

**BASFIBER® PLAIN TAPE**

Basfiber® Tape is ideal for selective reinforcement of laminates, sleeve or pipe winding, seams, and molding. These tapes are referred to as tapes for their width and appearance, that can even have an adhesive applied on the back. Their finished edges offer easier handling and a clean, finished appearance, and keep the tape from unraveling.

Tapes are meant to be used with a resin, they saturate easily, and are compatible with epoxy, polyester, and vinyl ester. We provide a line of standard tapes matching with our most used fabrics, but we are constantly developing new weaves and applications for specific projects. If you need a customized tape size and weave, don't hesitate in contacting us.

**NOMENCLATURE**

Our nomenclature is based on three letters followed by the width of the tape after the dashes.

**Example: TPL-40mm**

The first letter will be always T which stands for our Tape products. The following letters PL – TW, etc. represent the fabric type as PL - Plain or Twill used to produce the tape.

**MECHANICAL PROPERTIES:**

| TAPE                                    | FPL 30mm    | FPL 40mm           | FPL 50mm           | FPL 70mm           |
|---|-------------|--------------------|--------------------|--------------------|
| Width:                                  | <b>30mm</b> | <b>40mm</b>        | <b>50mm</b>        | <b>70mm</b>        |
| Thickness(mm):                          | ISO 9073-2  | 0.21               | 0.21               | 0.21               |
| Mass Per Unit Area (g/m <sup>2</sup> ): | ISO 9073-1  | 370                | 370                | 370                |
| Tensile Strength - Warp (N/25mm):       | ISO 4606    | 2050               | 2050               | 2050               |
| Tensile Strength - Weft (N/25mm):       | ISO 4606    | 2050               | 2050               | 2050               |
| Combustibility (M0):                    | NF P92-503  | Non Combustible    | Non Combustible    | Non Combustible    |
| Abrasion Continuous Max. Temp.(°C):     | ISO 12947-2 | 1200 Fire Blocking | 1200 Fire Blocking | 1200 Fire Blocking |
| Melting Point(°C):                      |             | 1450               | 1450               | 1450               |
| Moisture content of Basfiber®(°C):      |             | 0.1                | 0.1                | 0.1                |
| Specific Weight(gr/mt):                 | ISO 4605    | 11.13              | 14.83              | 18.53              |
| Yarn Density - Warp (gr/mt):            |             | 4.7                | 6.26               | 7.83               |
| Yarn Density - Weft (gr/mt):            |             | 6.4                | 5.54               | 10.67              |
| Reinforcing Yarn (gr/mt):               |             | 0.03               | 0.03               | 0.03               |



**THERMAL PROPERTIES**

|                               |             |
|-------------------------------|-------------|
| Melting Range:                | 1460-1500°C |
| Crystallization temperature:  | 1250 °C     |
| Sintering Temperature:        | 1050 °C     |
| Thermal Conductivity, W/(m·K) | 0.031-0.038 |

**TECHNICAL COMPARISON WITH OTHER FIBERS:**

| CHEMICAL STABILITY                      | BASFIBER®   | GLASSFIBER  | SILICA     |
|---|-------------|-------------|------------|
| Max. Application Temperature (°C):      | 982         | 650         | 1100       |
| Operation Temperature (°C):             | 700         | 400         | 1000       |
| Min. Operation Temperature (°C):        | -200        | -60         | -170       |
| Thermal Conductivity (W/m K):           | 0.031-0.038 | 0.029-0.035 | 0.035-0.04 |
| Melting Temperature (°C):               | 1450        | 1120        | 1550       |
| Thermal Expansion Coefficient (ppm/°C): | 8.0         | 5.4         | 0.05       |

