

Moly-D[®] XLR

MOLYBDENUM DISILICIDE HEATING ELEMENTS

GENERAL DESCRIPTION

The Moly-D XLR element is a dense cermet material consisting of MoSi₂ and an oxide, glassy phase component that has been specifically designed to operate in dry nitrogen and other furnace atmospheres that have a depleted oxygen content at temperatures above 1250°C (2280°F).

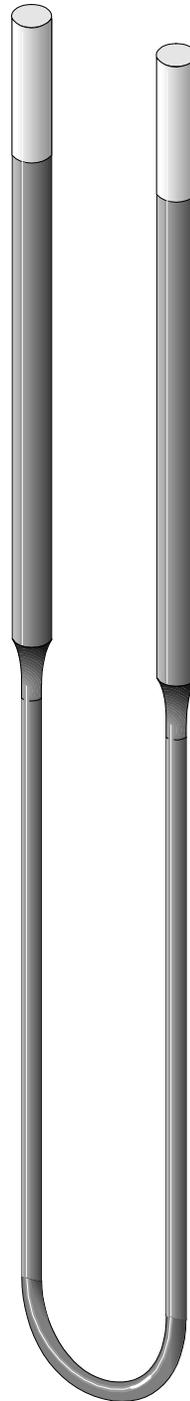
Moly-D XLR provides a significantly longer life in nitrogen based protective and oxygen deficient atmospheres than other Moly-D grades.

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

When operating in nitrogen however, this surface oxide becomes consumed and the silicon in the silicide will react with the nitrogen to form silicon nitride (Si₃N₄). For other grades of Moly-D this can lead to scaling and gradual disintegration of the MoSi₂ structure below, but Moly-D XLR withstands nitration better due to its enhanced morphology and diffusion tight matrix, which significantly reduces the reaction rate with nitrogen compared with other MoSi₂ element grades, and provides a substantially longer heater lifetime in such aggressive reactive environments.

THE UNIQUE PROPERTIES

1. Moly-D XLR elements may be used up to a surface temperature of 1700°C (3090°F) in oxidizing atmospheres and in nitrogen with a dew point of +40 °C (+104°F).
2. Longer service life and ease of replacement contribute to high furnace utilization and low maintenance costs.
3. 50% slower nitration rate compared with other Moly-D grades.
4. Can be used continuously or intermittently.
5. Available as standard 2-shank and 4-shank elements, or as part of Moly-D Module Heaters.
6. Provide rapid furnace temperature ramping.



 Moly-D[®]

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Disilicide
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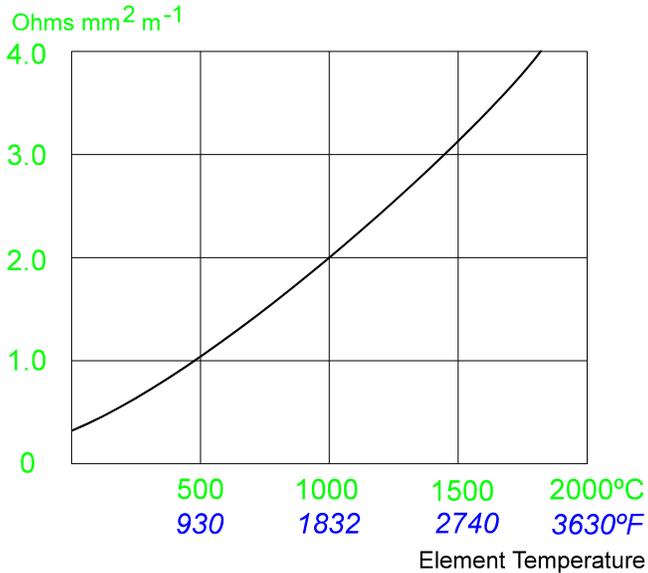


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TECHNICAL INFORMATION

Resistivity

The electrical resistivity of Moly-D XLR is at the same level as MD-31 and MD-33 as shown in figure below



Availability

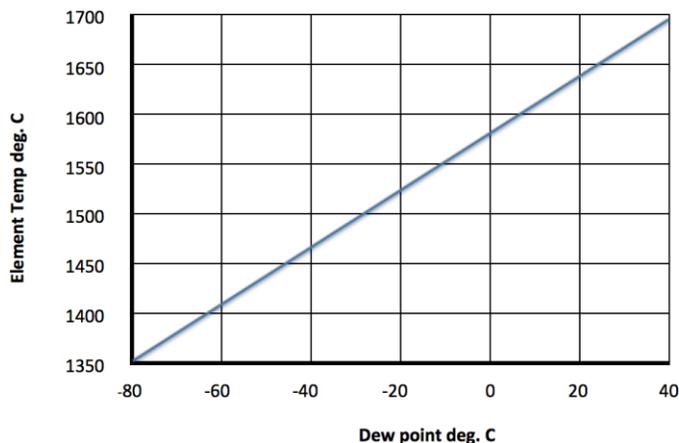
Moly-D XLR are available in all sizes across the range but most commonly in sizes 6/12 and larger.

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

Supplied also as part of Moly-D Module Heaters.

MOLY-D XLR SIZES AVAILABLE						
Size	Heating Zone Le Ø		Terminal End Lu Ø		Standard "A" Distance	
	mm	in	mm	in	mm	in
3/6	3	.12	6	.24	25	.98
4/9	4	.16	9	.35	25	.98
6/12	6	.24	12	.47	50	1.97
9/18	9	.35	18	.71	60	2.36
12/24	12	.47	24	.94	80	3.15

Maximum recommended element temperature of Moly-D XLR in nitrogen atmosphere vs. dew point



All other properties as per MD-31

If additional information is required, please contact your I Squared R representative or agent, or our technical support department at the address below.

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