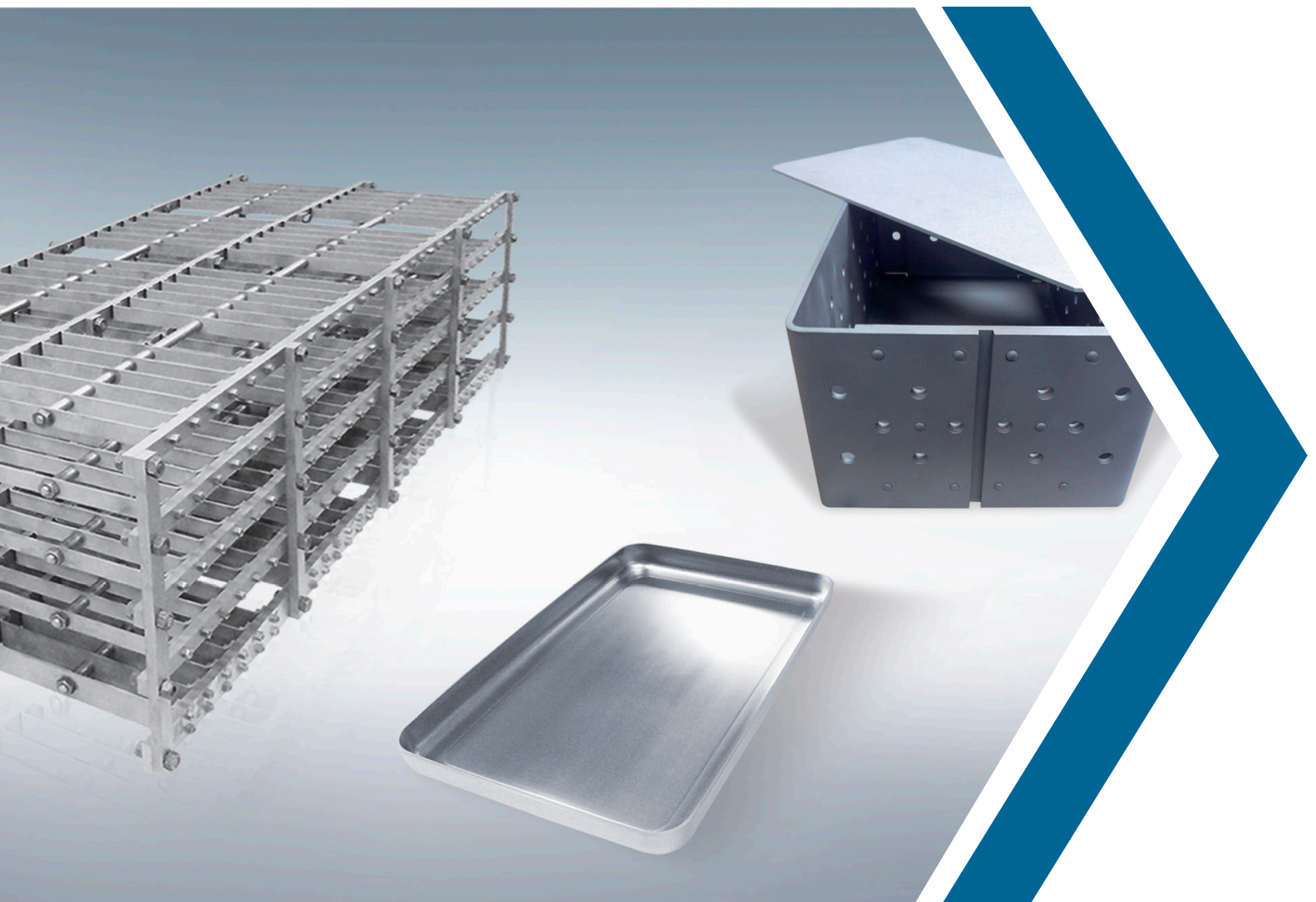


# ELMET TECHNOLOGIES' HIGH TEMPERATURE MIM FURNACE PRODUCTS



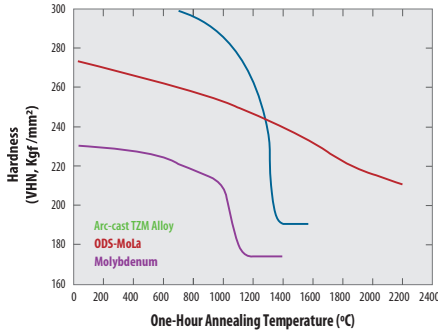
Elmet Technologies offers nearly 100 years of experience with a trusted supply chain of superior refractory pure and alloyed materials for heat treating medical, aerospace, defense and automotive products.

