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## WEVOSIL 22027 FL

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### Attributes

The resulting molding material is characterized by its excellent mechanical and elastic properties, as well as its good low-temperature flexibility in the temperature shock test. Recommended temperature range: -60 °C to +180 °C. The resin is processed together with WEVOSIL 22027 FL B.

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### Application

Potting for batteries with regard to thermal runaway prevention.

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### Standards

- Temperature application range -60 °C - +180 °C
- UL 94 V1

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### Delivery forms

10 kg and 30 kg containers.

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### Color

WEVOSIL 22027 FL A: Natural

WEVOSIL 22027 FL B: Red

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### Storage

Polymer (A-component) and crosslinker (B-component) must be stored dry and at a temperature of 5 °C to 30 °C and not in the open air. The containers should be stored upright and not directly on the cold floor (floor temperature not below 5 °C). WEVOSIL 22027 FL has a shelf life of 6 months after production.

At temperatures above 25 °C, the settling of the fillers contained in the casting compound is accelerated. The potting compound is then more difficult to homogenize.

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### Hardening

- Pot life: 50 - 70 minutes at room temperature, depending on layer thickness and casting volume.
- Curing time: 6 hours at room temperature, 1 hour at 100 °C
- Final chemical curing: several days at room temperature

### Curing notes:

- Excessive humidity has a damaging effect on the uncured compound. If necessary, curing should take place in an air-conditioned room, a container with low humidity or in an oven.
- Curing at an elevated temperature (50 - 100 °C) accelerates the curing reaction and can influence the

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adhesion of the potting compound to the walls of the component.

- The WEVOSIL 22027 FL casting compound reaches its final hardness after a few days at room temperature.
- After approx. 6 hours curing at room temperature (or 1 h @ 100 °C) approx. 90 - 95 % of the Curing takes place. To achieve the final hardness, post-curing can then be carried out for 2 hours at 165 - 180 °C. However, this last step is not absolutely necessary. After a few days, the casting compound reaches its final hardness even at room temperature (depending on the system).
- Electrical tests of the component quality can usually be carried out after the first curing (6 hours at room temperature or 1 h @ 100 °C).

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### Protection

Our products are intended solely for industrial use. For further details, please refer to the safety data sheet.

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### Processing

Our processing instructions please find [here](#).

| General      | Unit of measure | Condition | Value   | Test method |
|--------------|-----------------|-----------|---------|-------------|
| Mixing ratio | Gew-%           |           | 100:100 |             |
| Pot life     | min             | 25 °C     | 90-120  |             |
| Curing time  | h               | 25 °C     | 6       |             |
| Curing time  | h               | 100 °C    | 1       |             |

| Mechanical          | Unit of measure   | Condition                     | Value     | Test method |
|---------------------|-------------------|-------------------------------|-----------|-------------|
| Density             | g/cm <sup>3</sup> | WEVOSIL 22027<br>FL A         | 1.18-1.22 |             |
| Density             | g/cm <sup>3</sup> | WEVOSIL 22027<br>FL B         | 1.18-1.22 |             |
| Viscosity           | mPas              | WEVOSIL 22027<br>FL A / 22 °C | 700-1300  |             |
| Viscosity           | mPas              | WEVOSIL 22027<br>FL B / 22 °C | 700-1300  |             |
| Mixture viscosity   |                   | 22 °C                         | 700-1300  |             |
| Hardness            | Shore A           |                               | 25-35     | ISO 48-4    |
| Water absorption    | %                 | 30 d / RT                     | <0.5      |             |
| Elongation at break | %                 |                               | 100       | ISO 527-2   |

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| Thermal                      | Unit of measure | Condition | Value | Test method      |
|------------------------------|-----------------|-----------|-------|------------------|
| Thermal class                |                 |           | H     | DIN EN 60085     |
| Glass transition temperature | °C              |           | -46   | TMA              |
| Thermal conductivity         | W/m*K           |           | 0.3   | ISO 22007-2:2008 |

| Electrical                                     | Unit of measure | Condition | Value             | Test method           |
|------------------------------------------------|-----------------|-----------|-------------------|-----------------------|
| Dielectric strength                            | kV/mm           |           | >25               | DIN EN 60243          |
| Dielectric constant &epsilon; at 50 Hz, 23 °C  |                 |           | 3.35              | DIN EN 60250          |
| Dielectric constant; at 1 kHz, 23 °C           |                 |           | 3.16              | DIN EN 60250          |
| Dielectric constant &epsilon; at 1 MHz, 23 °C  |                 |           | 3.07              | DIN EN 60250          |
| Volume resistance specific at 23 °C, 50 % r.h. | Ωxcm            |           | >10 <sup>14</sup> | DIN EN 62631-3-1:2016 |
| Surface resistivity at 23°C and 50 % r.h.      | Ω               |           | >10 <sup>14</sup> | DIN EN 62631-3-1:2016 |

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