

## MOLYBDENUM ALLOY ODS Mo-La Powder Metallurgy Plate 2603

**Description of Product** This specification covers rolled, oxide-dispersion strengthened (ODS) molybdenum alloy (molybdenum + 2 vol% La<sub>2</sub>O<sub>3</sub>) sheet produced from pressed and sintered powder metallurgy sheet bar.

### Chemical Characteristics<sup>1)</sup> (Mass fraction in % [cg/g]; ppm [ $\mu$ g/g])

The chemical composition of the molybdenum blended powder used for producing sheet bar shall conform to the following limits:

Mo(By Difference)	min.	98.7	%
O	max.	0.250	%
Mg	max.	0.001	%
Mn	max.	0.001	%
Ni	max.	0.005	%
Al	max -	0.002	%
Cu	max -	0.002	%
Pb	max -	0.002	%
Ti	max -	0.002	%
Ca	max -	0.003	%
Si	max -	0.005	%
Sn	max -	0.003	%
Cr	max -	0.010	%
C	max -	0.005	%
Fe	max -	0.010	%
La (Lanthanum)	<b>level 1:</b> 0.2 – 0.4%; <b>level 2:</b> 0.5 – 0.7%; <b>level 3:</b> 1.0 - 1.2%		

**Structure** Sheet will be supplied in a stress-relieved condition unless otherwise requested.

**Mechanical Properties** Tensile properties can be supplied on request when Purchase Order is placed.



ODS Mo-La

1) Information on testing methods on request.

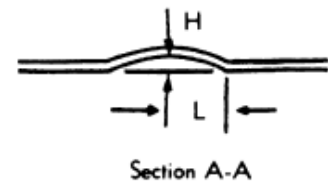
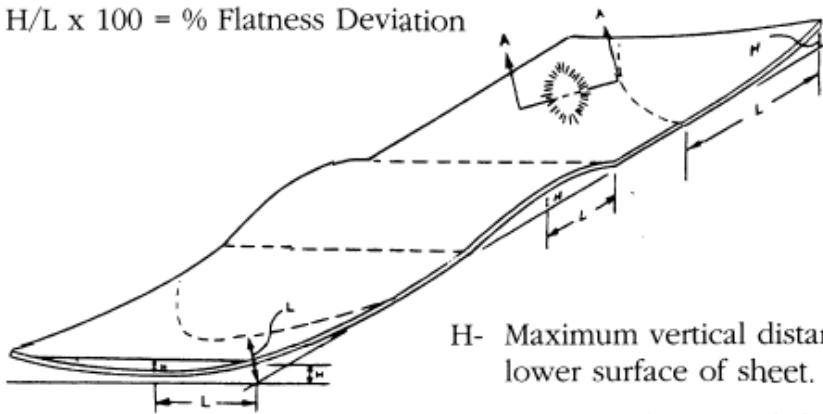
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**Physical Characteristics**

THICKNESS (INCHES)	THICKNESS TOLERANCE (% OF THICKNESS)	WIDTH TOLERANCE (INCHES)	LENGTH TOLERANCE (INCHES)	FLATNESS DEVIATION (% MAXIMUM)
0.187 to 0.500	± 4	+0.125 -0	+0.125 -0	3
Over 0.500 to 1.000	± 5	+0.125 -0	+0.125 -0	5
Over 1.000 to 1.500	± 5	+0.1875 -0	+0.1875 -0	6

Plate will be sheared, abrasive cut, band saw cut, or water jet cut to the tolerances shown. The total deviation from flatness is determined by the following formula:

$$H/L \times 100 = \% \text{ Flatness Deviation}$$



H- Maximum vertical distance between flat surface and lower surface of sheet.

L- Minimum horizontal distance between highest point on sheet and point contact with flat surface.

**Surface Condition**

Sheet is supplied with a matte or bright finish to 0.030 inch thickness. A matte finish will be supplied for sheet over 0.030 inch thick. The sheet will be of uniform quality, clean, and free from foreign matter. It will be essentially free from edge delaminations as determined by visual examination with exception of bedsheet width. Normal shear tears are not considered as delaminations.

**Hazards identification in Advertising (Directive 67/548/EEC Article 26, Directive 1999/45/EC Article 13 and REGULATION (EC) No 1272/2008 Article 48)**  
none.

**Identification**

The material will be identified with appropriate specification number, ingot or lot number, and nominal size. Shipping containers will be marked with the name of the customer and the purchase order number.

**Rejection**

H.C. Starck must receive written notification of rejected material with the reason for rejection. The right is reserved to inspect rejected material at customer plant for claim validation. The material may be returned only after proper authorization.

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