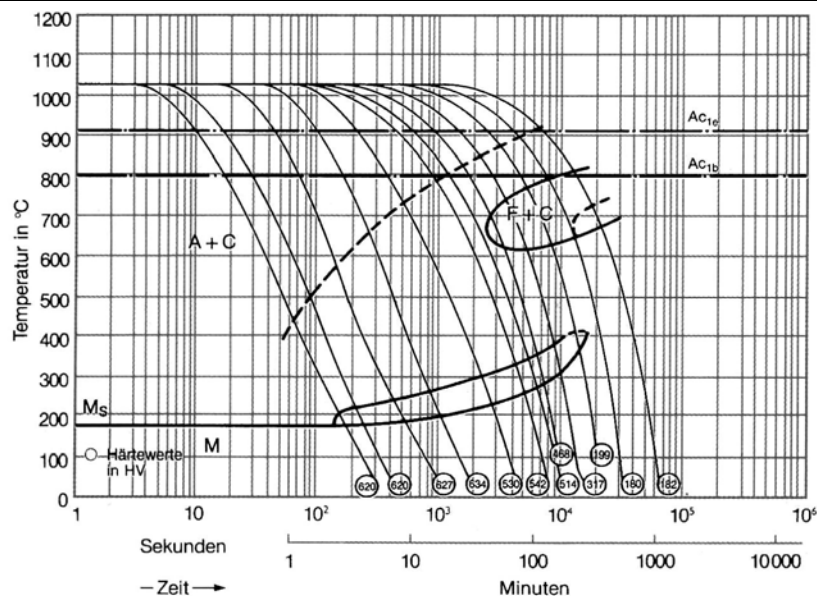
values in HRC

tested on samples dia. 25 x 50 mm long

hardened at 1010 °C in oil



CCT GRAPH:



DELIVERY SIZES:

Rounds – up to 600 mm

Blocks – up to 410 mm thickness

or acc. to your request

Remark

The highest corrosion resistance is achieved with polished surfaces.