Hotwork INTERNATIONAL

Furnace heat-up
Furnace draining
Refractory dry out
Oxy-fuel Burner
Air-fuel Burner
Combustion Technology

Molybdenum Electrodes

Melting point of 2 620 °C (4 748 °F)
Anti-Oxidation Coating
Outstanding creep resistance
High dimensional stability
Excellent corrosion resistance
Good electrical and thermal conductivity
Outstanding purity

To improve your melting performance in quality or output tons or to homogenize the melt, electric boosting in conjunction with molybdenum electrodes are state of the art technology.

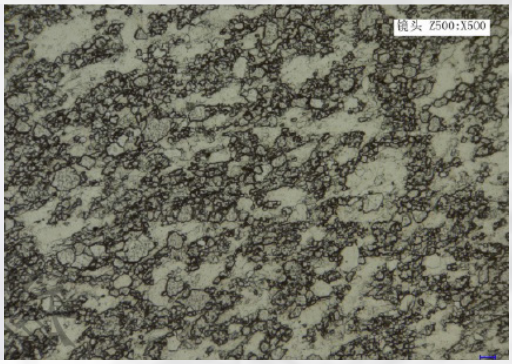
Glass melting electrodes must withstand extremely high temperatures and aggressive glass melts. At the same time, aside from high temperature resistance, electrodes must have a rigid design and inherent electrical properties to maximise operating efficiency.

About 80% of the world's Molybdenum and Tungsten materials are being mined and produced in China.

XiX-Hotwork, subsidiary of Hotwork International in Shanghai, has closely been working with XIAMEN HONGLU TUNGSTEN MOLYBDENUM INDUSTRY - one of the biggest one-stop supplier for both Tungsten and Molybdenum. Founded in 1958, with five plants throughout China and over 11,000 employees. With both expertise combined, Hotwork International introduces a new product line - molybdenum glass melting electrodes which provide the glass industry with superior quality for efficient electric boosted melting, an improved chemical corrosion resistance and minimized glass discolor. This cooperation offers the quality and strength our worldwide customers can fully rely on.

To address the high demand for Molybdenum electrodes worldwide, stocks of standard sizes are stored. However, special requirements are also not a problem. We produce tailor made solutions: special dimensions, mechanically processed and even coated against oxidation, with special threads or cooling holes.

We place great importance on reliability and continuity in all aspects of our supply chain. State of the art Quality Control and Laboratories ensure our high standards in every delivery.



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HIGH PURITY MOLYBDENUM ELECTRODES

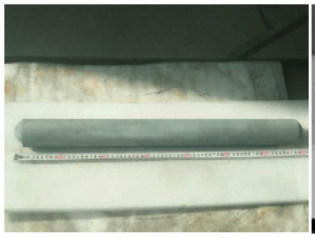
Mo	min.	99.95	%
C	max.	0.005	%
Ca	max.	0.003	%
Cu	max.	0.002	%
Fe	max.	0.005	%
Mg	max.	0.001	%
Mn	max.	0.001	%
Ni	max.	0.0015	%
Sn	max.	0.003	%

Mass fraction in %
Information on testing methods available upon request

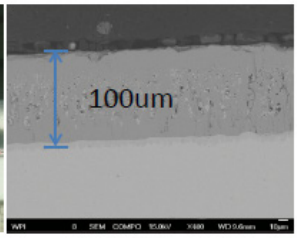
PREMIUM MOLYBDENUM ZIRCONIUM ELECTRODES

Mo (By Difference)	min.	98.50	%
Mg	max.	0.001	%
Mn	max.	0.001	%
Ni	max.	0.002	%
Al	max.	0.002	%
Cu	max.	0.002	%
Pb	max.	0.002	%
Ti	max.	0.002	%
Ca	max.	0.003	%
Si	max.	0.003	%
Sn	max.	0.003	%
C	max.	0.005	%
Fe	max.	0.005	%
Cr	max.	0.005	%
Zr		1.2-1.4	%

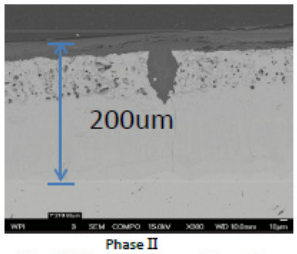
Diameter		Diameter Variation		Out-of-Round	
Inches	mm	Inches	mm	Inches	mm
1 1/4	31.7	+/- 0.015	± .38	0.015	0.38
1 1/2	38.1	+/- 0.015	± .38	0.020	0.51
2	50.8	+/- 0.030	± .76	0.025	0.63
2 1/2	63.5	+/- 0.030	± .76	0.025	0.63
3	76.2	+/- 0.040	± 1.0	0.035	0.89
4	101.6	+/- 0.040	± 1.0	0.050	1.27



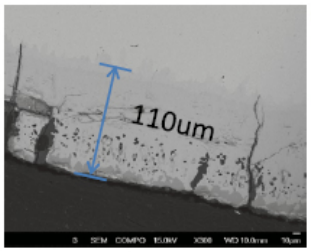
Φ65×700mm
Coated Molybdenum Electrode



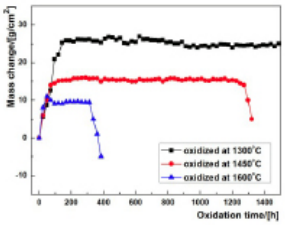
Phase I
Cross Section morphology of the coating phase I



Phase II
Cross Section morphology of the coating Phase II

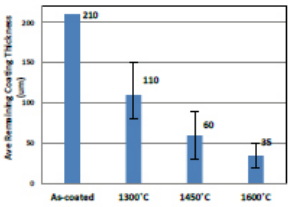


200h
Cross Section morphology of the coating after 200-h oxidation test



1300°C、1450°C、 1600°C

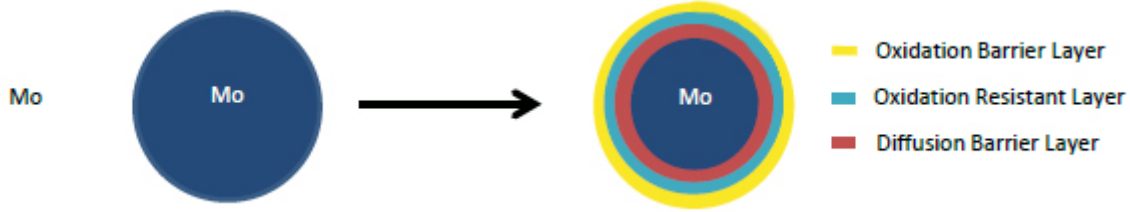
The mass change of the coated samples oxidized at 1300°C,1450°C, and 1600°C for different periods of time



200h
The remaining coating thickness vs. oxidation temperatures after 200 hours

Anti-Oxidation Coating Technology:

Molybdenum Electrodes oxidize at temperatures over 400 °C (752 °F) and particular low resistance to some severely corrosive glass types. Therefore, we offer Anti-Oxidation Coating Technology, which allows you to mount your electrodes simply before heating the glass tank. Our coating protects the molybdenum against oxidation at temperatures up to 1700°C (3092°F).



Our proven Multiphase Mo-Si-B system offers a great oxidation resistance at high temperatures and are applied with thermal spray and/or chemical reaction with the electrode surface.

Swiss Quality and German Reliability .... complete engineering and supply

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