

Rigid mica heater plates



Cogemicanite 505 series are Mica laminates designed for providing outstanding electrical insulation at high temperature. The main application is in heating elements for industrial and household appliances which require at least one of the following properties:

- excellent resistance to heat up to 1000°C
- excellent electrical insulation
- excellent microwave permeability
- excellent punchability
- high edge strength
- environmentally safe and non-toxic
- UL-94V-0 certified (E67143 M)
- IEC 371-3-3 conformity



Composition

Cogemicanite 505 Series of Rigid Heater Plates consist of approximately 90 % Cogemica Muscovite, alternatively Cogemica Phlogopite, impregnated with a unique “in-

house” developed high temperature resistant silicone resin. The final binder content being approximately 10%.



Properties and Applications

Five different grades available:
Cogemicanite 505.2 - Muscovite:

A special low smoke and blister-free grade. It fully resists the extreme high temperature cycles typically encountered for example, in automatic toasters.

Cogemicanite 505.3 - Muscovite:

The standard grade for all heating elements for hair dryers, hair setters, irons, tumble dryers, band heaters, nozzle heaters, etc.

Cogemicanite 505.4 - Muscovite:

A higher density grade with smoother surfaces. Most suitable for punching highly detailed pieces or when imprinting is required.

Cogemicanite 505.2P - Phlogopite:

A special low smoke and blister-free grade, softer and more heat resistant. For extreme high temperature applications.

Cogemicanite 505.3P - Phlogopite:

The standard grade for heating elements operating in an extreme temperature range.

Punchability

Cogemicanite 505 Series of Rigid Heater Plates can be easily punched. Tools for punching diffi-

cult parts, however, should be provided with spring loaded hold-down plates.

Availability

Sheets of 1000 x 1200 mm
 500 x 1200 mm
 1000 x 600 mm

Strips and punched parts according to drawings.
 Thickness 0,1 to 1,5 mm.

Storage

Unlimited shelf life in a dry place at room temperature.

Characteristics

Test Procedures			505.2	505.3	505.4	505.2P	505.3P
Mica content	%	IEC 371-2	ca. 90	ca. 90	ca. 90	ca. 90	ca. 90
Bond content	%	IEC 371-2	ca. 10	ca. 10	ca. 10	ca. 10	ca. 10
Density		IEC 371-2	2,15	2,15	2,25	2,15	2,15
Heat Resistance							
continuous service	°C		500	500	500	700	700
intermittent service	°C		800	800	800	1000	1000
Edge Strength	Kg/0,1 mm	in house	1,3	1,4	1,7	0,9	1,0
Tensile Strength	N/mm ²	ISO 527	140	150	150	100	110
Flexural Strength	N/mm ²	ISO 178	200	230	230	150	170
Water absorption	%	ISO 62	<1	<1	<1	<1	<1
Dielectric Strength	KV/mm	IEC 243	>20	>20	>20	>20	>20
Insulation Resistance 23°C	Ω · cm	IEC 93	>10 ¹⁷	>10 ¹⁷	>10 ¹⁷	>10 ¹⁷	>10 ¹⁷
Insulation Resistance 550°C	Ω · cm	IEC 93	>10 ¹²	>10 ¹²	>10 ¹²	>10 ¹²	>10 ¹²
Heat Loss at 500°C	%	IEC 371-2	<1	<1	<1	<1	<2
at 700°C	%	IEC 371-2				<2	<2
Thermal Expansion							
perpendicular to Layer	10 ⁻⁶ /K		100	100	100	100	100
parallel to Layer	10 ⁻⁶ /K		10	10	10	10	10

Data are average results of laboratory tests conducted under standard procedures and are subject to variation. These do not constitute a warranty or representation for which we assume legal responsibility.