<b>Materials</b>	<b>Atmosphere Furnaces Served</b>	<b>MIM Applications</b>
> Molybdenum	> Continuous feeding	> Sintering
> Tungsten	> Chamber high temperature vacuum	> Debonding
> TZM		> Annealing
> MoLa (molybdenum-lanthana)		> Heat Treating

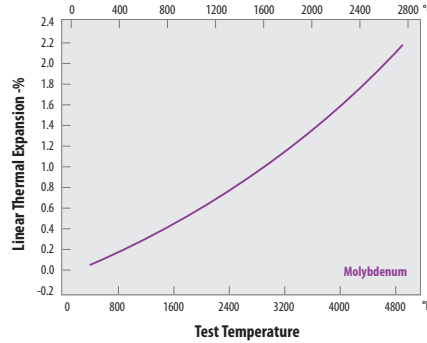
<b>Benefits of Refractory Components</b>	<b>Forms Available</b>
> Maintain temperature uniformity	> Boats & Trays
> Quality products made in a clean environment	> Hot Zones
> Reduced production cost compared to graphite and ceramics	> Furnace Racks
	> Heat Shields
<ul style="list-style-type: none"><li>• Improved cycle times</li><li>• No carbon contamination</li><li>• Fewer component rejections</li></ul>	

# SUPERIOR MECHANICAL PROPERTIES WITH MOLYBDENUM ALLOYS

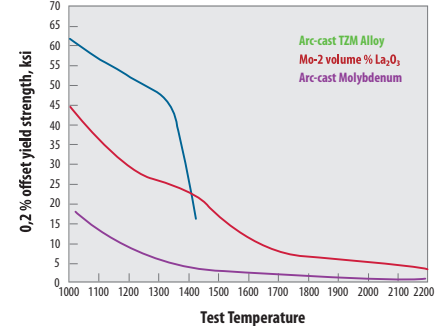
## HARDNESS VERSUS ANNEAL TEMPERATURE



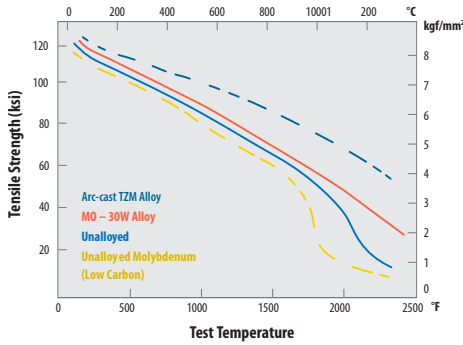
## THERMAL EXPANSION VERSUS TEMPERATURE



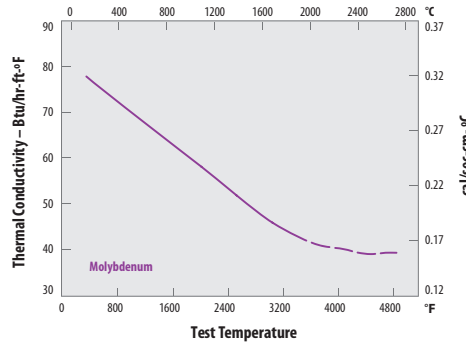
## MOLYBDENUM YIELD STRENGTH VERSUS TEMPERATURE



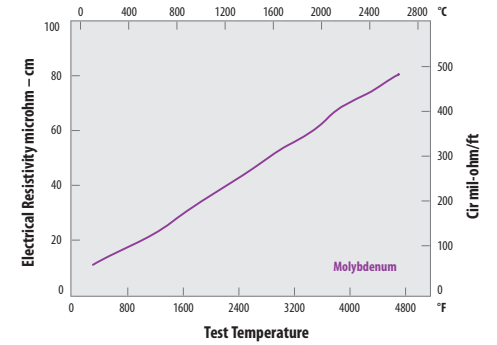
## TENSILE STRENGTH VERSUS TEMPERATURE



## THERMAL CONDUCTIVITY VERSUS TEMPERATURE



## ELECTRICAL RESISTIVITY VERSUS TEMPERATURE



Typical Tensile Properties for indicated Products (5/8 inch Diameter bars)

Molybdenum alloys - high melting temperature refractory, lower cost than tungsten, good creep resistance and high temperature mechanical properties.



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