| PHYSICAL / MECHANICAL PROPERTIES     | BASFIBER® | GLASSFIBER | SILICA |
|--------------------------------------|-----------|------------|--------|
| Density (g/cm <sup>3</sup> ):        | 2.8       | 2.57       | 2.15   |
| Filament diameter (µm):              | 13-20     | 9-13       | 9-15   |
| Tensile Strength (MPa):              | 4840      | 3450       | 4750   |
| Elastic Modulus (GPa):               | 89        | 77         | 66     |
| Elongation at Break (%):             | 3.15      | 4.7        | 1.2    |
| Linear Expansion Coefficient (x10K): | 5.5       | 5          | 0.5    |
| Absorption of Humidity (65% RAH):    | <0.1      | <0.1       | <0.1   |
| Stability at tension (20°C):         | 100       | 100        | 100    |
| Stability at tension (200°C):        | 95        | 92         | 94     |
| Stability at tension (400°C):        | 82        | 52         | 80     |

| ACOUSTIC PROPERTIES               | BASFIBER® | GLASSFIBER | SILICA    |
|-----------------------------------|-----------|------------|-----------|
| Sound Absorption Coefficient (%): | 0.9-0.99  | 0.8-0.93   | 0.85-0.95 |

| CHEMICAL PROPERTIES                       | BASFIBER® | GLASSFIBER | SILICA  |
|---|-----------|------------|---------|
| Specific Volume resistance (Ohm's):       | 1*10x12   | 1*10x11    | 1*10x11 |
| Loss angle tangent frequency (1 MHz):     | 0.005     | 0.0047     | 0.0049  |
| Relative dielectric permeability (1 MHz): | 2.2       | 2.3        | 2.3     |

| CHEMICAL COMPARISON                               | BASFIBER®  | E-GLASS  |
|---|------------|----------|
| Silicon Dioxide ( SiO <sub>2</sub> )              | 48 - 59%   | 52 - 56% |
| Baron Oxide ( B <sub>2</sub> O )                  | 1%         | 5 - 10%  |
| Calcium Oxide ( CaO )                             | 6 - 9%     | 21 - 24% |
| Titanium Dioxide ( TiO <sub>2</sub> )             | 0.8 - 2.3% | 0 - 1.5% |
| Iron Oxide ( Fe <sub>2</sub> O <sub>3</sub> FeO ) | 7 - 12%    | 1%       |
| Alumina ( Al <sub>2</sub> O <sub>3</sub> )        | 15 - 18%   | 12 - 14% |
| Magnesium Oxide ( MgO )                           | 3 - 5%     | 0 - 5%   |
| Sodium + Potassium ( NaO + K <sub>2</sub> O )     | 4 - 5%     | 0 - 1%   |

| CHEMICAL STABILITY   | Cem FIL | Basfiber® | E-glass   | Silica |
|--|---------|-----------|-----------|--------|
| Weightlessness:  |         |           |           |        |
| 3-hour boiling in water  | -       | 0.2%      | -         | 0.05%  |
| 3-hour boiling in saturated cement solution (pH 12.9)                            | 0.15%   | 0.35%     | 4.5%      | -      |
| 3-hour boiling in 2N solution HCl (hydrochloric acid)                            | -       | 2-7%      | 38.5%     | 15.7%  |
| 3-hour boiling in 2N solution NaOH (sodium hydroxide)                            | -       | 6%        | -         | 5.0%   |
| 30 minutes and in 180 minutes in H <sub>2</sub> SO <sub>4</sub> (sulphuric acid) | -       | 2% - 6%   | 14% - 22% | -      |

**PACKAGING**

Tapes can be packed in boxes and pallets.

**STORAGE**

Basalt tapes should be stored in the package at the stock (indoor conditions).

**Disclaimer of Liability:** This data is offered solely as a guide in the selection of reinforcement. The information contained in this publication is based on actual laboratory data and field test experience. We believe this information to be reliable, but do not guarantee its applicability to the user's process or assume any liability arising out of its use or performance. The user, by accepting the products described herein, agrees to be responsible for thoroughly testing any application to determine its suitability before committing to production. It is important for the user to determine the properties of its own commercial compounds when using this or any other reinforcement.

