

H.C. Starck Pure Molybdenum ABL, Arc-Cast, Low Carbon Bar

Category : Metal , Nonferrous Metal , Molybdenum Alloy , Refractory Metal , Pure Element

Material Notes:

Description of Product: This specification covers carbon-deoxidized, low-carbon molybdenum wrought bar produced from ingots consolidated by the H.C. Starck consumable electrode vacuum-arc-casting process. Structure: Bar will be supplied in a stress-relieved condition. Material can also be supplied in the recrystallized condition. Information provided by H.C. Starck.

Order this product through the following link:

http://www.lookpolymers.com/polymer_HC-Starck-Pure-Molybdenum-ABL-Arc-Cast-Low-Carbon-Bar.php

Mechanical Properties	Metric	English	Comments
Hardness, Vickers	<= 200	<= 200	mid-radius, recrystallized bar, all sizes; DPH (10 kg)
	@Load 10.0 kg	@Load 22.0 lb	
	205 - 240	205 - 240	mid-radius; DPH (10 kg)
	@Load 10.0 kg, Diameter 73.03 - 88.9 mm	@Load 22.0 lb, Diameter 2.875 - 3.50 in	
	210 - 250	210 - 250	mid-radius; DPH (10 kg)
	@Load 10.0 kg, Diameter 47.63 - 73.03 mm	@Load 22.0 lb, Diameter 1.875 - 2.875 in	
	215 - 260	215 - 260	mid-radius; DPH (10 kg)
@Load 10.0 kg, Diameter 28.57 - 47.63 mm	@Load 22.0 lb, Diameter 1.125 - 1.875 in		
225 - 270	225 - 270	mid-radius; DPH (10 kg)	
@Load 10.0 kg, Diameter 22.2 - 28.57 mm	@Load 22.0 lb, Diameter 0.875 - 1.125 in		
230 - 280	230 - 280	mid-radius; DPH (10 kg)	
@Load 10.0 kg, Diameter 3.17 - 22.2 mm	@Load 22.0 lb, Diameter 0.125 - 0.875 in		
Tensile Strength	>= 448 MPa	>= 65000 psi	ASTM E-8
	@Diameter 73.03 - 88.9 mm	@Diameter 2.875 - 3.50 in	
	>= 483 MPa	>= 70000 psi	ASTM E-8
@Diameter 47.63 - 73.03 mm	@Diameter 1.875 - 2.875 in		
	>= 517 MPa	>= 75000 psi	ASTM E-8

Mechanical Properties	@Diameter 3.17 - 10.319 mm Metric	@Diameter 0.125 - 0.40625 in English	Comments
	>= 517 MPa	>= 75000 psi	
	@Diameter 28.57 - 47.63 mm	@Diameter 1.125 - 1.875 in	ASTM E-8
	>= 586 MPa	>= 85000 psi	
	@Diameter 22.2 - 28.57 mm	@Diameter 0.875 - 1.125 in	ASTM E-8
	>= 621 MPa	>= 90000 psi	
	@Diameter 10.319 - 22.2 mm	@Diameter 0.40625 - 0.875 in	ASTM E-8
Tensile Strength, Yield	>= 379 MPa	>= 55000 psi	
	@Diameter 3.17 - 10.319 mm, Strain 0.200 %	@Diameter 0.125 - 0.40625 in, Strain 0.200 %	ASTM E-8
	>= 379 MPa	>= 55000 psi	
	@Diameter 73.03 - 88.9 mm, Strain 0.200 %	@Diameter 2.875 - 3.50 in, Strain 0.200 %	ASTM E-8
	>= 414 MPa	>= 60000 psi	
	@Diameter 47.63 - 73.03 mm, Strain 0.200 %	@Diameter 1.875 - 2.875 in, Strain 0.200 %	ASTM E-8
	>= 448 MPa	>= 65000 psi	
	@Diameter 28.57 - 47.63 mm, Strain 0.200 %	@Diameter 1.125 - 1.875 in, Strain 0.200 %	ASTM E-8
	>= 483 MPa	>= 70000 psi	
	@Diameter 22.2 - 28.57 mm, Strain 0.200 %	@Diameter 0.875 - 1.125 in, Strain 0.200 %	ASTM E-8
	>= 517 MPa	>= 75000 psi	
	@Diameter 10.319 - 22.2 mm, Strain 0.200 %	@Diameter 0.40625 - 0.875 in, Strain 0.200 %	ASTM E-8
Elongation at Break	>= 10 %	>= 10 %	
	@Diameter 28.57 - 47.63 mm	@Diameter 1.125 - 1.875 in	ASTM E-8
	>= 10 %	>= 10 %	
	@Diameter 47.63 - 73.03 mm	@Diameter 1.875 - 2.875 in	ASTM E-8

Mechanical Properties	Metric	English	Comments
	@Diameter 73.03 - 88.9 mm	@Diameter 2.875 - 3.50 in	ASTM E-8
	>= 15 %	>= 15 %	
	@Diameter 3.17 - 10.319 mm	@Diameter 0.125 - 0.40625 in	ASTM E-8
	>= 15 %	>= 15 %	
	@Diameter 10.319 - 22.2 mm	@Diameter 0.40625 - 0.875 in	ASTM E-8
	>= 15 %	>= 15 %	
	@Diameter 22.2 - 28.57 mm	@Diameter 0.875 - 1.125 in	ASTM E-8

Component Elements Properties	Metric	English	Comments
Carbon, C	<= 0.010 %	<= 0.010 %	
Iron, Fe	<= 0.010 %	<= 0.010 %	
Molybdenum, Mo	>= 99.97 %	>= 99.97 %	by difference
Nickel, Ni	<= 0.0020 %	<= 0.0020 %	
Nitrogen, N	<= 0.0020 %	<= 0.0020 %	
Oxygen, O	<= 0.0015 %	<= 0.0015 %	
Silicon, Si	<= 0.010 %	<= 0.010 %	

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