

MOSI₂ heating elements is made by comprehension production technique in domestic and abroad, meanwhile by adopting advanced producing technology. MOSI₂ heating elements is a high temperature component with MOSI₂ as its basic material. If it can be correctly use. I.E. Combining completely with heat model, the highest temperature can up to 1850⁰C.

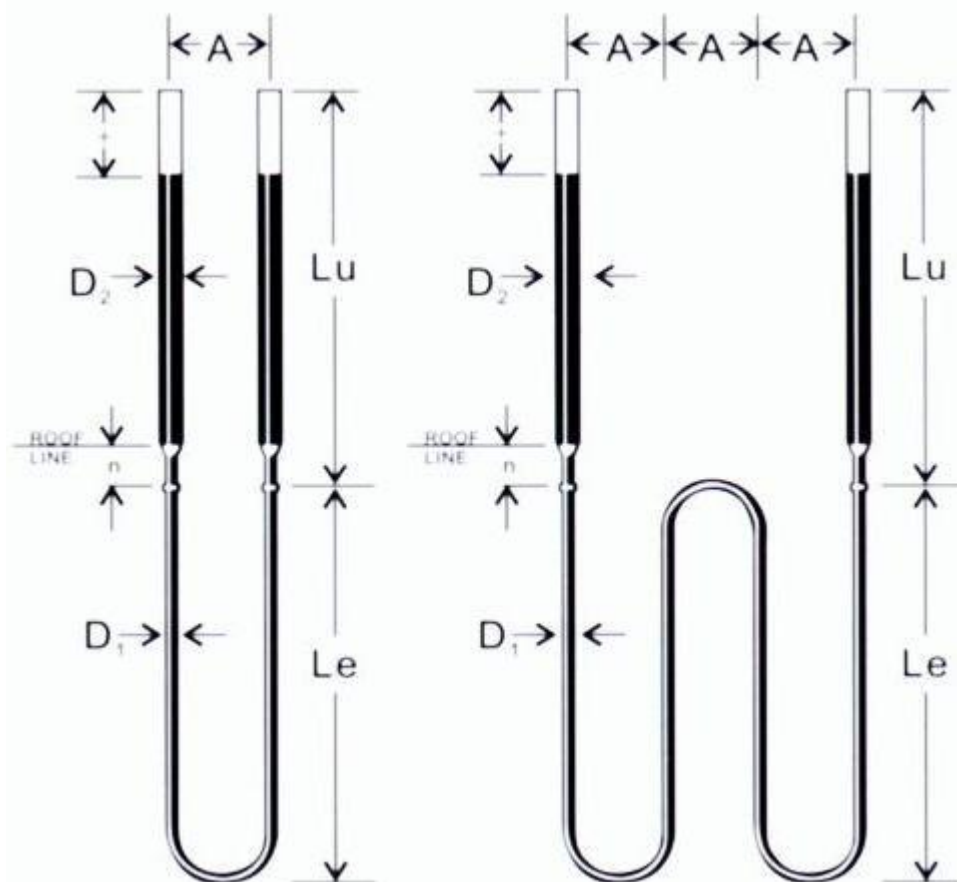
GM-U OUT SPECIFICATION

specification	l ₁	E	d ₁	d ₂	n	g
φ 6/12	=or<300	40,50	12	6	35	30
	> 300	50				
φ 9/18	=or<300	40,50,60	18	9	45	40
	=or<300	50,60				
φ 4/6	>or = 50	20,25	9	4	20	18
φ 3/6	>or = 50	20,25	6	3	20	18

MOSI₂ heating elements is widely used in various industries of metallurgy, glass, ceramic, magnetic materials, heat-resistant material, etc. According to shape, it can be divide into “pole” “U” “W”. Special shape such as right angle shape and bend angle shape can be produced according to customer’s request. Because the plasticity of element will soft above 1350⁰C. We often see “U” and “W” type. Specifications of element are φ 3mm, φ 4mm, φ 6mm, φ 9mm according to hot end diameter. The length of hot end and cold end can be adjusted within the scope of rational utilization.

三、 The type of product





1 GM-I type

Product marking :GM-I $d_1 \times l_1 \times l_2$ l_1 hot end length l_2 cold end length d_1 hot end diameter d_2 cold end diameter n AL---sprayed length L all length

2 GM-U type

Product marking :GM-U $d_1 \times l_1 \times l_2/E$ l_1 hot end length l_2 cold end length d_1 hot end diameter d_2 cold end diameter E central distance n AL---sprayed length L all length

3 GM-W type

Product marking :GM-W $d_1 \times l_1 \times l_2/E$ l_1 hot end length

- l_2 cold end length
 d_1 hot end diameter
 d_2 cold end diameter
 E central distance
 n AL---sprayed length
 L all length

四、Physical properties

MOSI₂ heating elements is brittleness and hardness under high temperature meanwhile Bend strength is lower than usual . Because the plasticity of elements will become soft above 1350⁰C . elements can be curved and form wished shape under high temperature.

