



| Property | Test method | Unit | Polyester Standard | Self extinguishing Polyester | Self extinguishing Acrylic |
|----------|-------------|------|--------------------|------------------------------|----------------------------|
|----------|-------------|------|--------------------|------------------------------|----------------------------|

Mechanical properties – mean values

| | | | | | |
|----------------------------------|------------|-------------------|------|------|-----|
| Tensile strength axial | ASTM D638 | MPa | 400 | 400 | 300 |
| Tensile modulus axial | ASTM D638 | GPa | 26 | 26 | 22 |
| Tensile strength transversal | ASTM D638 | MPa | 30 | 30 | 20 |
| Tensile modulus transversal | ASTM D638 | GPa | 8 | 8 | 7 |
| Flexural strength axial | ASTM D790 | MPa | 400 | 400 | 300 |
| Flexural modulus axial | EN 13706 | GPa | 25 | 25 | 21 |
| Flexural strength transversal | ASTM D790 | MPa | 70 | 70 | 60 |
| Flexural modulus transversal | ASTM D790 | GPa | 7 | 7 | 6 |
| Compressive strength axial | ASTM D695 | MPa | 250 | 250 | 160 |
| Compressive modulus axial | ASTM D695 | GPa | 18 | 18 | 16 |
| Compressive strength transversal | ASTM D695 | MPa | 70 | 70 | 55 |
| Compressive modulus transversal | ASTM D695 | GPa | 7 | 7 | 6 |
| In plane shear strength axial | ASTM D2344 | MPa | 30 | 30 | 20 |
| Shear modulus axial | EN 13706 | GPa | 3 | 3 | 2,4 |
| Impact strength (CHARPY) | ISO 179 | kJ/m ² | 170 | 170 | 149 |
| Bearing strength axial | ASTM D953 | MPa | 170 | 170 | 130 |
| Bearing strength transversal | ASTM D953 | MPa | 80 | 80 | 50 |
| Poisson's ratio axial | ASTM D3039 | — | 0,28 | 0,28 | — |
| Poisson's ratio transversal | ASTM D3039 | — | 0,28 | 0,28 | — |

Physical properties – mean values

| | | | | | |
|----------------------------------|----------------------|-------------------|-----------------------|-----------------------|----------------------|
| Barcol hardness | ASTM D2583 | °B | 45 | 45 | 50 |
| Specific weight | ASTM D792 | g/cm ³ | 1,8 | 1,8 | 2 |
| Glass content by weight | ISO 1172 | % | 58 | 58 | 48 |
| Water absorption | ISO 62 | % | 0,4 | 0,4 | 0,5 |
| Coefficient of thermal expansion | ISO 11359-2 | K ⁻¹ | 11 x 10 ⁻⁶ | 11 x 10 ⁻⁶ | 9 x 10 ⁻⁶ |
| Thermal conductivity | EN 12667 EN 12664 | W/mK | 0,3 | 0,3 | 0,35 |

Electrical properties – mean values

| | | | | | |
|-----------------------------|-----------|-------|------------------|------------------|------------------|
| Dielectric strength | ASTM D149 | kV/mm | 5 | 5 | 10 |
| Dielectric constant at 50HZ | ASTM D150 | — | 5 | 5 | 5 |
| Loss factor at 50 HZ | ASTM D150 | — | 0,05 | 0,05 | 0,05 |
| Surface resistivity | EN 61340 | Ω | 10 ¹² | 10 ¹² | 10 ¹² |
| Comparative tracking index | EN 60112 | V | — | — | CTI600 |



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| Fire reaction properties – mean value | | | | | |
| "F" Classification (smoke) | NF F 16-101 | Class | — | F2 | F0 |
| "M" Classification (fire) | NF P 92-501 | Class | — | M3/M2 | M1 |
| "I" Classification (oxygen) | NF F 16-101 | Class | — | I3 | I0 |
| Smoke density | BS 6583 | Index | — | — | A0 (On) = 9 A0 (Off) = 10 |
| Surface flame propagation | BS 476 part 7 | Class | — | 3 | 1 |
| Flame propagation, Smoke emission | ASTM E84 | Class | — | — | 1 |
| Flammability Index (Glow wire) | IEC 695-2-1 | °C | — | — | 960 without drop |
| Halogene | — | — | no | yes | no |
| Brandverhalten nach UL94 – horizont. Probe | UL94 | Grade | HB | — | V0 |
| Toxizitätsindex | CEI 2037 part 2 | — | — | <2 | <1 |
| Brandverhalten nach UL94 – vertik. Probe | UL94 | Grade | — | V1/V0 | V0 |
| Brandverhalten nach DIN EN 45545-2 | EN 45545-2 „R1“ | Class | — | — | HL3 |
| Brandverhalten DIN EN 13501 | EN 13501 | Class | — | — | B-s2-d0 |

- Values refer to reinforced profiles with fibreglass in a polyester-acrylic matrix.
- Tolerance for mechanical properties refers to longitudinal direction: ± 10%
- The data provided is accurate; however we are not responsible for their use.
- Delivery from German warehouse

| Main characteristics of resins | Polyester Standard | Polyester, self extinguishing | Acrylic, self extinguishing | Vinylester | Epoxy |
|--------------------------------|--------------------|-------------------------------|-----------------------------|------------|-----------|
| Low cost | very good | fair | lacking | lacking | lacking |
| Processing versatility | very good | good | good | good | lacking |
| Availability | very good | good | good | very good | fair |
| Fire reaction properties | lacking | good | very good | good | lacking |
| Smoke emission | good | fair | very good | lacking | lacking |
| Chemical resistance | fair | fair | lacking | very good | very good |
| Mechanical performances | good | good | lacking | very good | very good |
| Creep & Fatigue performances | good | good | lacking | very good | very good |
| Electrical insulation | good | good | very good | good | very good |