

## H.C. Starck 3402 Molybdenum Alloy AST-4 TZM, Arc-Cast Sheet

Category : Metal , Nonferrous Metal , Molybdenum Alloy

### Material Notes:

Arc-Cast Sheet 3402 Description of Product: This specification covers rolled sheet of carbon-deoxidized TZM alloy (molybdenum + 0.5% titanium + 0.08% zirconium) produced from sheet bar consolidated by the H.C. Stark consumable electrode vacuum-arc-casting process. Structure: Plate will be supplied in a stress-relieved condition unless otherwise requested. Information provided by H.C. Starck.

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_HC-Starck-3402-Molybdenum-Alloy-AST-4-TZM-Arc-Cast-Sheet.php](http://www.lookpolymers.com/polymer_HC-Starck-3402-Molybdenum-Alloy-AST-4-TZM-Arc-Cast-Sheet.php)

Mechanical Properties	Metric	English	Comments
Tensile Strength	>= 827 MPa	>= 120000 psi	ASTM E-8
	@Thickness 0.254 - 0.635 mm	@Thickness 0.0100 - 0.0250 in	
	>= 827 MPa	>= 120000 psi	
	@Thickness 0.635 - 1.52 mm	@Thickness 0.0250 - 0.0600 in	
Tensile Strength, Yield	>= 827 MPa	>= 120000 psi	ASTM E-8
	@Thickness 1.52 - 2.29 mm	@Thickness 0.0600 - 0.0900 in	
	>= 827 MPa	>= 120000 psi	
	@Thickness 2.29 - 4.75 mm	@Thickness 0.0900 - 0.187 in	
Tensile Strength, Yield	>= 689 MPa	>= 100000 psi	ASTM E-8
	@Strain 0.200 %, Thickness 0.254 - 0.635 mm	@Strain 0.200 %, Thickness 0.0100 - 0.0250 in	
	>= 689 MPa	>= 100000 psi	
	@Strain 0.200 %, Thickness 0.635 - 1.52 mm	@Strain 0.200 %, Thickness 0.0250 - 0.0600 in	
Tensile Strength, Yield	>= 689 MPa	>= 100000 psi	ASTM E-8
	@Strain 0.200 %, Thickness 1.52 - 2.29 mm	@Strain 0.200 %, Thickness 0.0600 - 0.0900 in	
	>= 689 MPa	>= 100000 psi	
	@Strain 0.200 %, Thickness 2.29 - 4.75 mm	@Strain 0.200 %, Thickness 0.0900 - 0.187 in	
Elongation at Break	>= 6.0 %	>= 6.0 %	ASTM E-8

Mechanical Properties	Metric @Thickness 0.254 - 0.635 mm	English @Thickness 0.0100 - 0.0250 in	Comments
	>= 7.0 %  @Thickness 0.635 - 1.52 mm	>= 7.0 %  @Thickness 0.0250 - 0.0600 in	ASTM E-8
	>= 9.0 %  @Thickness 1.52 - 2.29 mm	>= 9.0 %  @Thickness 0.0600 - 0.0900 in	ASTM E-8
	>= 10 %  @Thickness 2.29 - 4.75 mm	>= 10 %  @Thickness 0.0900 - 0.187 in	ASTM E-8
Bend Radius, Minimum	2.0 t  @Thickness <=1.65 mm	2.0 t  @Thickness <=0.0650 in	Bend Severity 90°, specimens at least 1" by 2", transverse direction

Component Elements Properties	Metric	English	Comments
Carbon, C	0.010 - 0.030 %	0.010 - 0.030 %	
Iron, Fe	<= 0.010 %	<= 0.010 %	
Molybdenum, Mo	>= 99.25 %	>= 99.25 %	by difference
Nickel, Ni	<= 0.0020 %	<= 0.0020 %	
Nitrogen, N	<= 0.0020 %	<= 0.0020 %	
Oxygen, O	<= 0.0030 %	<= 0.0030 %	
Silicon, Si	<= 0.010 %	<= 0.010 %	
Titanium, Ti	0.40 - 0.55 %	0.40 - 0.55 %	
Zirconium, Zr	0.060 - 0.12 %	0.060 - 0.12 %	

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