

## Laminates

### Rigidiso® RI 40402

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**Composition:** Rigidiso® RI 40402 is a manufactured polyester resin and glass cloth laminate and meets the following standards:

|               |            |
|---------------|------------|
| IEC 60893     | UPGM 203   |
| DIN 7735      | HM 2472    |
| NEMA L1 (USA) | 3953-UP 4  |
| NF C26 (F)    | 153-Vm P2e |
| VSM (CH)      | S-UP GM 4  |

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**Properties:** Rigidiso® RI 40402 is insulating up to insulation class F (155°C), furthermore it has very good mechanical properties. In addition to that it is environmentally neutral, free of asbestos, dioxin, cadmium and halogen.

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**Applications:** Rigidiso® RI 40402 is used whenever low thermal conductivity at high temperatures is required, for example at thermally insulating plates.

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**Delivery forms:** Rigidiso® RI 40402 is available in thicknesses of 0.15 mm – 150 mm as well as sheet (2440 x 1220 mm and 1150 x 2200 mm with a max. sheet size of 2440 x 1240 mm). Furthermore Rigidiso® RI 40402 can also be delivered as cut, milled, die-cut or water-jet cut parts. In addition it can be equipped with a special varnish to meet a CTI of more than 600.

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**Standard colour:** Rigidiso® RI 40402 is delivered in white colour.

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**Storage conditions:** Rigidiso® RI 40402 can be stored unlimited under normal conditions (20°C, 50% rel. air humidity).

| Property  | Test method | Unit                | Value                           |
|---|-------------|---------------------|---------------------------------|
| Density   | ISO 1183    | g/cm <sup>3</sup>   | ca. 1,9                         |
| Tensile strength  | ISO 527     | N/mm <sup>2</sup>   | 124                             |
| Burning behaviour   | UL 94       | -                   | V-0/5 mm<br>S4/ST2/SR2<br>M2/F1 |
| Thermal class   | IEC 60085   | -                   | F                               |
| Comparative tracking index  | IEC 60112   | CTI                 | 600                             |
| Flexural strength untreated at 23°C   | DIN 53452   | MPa                 | 200                             |
| Impact resistance a <sub>n10</sub> und a <sub>n15</sub>                                       | DIN 53453   | kJ/m <sup>2</sup>   | 187                             |
| Notch impact resistance a <sub>k10</sub>  | DIN 53453   | kJ/m <sup>2</sup>   | 150                             |
| Pressure resistance   | DIN 53454   | MPa                 | 188                             |
| Splitting strength  | DIN 53463   | N                   | 2290                            |
| Resistance between plugs after 24 hours water storage at 23°C                                 | DIN 53457   | MPa                 | 10570                           |
| 1 Minute test voltage in layer direction at 90°C after pre-treatment                          | DIN 53482   | Ohm                 | 7,1 x 10 <sup>8</sup>           |
| 1 Minute test voltage vertical to layer at 90°C after pre-treatment                           | DIN 53481   | kV                  | 40                              |
| Dielectric dissipation factor tan d – 50 Hz<br>96 hours 105°C<br>1 MHz 24 hours water storage | DIN 53481   | kV                  | 34                              |
| Dielectric constant   | DIN 53483   | max.                | 0,0092<br>0,0372                |
| Electrolytic corrosion  | DIN 53483   | »                   | 5                               |
| Splitting strength  | DIN 53489   | max.                | A/B 1,4                         |
| Arc resistance  | DIN 53484   | Level               | 180 sec.                        |
| Thermal conductivity  | DIN 52612   | W/m*k               | 0,63                            |
| Coefficient of linear expansion   | VDE 0304/2  | 10 <sup>-6</sup> /K | 17                              |
| Limiting temperature  | VDE 0304/2  | °C                  | 155                             |
| Incandescence resistance  | DIN 53459   | level               | 2a                              |
| Water absorption – 4 mm thick   | DIN 53459   | mg                  | 60                              |

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|                     |     |     |     |     |     |     |     |     |     |     |
|---------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| <b>Thickness</b>    | 0.3 | 0.5 | 0.8 | 1.0 | 1.5 | 2.0 | 2.5 | 3.0 | 3.5 | 4.0 |
| <b>Availability</b> | ○   | ●   | ●   | ●   | ●   | ●   | ●   | ●   | ●   | ●   |

|                     |     |     |     |     |     |     |      |      |      |      |
|---------------------|-----|-----|-----|-----|-----|-----|------|------|------|------|
| <b>Thickness</b>    | 4.5 | 5.0 | 6.0 | 7.0 | 8.0 | 9.0 | 10.0 | 11.0 | 12.0 | 13.0 |
| <b>Availability</b> | ●   | ●   | ●   | ●   | ●   | ●   | ●    | ●    | ●    | ●    |

|                     |      |      |      |      |      |      |      |      |      |      |
|---------------------|------|------|------|------|------|------|------|------|------|------|
| <b>Thickness</b>    | 14.0 | 15.0 | 16.0 | 17.0 | 18.0 | 19.0 | 20.0 | 21.0 | 22.0 | 25.0 |
| <b>Availability</b> | ●    | ●    | ●    | ●    | ●    | ●    | ●    | ●    | ●    | ●    |

|                     |      |      |      |      |      |      |      |      |      |       |
|---------------------|------|------|------|------|------|------|------|------|------|-------|
| <b>Thickness</b>    | 30.0 | 35.0 | 40.0 | 45.0 | 50.0 | 60.0 | 70.0 | 80.0 | 90.0 | 100.0 |
| <b>Availability</b> | ●    | ●    | ●    | ○    | ○    | ○    | ○    | ○    | ○    | ○     |

- Pre-material on stock
- Delivery time pre-material 2 weeks

**Trademark Information:** Rigidiso® is a registered trademark of the company Dr. Dietrich Müller GmbH, Germany.

**Please note:** The information in this data sheet is based on our current knowledge and experience. They do not disengage the fabricator and user from own tests and inspections because of the plenty of possible effects. There is no judicial binding assurance of certain properties or of the qualification for a concrete application in our declaration. We recommend consulting us in individual cases. The acceptor of our products has to observe possible industrial property rights as well as present laws by himself

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