

## 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 <sup>2</sup>   | ISO 527   | 140               | 150               | 150               | 100               | 110               |
| Flexural Strength           | N/mm <sup>2</sup>   | 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 <sup>17</sup> | >10 <sup>17</sup> | >10 <sup>17</sup> | >10 <sup>17</sup> | >10 <sup>17</sup> |
| Insulation Resistance 550°C | Ω · cm              | IEC 93    | >10 <sup>12</sup> | >10 <sup>12</sup> | >10 <sup>12</sup> | >10 <sup>12</sup> | >10 <sup>12</sup> |
| 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 <sup>-6</sup> /K |           | 100               | 100               | 100               | 100               | 100               |
| parallel to Layer           | 10 <sup>-6</sup> /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.