

Tepex® *dynalite* 104-RG600(x)/47%

## Roving Glass - PP Consolidated Composite Laminate

| Layup                         | Test Condition | According to Standard | Unit              | Value              |             |
|-------------------------------|----------------|-----------------------|-------------------|--------------------|-------------|
|                               |                |                       |                   | Longitudinal       | Transversal |
| Fiber                         | -              | -                     | -                 | E-Glass Roving     |             |
| Weaving style                 | -              | DIN ISO 9354          | -                 | Twill 2/2          |             |
| Area weight (dry fabric)      | -              | DIN EN 12127          | g/m <sup>2</sup>  | 600                |             |
| Yarn                          | -              | DIN EN 12654-2/3      | tex               | 1200               |             |
| Yarn density                  |                | DIN EN 1049-2         | 1/cm              | 2.5                | 2.5         |
| Weight rate                   | -              | -                     | %                 | 50                 | 50          |
| Polymer                       | -              | -                     | -                 | Polypropylene (PP) |             |
| Fiber content (nominal)       | -              | -                     | vol.-%            | 47                 |             |
| Thickness per layer (nominal) | -              | -                     | mm                | 0.5                |             |
| Laminate density              |                | ISO 1183-1            | g/cm <sup>3</sup> | 1.68               |             |

| Mechanical properties       | Test Condition | According to Standard     | Unit | Value        |             |
|-----------------------------|----------------|---------------------------|------|--------------|-------------|
|                             |                |                           |      | Longitudinal | Transversal |
| Tensile modulus             | 23 °C, dry     | ISO 527-4/5 <sup>1)</sup> | GPa  | 20           |             |
| Tensile strength            | 23 °C, dry     | ISO 527-4/5 <sup>1)</sup> | MPa  | 430          |             |
| Tensile elongation at break | 23 °C, dry     | ISO 527-4/5 <sup>1)</sup> | %    | 2.7          |             |
| Flexural modulus            | 23 °C, dry     | ISO 14125 <sup>2)</sup>   | GPa  | 17           |             |
| Flexural strength           | 23 °C, dry     | ISO 14125 <sup>2)</sup>   | MPa  | 370          |             |

| Thermal properties                        | Test Condition       | According to Standard | Unit               | Value        |             |
|-------------------------------------------|----------------------|-----------------------|--------------------|--------------|-------------|
|                                           |                      |                       |                    | Longitudinal | Transversal |
| Melting temperature                       | 10 K/min             | ISO 11357-3           | °C                 | 165          |             |
| Heat deflection temperature <sup>3)</sup> | 17 GPa               | ISO 75-1/-3           | °C                 | 157          |             |
| Coefficient of linear thermal expansion   | -35 °C to 23 °C, dry | ISO 11359-1/2         | E <sup>-6</sup> /K | 13.3         |             |
| Coefficient of linear thermal expansion   | 23 °C to 80 °C, dry  | ISO 11359-1/2         | E <sup>-6</sup> /K | 11.0         |             |

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- : Not relevant
- dry: dry as manufactured
- 1) Test specimen (250 x 25 x 2) mm
- 2) Test specimen (80 x 25 x 2) mm
- 3) Based on ISO 75-1/-3

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The values in the datasheet are for this specific composition only, the characteristics of composites depend on the reinforcement level and the fibre orientation. Non-standard thickness may also alter some or all of these properties. The data listed here fall within the normal range of product properties, but they should not be used to establish specification limits nor used alone as basis of design. The underlying tests were conducted at room temperature and with 2 mm specimen thickness.

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Caution: Do not use this product in medical applications involving permanent implantation in human body.