SUPREME STEEL INDUSTRIES

CLC 1.2738 Prehardened Mold Steel (300HB/30HRC)

Material Notes: **Description:** CLC 1.2738 is a 300HB (30HRC) pre-hardened grade specially designed for plastic mould industry. Chromium, Molybdenum, Nickel carbon and Manganese additions are optimized to have a fully martensite-bainite microstructure after quenching. The high nickel content (1%) is specially adapted to ensure a perfect homogeneity of structure and hardness through thickness even for very thick blocks (up to 700mm/28"). The steel is melted in electrical furnace and refined with VOD or DH device The cleanliness of the steel is guaranteed as well as the soundness. This makes the steel particularly well adapted for mould even when polishing or chemical etching are required for surface finish quality.

Size Range: Thickness 25 ~ 350mm
Width 205 ~ 1500 mm

Key Words: AFNOR 40CMND8, DIN 40CrMnNiMo7, WERKSTOFF.Nbr 1.2738, AISI P20

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Mechanical Properties	Metric	English	Comments
Hardness, Brinell	300	300	Typical, in Transverse Direction
Tensile Strength, Ultimate	993 MPa	144000 psi	Typical, Transverse Direction
Tensile Strength, Yield	826 MPa @Strain 0.200 %	120000 psi @Strain 0.200 %	Typical, Transverse Direction
Elongation at Break	17 %	17 %	Typical, EL 5.65 Transverse Direction
Modulus of Elasticity	205 GPa	29700 ksi	Typical, in Transverse Direction
Charpy Impact	22.0 J	16.2 ft-lb	Typical (Transverse)

Thermal Properties	Metric	English	Comments
CTE, linear	12.7 µm/m-°C @Temperature 20.0 - 200 °C	7.06 µin/in-°F @Temperature 68.0 - 392 °F	
Thermal Conductivity	29.0 W/m-K @Temperature 20.0 °C	201 BTU-in/hr-ft²-°F @Temperature 68.0 °F	

Component Elements Properties	Metric	English	Comments
Carbon, C	0.40 %	0.40 %	
Chromium, Cr	1.9 %	1.9 %	
Iron, Fe	94.683 - 94.7 %	94.683 - 94.7 %	As remainder
Manganese, Mn	1.5 %	1.5 %	
Molybdenum, Mo	0.20 %	0.20 %	
Nickel, Ni	1.0 %	1.0 %	
Phosphorous, P	<= 0.012 %	<= 0.012 %	
Silicon, Si	0.30 %	0.30 %	
Sulfur, S	<= 0.0050 %	<= 0.0050 %	

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