

H.C. Starck Molybdenum Alloy PBT, Bar

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

Material Notes:

Powder Metallurgy BarDescription of Product: This specification covers molybdenum alloy (Molybdenum + 0.5% titanium + 0.1% zirconium) wrought bar produced from pressed and sintered powder metallurgy billet.**Structure:** Bars can 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-Molybdenum-Alloy-PBT-Bar.php

Mechanical Properties	Metric	English	Comments
Hardness, Vickers	<= 215	<= 215	mid-radius, recrystallized bar, all sizes; DPH (10 kg)
	@Load 10.0 kg	@Load 22.0 lb	
	230 - 285	230 - 285	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	
	235 - 290	235 - 290	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	
240 - 300	240 - 300	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		
245 - 310	245 - 310	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		
255 - 320	255 - 320	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	>= 586 MPa	>= 85000 psi	ASTM E-8
	@Diameter 73.03 - 88.9 mm	@Diameter 2.875 - 3.50 in	
	>= 621 MPa	>= 90000 psi	ASTM E-8
@Diameter 47.63 - 73.03 mm	@Diameter 1.875 - 2.875 in		
	>= 689 MPa	>= 100000 psi	ASTM E-8

Mechanical Properties	@Diameter 28.57 - Metric 47.63 mm	@Diameter 1.125 - English 1.875 in	Comments
	>= 758 MPa	>= 110000 psi	
	@Diameter 22.2 - 28.57 mm	@Diameter 0.875 - 1.125 in	ASTM E-8
	>= 793 MPa	>= 115000 psi	
	@Diameter 3.17 - 22.2 mm	@Diameter 0.125 - 0.875 in	ASTM E-8
Tensile Strength, Yield	>= 517 MPa	>= 75000 psi	
	@Diameter 73.03 - 88.9 mm, Strain 0.200 %	@Diameter 2.875 - 3.50 in, Strain 0.200 %	ASTM E-8
	>= 552 MPa	>= 80000 psi	
	@Diameter 47.63 - 73.03 mm, Strain 0.200 %	@Diameter 1.875 - 2.875 in, Strain 0.200 %	ASTM E-8
	>= 586 MPa	>= 85000 psi	
	@Diameter 28.57 - 47.63 mm, Strain 0.200 %	@Diameter 1.125 - 1.875 in, Strain 0.200 %	ASTM E-8
	>= 655 MPa	>= 95000 psi	
	@Diameter 22.2 - 28.57 mm, Strain 0.200 %	@Diameter 0.875 - 1.125 in, Strain 0.200 %	ASTM E-8
	>= 689 MPa	>= 100000 psi	
	@Diameter 3.17 - 22.2 mm, Strain 0.200 %	@Diameter 0.125 - 0.875 in, Strain 0.200 %	ASTM E-8
Elongation at Break	>= 5.0 %	>= 5.0 %	
	@Diameter 73.03 - 88.9 mm	@Diameter 2.875 - 3.50 in	ASTM E-8
	>= 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
	>= 15 %	>= 15 %	
	@Diameter 22.2 - 28.57 mm	@Diameter 0.875 - 1.125 in	ASTM E-8

Mechanical Properties	Metric	English	Comments
	@Diameter 3.17 - 22.2 mm	@Diameter 0.125 - 0.875 in	

Component Elements Properties	Metric	English	Comments
Carbon, C	0.010 - 0.040 %	0.010 - 0.040 %	
Iron, Fe	<= 0.010 %	<= 0.010 %	
Molybdenum, Mo	>= 99.2 %	>= 99.2 %	by difference
Nickel, Ni	<= 0.0050 %	<= 0.0050 %	
Nitrogen, N	<= 0.0020 %	<= 0.0020 %	Sintered material
Oxygen, O	<= 0.040 %	<= 0.040 %	Sintered material
Silicon, Si	<= 0.0050 %	<= 0.0050 %	
Titanium, Ti	0.40 - 0.55 %	0.40 - 0.55 %	
Zirconium, Zr	0.060 - 0.12 %	0.060 - 0.12 %	

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