

## Technical Data Sheet

# Lignostone<sup>®</sup> L I/2-E3-TQ

Laminated Densified Wood

### Typical characteristics

- Laminated densified wood P2R according to the standard IEC 61061
- Top red beech veneer quality; parallel stacked
- High mechanical strength at low density

### Typical industries

- Transformer
- Electrical Industry
- Electrical Insulating Components
- Lignostone Transformerwood - for transformers
- Oil-filled transformers

|  | Test method | Unit                | Guideline value |
|--|-------------|---------------------|-----------------|
| <b>Mechanical properties</b>                     |             |                     |                 |
| Density  | IEC 61061   | g / cm <sup>3</sup> | 0.95            |
| Flexural strength <sup>1)</sup> ⊥                | IEC 61061   | MPa                 | 150             |
| Modulus of elasticity in flexion <sup>1)</sup> ⊥ | IEC 61061   | MPa                 | 12000           |
| Compressive strength ⊥                           | ISO 604     | MPa                 | 120             |
| Compressive strength II                          | ISO 604     | MPa                 | 70              |
| Shear strength II                                | IEC 61061   | MPa                 | 10              |
| <b>Thermal properties</b>                        |             |                     |                 |
| Thermal conductivity                             | DIN 52612   | W/m K               | 0.22            |
| Operating temperature continuous                 | DIN 7707    | °C                  | 105             |
| Temperature limit when drying                    | DIN 7707    | °C                  | 130             |
| <b>Physical properties</b>                       |             |                     |                 |
| Oil absorption                                   | IEC 61061   | %                   | 25              |
| Moisture content                                 | IEC 61061   | %                   | 5               |
| <b>Dielectrical properties</b>                   |             |                     |                 |
| Electric strength 90°C under oil ⊥               | IEC 61061   | kV / mm             | 18              |
| Electric strength 90°C under oil II              | IEC 61061   | kV/25mm             | 90              |
| Relative permittivity (50 Hz)                    | IEC 60250   | ε <sub>r</sub>      | 3.7             |
| Dielectric loss factor (50 Hz)                   | IEC 60250   | tan δ               | 0.01            |



|                            | Test method | Unit                      | Guideline value |
|----------------------------|-------------|---------------------------|-----------------|
| Specific volume resistance | IEC 60093   | $\Omega \times \text{cm}$ | $10^{12}$       |

= perpendicular to the lamination  
|| = parallel to the lamination

<sup>1)</sup> Minimum 4 longitudinal layers in the tension zone

