

## Technical Data Sheet

# Lignostone<sup>®</sup> M I/2-E3-HQ

### Typical characteristics

- Very high mechanical strength at medium density
- High red beech veneer quality; parallel stacked
- Laminated densified wood P4R according to the standard IEC 61061

### 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> | 1,25            |
| Flexural strength <sup>1) ⊥</sup>                | IEC 61061   | MPa                 | 200             |
| Modulus of elasticity in flexion <sup>1) ⊥</sup> | IEC 61061   | MPa                 | 16000           |
| Compressive strength <sup>⊥</sup>                | ISO 604     | MPa                 | 120             |
| Compressive strength II                          | ISO 604     | MPa                 | 90              |
| Shear strength II                                | IEC 61061   | MPa                 | 11              |
| <b>Thermal properties</b>                        |             |                     |                 |
| Thermal conductivity                             | DIN 52612   | W/m K               | 0,22            |
| Operating temperature continuous                 | DIN 7707    | °C                  | 100             |
| Temperature limit when drying                    | DIN 7707    | °C                  | 130             |
| <b>Physical properties</b>                       |             |                     |                 |
| Oil absorption                                   | IEC 61061   | %                   | 7               |
| Moisture content                                 | IEC 61061   | %                   | 5               |
| <b>Dielectrical properties</b>                   |             |                     |                 |
| Electric strength 90°C under oil <sup>⊥</sup>    | IEC 61061   | kV / mm             | 17              |
| Electric strength 90°C under oil II              | IEC 61061   | kV/25mm             | 80              |
| Relative permittivity (50 Hz)                    | IEC 60250   | ε <sub>r</sub>      | 4,1             |
| 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

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