

# Technical Data Sheet

## SW-MICANITE RIGID M & P *(thin rigid mica sheets)*

**Description:** **SW-MICANITE RIGID M & P** sheets are specially developed for providing outstanding thermal and electrical insulation for various heating elements used in household and industrial appliances such as hair dryers, tumble dryers, strip heaters,... and for all other applications where excellent resistance to thermal, mechanical and electrical properties are required.

**SW-MICANITE RIGID M & P** is especially suitable for the use in microwaves. The material is permeable to the generated electromagnetic waves and absorbs them only slightly.

**Composition:** **SW-MICANITE RIGID M & P** sheets consist of minimum 90 % Muscovite alternatively Phlogopite impregnated with an outstanding high temperature resistant silicone resin.

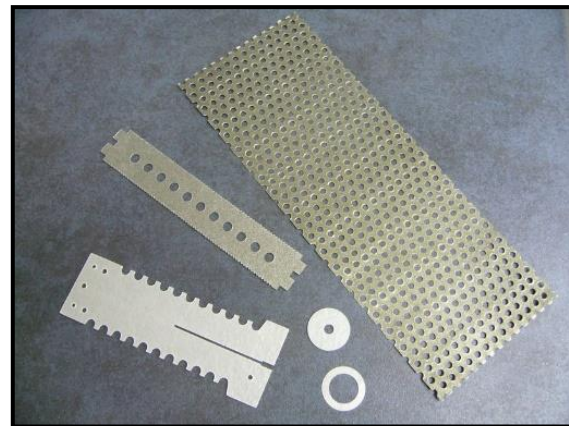
**Delivery form:**

Thickness:	0.1 mm – 1.0 mm	± 0.05 mm
	1.1 mm – 1.9 mm*	± 0.10 mm
Width:	1,000 mm	± 0.20 %
Length:	max. 2,400 mm	± 0.20 %

*\*for rigid mica sheets with thickness ≥ 2.0 mm please have a look at product SW-Therm M&P*

Customized strips or parts according to customers' drawings and/or requirements.

**„SSQ“:** **SW-MICANITE RIGID M & P “SSQ – Special Surface Quality”** is a rigid mica sheet (Muscovite alternatively Phlogopite) with a higher density, a higher flexural strength and a smoother surface (obtained by steel pressing). The **“SSQ”** quality is most suitable for punching highly detailed pieces or when imprinting is required.



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<u>Technical Data</u>	<u>Muscovite</u>	<u>Phlogopite</u>
Mica content: (IEC 60371-2)	≥ 90 %	≥ 90 %
Bond content (Silicone): (IEC 60371-2)	≤ 10 %	≤ 10 %
Density: (IEC 60371-2)	1.70 – 2.15 g/cm <sup>3</sup> (SSQ = 2.25 g/cm <sup>3</sup> )	1.70 – 2.15 g/cm <sup>3</sup> (SSQ = 2.25 g/cm <sup>3</sup> )
Heat resistance: in continuous service in intermittent service	500 °C 700 °C	700 °C 900 °C
Tensile strength: (ISO 527)	≥ 150 N/mm <sup>2</sup>	≥ 110 N/mm <sup>2</sup>
Flexural strength: (ISO 178)	≥ 180 N/mm <sup>2</sup> (SSQ ≥ 200 N/mm <sup>2</sup> )	≥ 100 N/mm <sup>2</sup> (SSQ ≥ 120 N/mm <sup>2</sup> )
Water absorption: (ISO 62)	≤ 1.0 % (24h/23°C)	≤ 1.5 % (24h/23°C)
Dielectric strength: at 20°C at 400°C at 600°C (IEC 60243)	~ 20 KV/mm ~ 13 KV/mm -	~ 20 KV/mm ~ 13 KV/mm ~ 10 KV/mm
Thermal conductivity: at 20°C at 200°C at 400°C at 600°C (DIN 52612)	~ 0.26 W/(m·K) ~ 0.28 W/(m·K) ~ 0.30 W/(m·K) -	~ 0.26 W/(m·K) ~ 0.28 W/(m·K) ~ 0.30 W/(m·K) ~ 0.32 W/(m·K)
Volume resistivity: at 20°C at 400°C at 500°C (IEC 60093)	≥ 10 <sup>17</sup> Ω/cm ≥ 10 <sup>12</sup> Ω/cm	≥ 10 <sup>17</sup> Ω/cm ≥ 10 <sup>12</sup> Ω/cm
Weight loss continuous: at 500°C at 700°C (IEC 60371-2)	≤ 1 %	≤ 1 % ≤ 2 %
Compressive strength: Perpendicular to layers Parallel (ISO 604)	≥ 300 N/mm <sup>2</sup> ≥ 50 N/mm <sup>2</sup>	≥ 200 N/mm <sup>2</sup> ≥ 50 N/mm <sup>2</sup>
Thermal Expansion: Perpendicular Parallel	100 x 10 <sup>-6</sup> /°K 10 x 10 <sup>-6</sup> /°K	100 x 10 <sup>-6</sup> /°K 10 x 10 <sup>-6</sup> /°K
Tracking resistance:	KA 3c (VDE 0303/1)	KA 3c (VDE 0303/1)

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## Conformity:

Regulation **(EC) No 1935/2004** on Materials and Articles intended to come into Contact with Food

Regulation **(EC) No 1907/2006** concerning the Registration, Evaluation, Authorization and Restriction of Chemicals **(REACH)**

Regulation **(EC) No 1272/2008** on classification, labelling and packaging of substances and mixtures **(CLP)**

Directive **2011/65/EU** on the Restriction of the use of certain Hazardous Substances in Electrical and Electronic Equipment **(RoHS)**

Classification **V-0** according to **UL94** for Flammability Tests of Plastic Materials for Parts in Devices and Appliances

Classification **HP5** according to **DIN EN ISO 60371-3-3** for the specification for insulating materials based on mica - Part 3: Specifications for individual materials - Sheet 3: Rigid mica materials for heating equipment

Full details can be found in our certificates and declarations of conformity.

**Note:** These technical data are average results of laboratory tests conducted under standard procedures and are subject to variations, and do not constitute a warranty or representation for which we assure legal responsibility.