

## CMW® ELKON 100M Pure Molybdenum

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

### Material Notes:

Molybdenum (ELKON® 100M) is a refractory metal that resembles tungsten in many respects. Its hardness, melting, and boiling temperatures are only slightly lower than those of tungsten are. The electrical and thermal conductivity of the two metals is essentially the same. It is fabricated into electrical contacts by slicing discs from rods and brazing them to nickel-plated steel backings, which may be in the form of rivets, screws, or stampings. In atmospheres of inert gasses or vacuum, molybdenum contacts can handle currents of several amperes. Here it has good resistance to welding and electrical erosion because of its refractory metal characteristics. It is readily wet by mercury to form a low resistance contact and is used extensively in mercury switches. It does not contaminate the mercury because it does not react chemically with it. Molybdenum oxidizes more readily than tungsten and, therefore, is seldom used in air applications. If used in air, it is generally limited to 1 ampere and several hundred volts. In certain vibrating contact applications, low mass contacts are desirable, and molybdenum is selected because of its low density. Because of its low expansion characteristic, it is used in non-contact applications such as bases for semiconductor devices. It is also used for faces on resistance welding electrodes. Information provided by CMW Inc.

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_CMW-ELKON-100M-Pure-Molybdenum.php](http://www.lookpolymers.com/polymer_CMW-ELKON-100M-Pure-Molybdenum.php)

Physical Properties	Metric	English	Comments
Density	10.22 g/cc	0.3692 lb/in <sup>3</sup>	

Mechanical Properties	Metric	English	Comments
Hardness, Rockwell A	58	58	
Tensile Strength, Ultimate	585 MPa	84800 psi	
Modulus of Elasticity	324 GPa	47000 ksi	

Thermal Properties	Metric	English	Comments
CTE, linear	5.35 µm/m-°C	2.97 µin/in-°F	
	@Temperature 100 °C	@Temperature 212 °F	
Thermal Conductivity	142 W/m-K	985 BTU-in/hr-ft <sup>2</sup> -°F	
Melting Point	2622 °C	4752 °F	
Boiling Point	4800 °C	8670 °F	

Component Elements Properties	Metric	English	Comments
Molybdenum, Mo	100 %	100 %	

Electrical Properties	Metric	English	Comments
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Electrical Properties	0.00000520 ohm-cm Metric	0.00000520 ohm-cm English	23 % IACS Comments
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