ITEM	UNIT	FIGURE
Density	g/cm ³	5.6
Bend strength	kg/cm ²	≥15
Vickers hardness	kg/cm ²	1200
POROSITY RATE	%	7.4
Absorbent rate	%	1.2
Hot strength length	%	4-5

五、Chemical properties

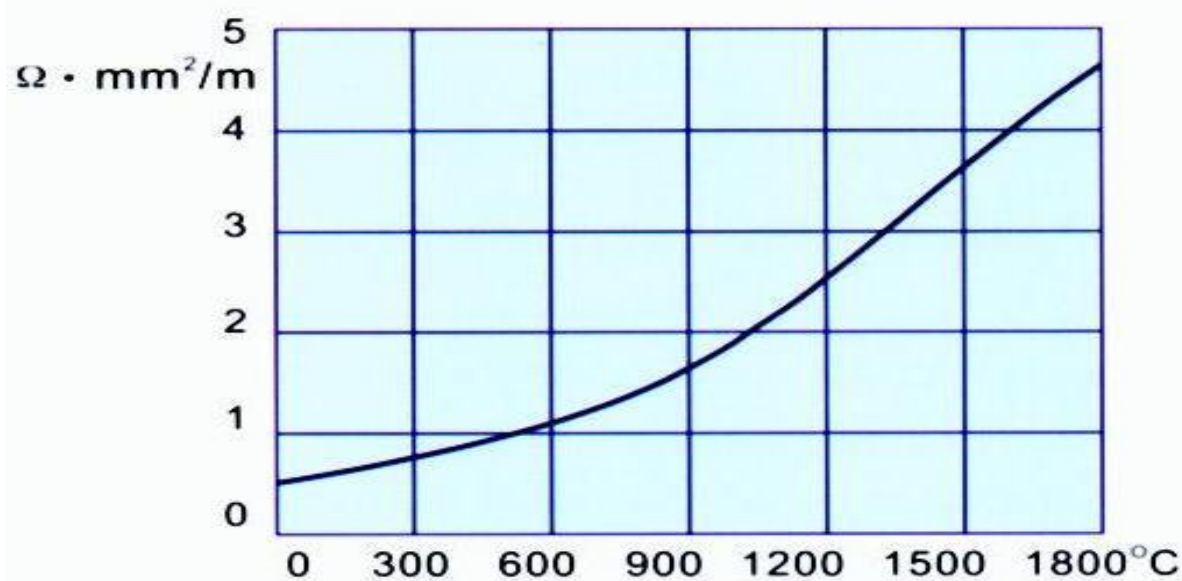
Elements is used in high temperature under the oxidizing atmosphere, its surface form a light SIO₂ glass film which can protect the element not to be oxidized. The MOSI₂ heating elements must not be used in the temperature between 400⁰C and 200⁰C for a long time . Other wise the element will be cremated under the strong oxidizing function in the low temperature .

Max using temperature under different atmosphere:

Atmosphere in furnace chamber	Max using temperature of element
NO ₂ , CO ₂ , O ₂ , AIR	1800 ⁰ C
He , Ar , Ne	1750 ⁰ C
SO ₂	1700 ⁰ C
CO , N ₂	1600 ⁰ C
WET H ₂	1500 ⁰ C
DRY H ₂	1450 ⁰ C

