

Moly-D[®] 34

MOLYBDENUM DISILICIDE HEATING ELEMENTS

GENERAL DESCRIPTION

The Moly-D 34 element is a dense cermet material consisting of MoSi₂ and an oxide, glassy phase component that has been specifically designed for high temperature applications up to 1800°C (3272°F).

Moly-D 34 is a silica former, so forms a protective surface oxide glaze of SiO₂. In oxidizing atmospheres, this thin silica scale provides excellent protection against further oxidation, and provides a very long element life.

Moly-D 34 is a high purity material and can be used up to 1850°C (3362°F).

THE UNIQUE PROPERTIES

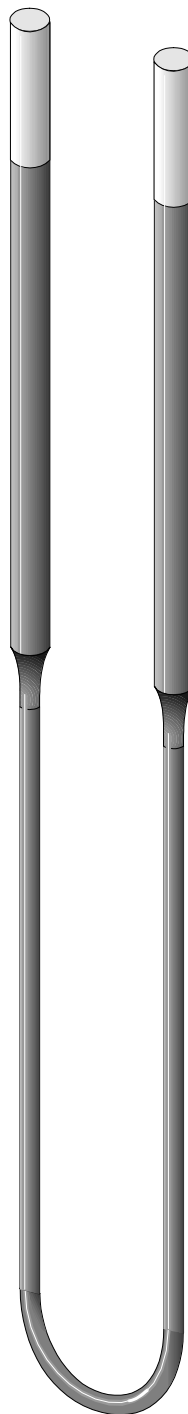
- Superior protective oxide scale
- Excellent performance and long life in high temperature applications up to 1800°C (3272°F).
- High purity material
- Ideal for high temperature sintering applications, gem stone enhancement firing, and laboratory furnaces utilizing the full potential of the heating element up to 1850°C (3362°F)

APPLICATIONS

Ceramic sintering furnaces: High purity element formulation and superior adherent protective oxide glaze to 1850°C (3362°F)

Gem enhancement firing: Moly-D 34 elements provide longer life up to 1850°C (3362°F) element temperature and furnace temperature up to 1800°C (3272°F).

Laboratory furnaces: Moly-D 34 elements can be used in newly designed furnaces operating up to 1800°C (3272°F) or to upgrade existing Moly-D heated furnaces in combination with an insulation package upgrade. Can be used with the existing power supply without any need for adjustment.



Molybdenum
Disilicide
Heating Elements

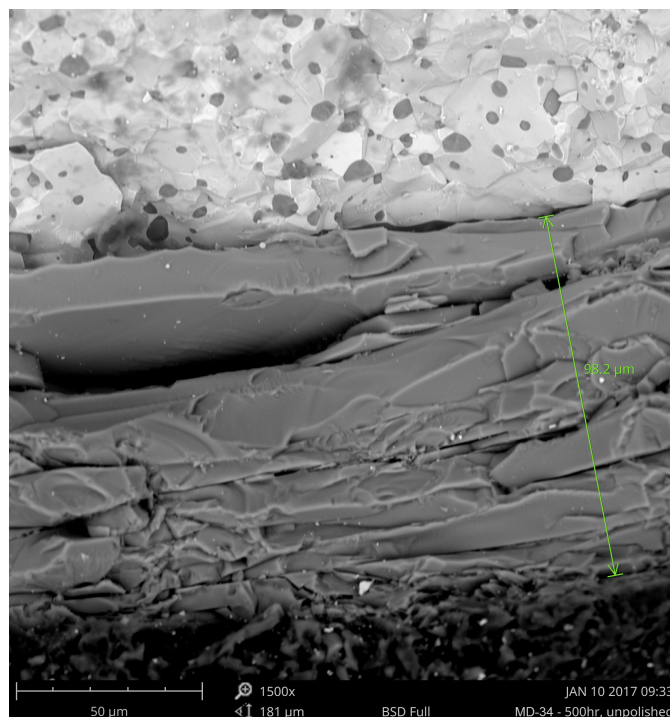
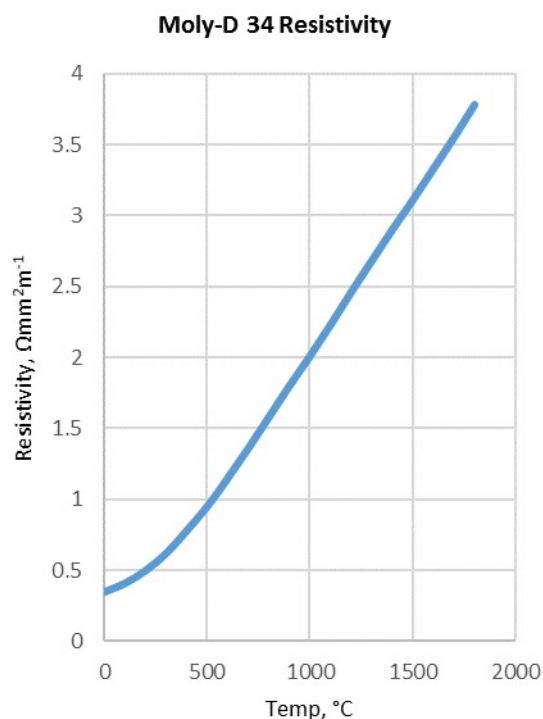


I SQUARED R ELEMENT CO., INC.

TECHNICAL INFORMATION

Resistivity

The electrical resistivity of Moly-D 34 is shown in figure below and is directly interchangeable with other grades of MoSi2 element without any adjustment to the existing power supply.



Moly-D 34, 500 hr, unpolished

PROPERTIES

Density	5.7 g/cm ³	0.20 lb/in ³
Thermal Expansion	7.5 x 10 ⁻⁶ K ⁻¹	4.1 x 10 ⁻⁶ °F ⁻¹
Porosity	<1%	
Emissivity	0.7 – 0.8	
Thermal Conductivity	20 – 600 °C 68 – 1110 °F	30 Wm ⁻¹ K ⁻¹ 208 BTU/hr-ft ² -°F/in
	601 – 1200 °C 1111 – 2192 °F	15 Wm ⁻¹ K ⁻¹ 104 BTU/hr-ft ² -°F/in
Specific Heat Capacity @ 20°C	420 Jkg ⁻¹ K ⁻¹	0.10 BTU/lb-°F

AVAILABILITY

Moly-D 34 is available in sizes 3/6, 4/9, 6/12 and 9/18.

Available as 2-shank and 4-shank elements with optional fixed contacts for safe and reliable electrical connections.

MOLY-D 34					
SIZES AVAILABLE					
Size	Heating Zone Le Ø		Terminal End Lu Ø		Standard "A" Distance
	mm	in	mm	in	
3/6	3	0.12	6	0.24	25 0.98
4/9	4	0.16	9	0.35	25 0.98
6/12	6	0.24	12	0.47	50 1.97
9/18*	9	0.35	18	0.71	60 2.36

DELIVERY

Most sizes and types can be shipped 2 to 3 weeks after receipt of an order. Emergency shipments for smaller quantities can usually be made in 2 to 3 days.

*9/18 elements currently produced as 9/12/18 element. Where 9 and 12 mm dia = Moly-D 34, and 18 mm dia = Moly-D 33 grade.

I SQUARED R ELEMENT CO., INC.

PO Box 390, 12600 CLARENCE CENTER ROAD, AKRON, NEW YORK, USA 14001-0390

PHONE (+1) 716 542-5511

FAX (+1) 716 542-2100