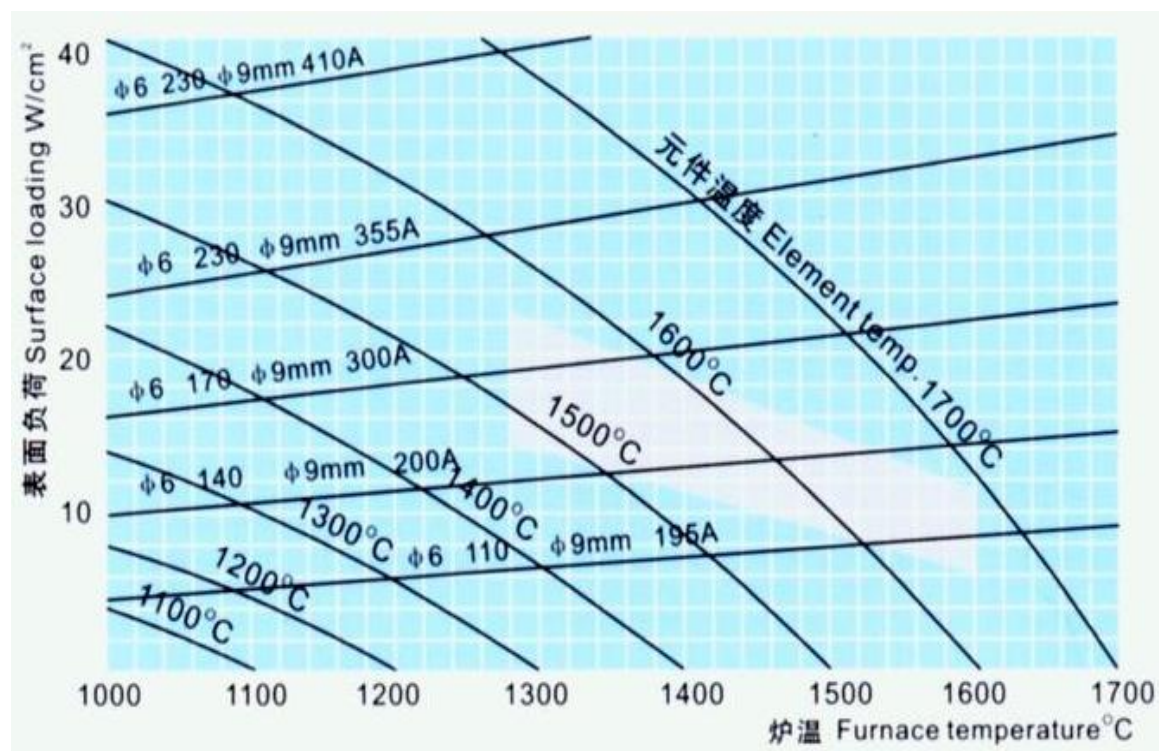
六、Electric properties

The resistance of MOSI₂ heating elements increases fast along with the temperature going up. When the temperature don't change , resistance is constant . Under the normal condition, the elements resistance does not change along with used time generally . So the old and the new element can be used together .



Surface load

According to the furnace structure, furnace atmosphere, furnace temperature, correct choosing the elements surface load can make the elements use for a long time. The following picture shows the relations among furnace temperature, element temperature, and surface load. When the heating elements are radiating without hindering condition. The shadow part is the surface load used usual temperature limits.



七、Points attention for use of elements elements' erection

The brittleness of MOSI_2 heating elements is relative more under the usual temperature, it also has

plasticity under the high temperature. So you had better hang and erect vertically the “U”- shape element. You can erect it by the other way at the request of combining completely with heat model . The cone-part of the element must extend inside the furnace . At first the fixture of MOSI_2 connector can't be screwed too tightly . When temperature of the element is going up . Please twist it tightly again . So the element is not easily broken at this time because of plasticity. In order to prevent erecting vertically and touch with the end of boiler , the distance is not less than 25mm between element and the end of boiler.

The furnace top must be a good function of heat-preservation. In general , the temperature of furnace top can't be over 300°C . In order to avoid connector over-hot , the voltage should be low 0.1V between the power connector and the element . The distance is not less than 50mm between the low end of connector . Generally ϕ 6/12 element can not be used of 170A for a long time . ϕ 9/18mm element can not be used of 300A for a long time .

Usage of the elements

The large furnace is dried over a long period of time . you had better use other heating elements to dry the furnace so that the elements is oxidized in low temperature .Using MOSI_2 heating elements can avoid current impulsive and make electric equipment over weight (load) . Power is supplied in the follow methods.

Little furnace		Large furnace	
furnace temperature	Voltage	furnace temperature	voltage
20-150	1/3 working voltage	200-300	1/3 working voltage
150-500	1/2 working voltage	300-700	2/3 working voltage
500-normal	Full working voltage	700-normal	Full working voltage

When shifting gears , the time can not be too long . The element's temperature can not drop down $300-400^{\circ}\text{C}$ usually. Otherwise , it easily lead to current impulsive and damage the electrical equipment.

ATTENTION

1. Elements is not only brittle but also hard and lower bend strength under the usual temperature . Be gentle while moving and erecting.
2. There must be transformation equipment while using .It's better to choice variable transformation equipment. Don't adopt fixed voltage .
3. Elements can not be screwed too tightly . We must assure that it can flexible freely in high temperature or easily damage elements.
4. The influence of atmosphere in furnace must be thought over on using temperature while choosing elements.
5. Correct choosing the elements surface load can make the elements use for along time.
- 6 Using element continually can extend its service life .
7. Erecting vertically element can avoid contacting inner wall inside furnace .
- 8.Element can not get in touch with sulfide , metal and porcelain enamel in high temperature.