

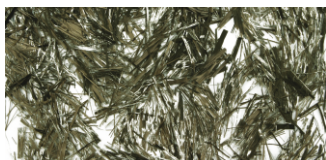


## Applications

Basfiber® products are ideally suited for applications requiring mechanical strength, resistance to high temperature, durability, chemical resistance and environmental friendliness especially when combination of such requirements is needed.

Due to its outstanding properties and affordable price, Basfiber® successfully replaces traditional materials in automotive industry for production of:

- **Headliners**
- **CNG cylinders**
- **Break pads and clutch plates**
- **Thermo insulation for exhausting systems**
- **Muffler's filler**
- **Interior and exterior parts**
- **Thermoplastic parts**



## Basfiber® advantages

Compared to regular E-glass, Basfiber® shows:

- 15-25% higher tensile strength and modulus,
- Better chemical resistance,
- Extended operating temperature range,
- Excellent recyclability.

## Green product

National Directives on end-of-life vehicles strongly recommend to car manufacturers to use end-of-life management principles during car development and production.

To fulfill such recommendations, car manufactures have to look for new "green" materials which could help them to meet environmental requirements and to ensure maximum recycling when the vehicles reach end-of-life stage.

Many cars and auto parts manufacturers have already chosen Basfiber® as such "green product" due to its advantages:

1. Raw material for Basfiber® production is basalt which is inert natural rock
2. No chemical additives are used during Basfiber® production
3. Basfiber® has no toxic reaction with air, water or other chemicals that may be hazardous for people or pollute the environment
4. Basfiber® is not a carcinogenic product according to NTP, IARC or OSHA
5. Excellent recyclability during the incineration process



## Car's Headliners

Besides excellent mechanical and sound/thermo insulation properties, the key competitive advantage of Basfiber® in this application is its outstanding recyclability which enables car producers to effectively meet strict end-of-life requirements.

### Production technologies:

1. A low pressure, thermo formable thermoplastic composite of polypropylene and chopped basalt fiber
2. Paper technology

### Typical Basfiber® products for this application:

Wet chopped strands 13 to 16  $\mu\text{m}$ , cut length 12.7 mm, covered by KV-05/1 sizing (water compatible).



## CNG cylinders

Basfiber® is much lighter than steel, has better mechanical properties than E-glass and is more cost-effective than carbon fiber. All these advantages, along with excellent recyclability and extended range of working temperatures make Basfiber® extremely promising for production of CNG cylinders.

**Production technology:** filament winding technology

### Typical Basfiber® products for this application:

Assembled basalt roving 13  $\mu\text{m}$ , 1200 or 2400 tex, external unwinding, KV-42 or KV-12 sizing (epoxy and phenolic compatible).



	Basfiber®	E-glass
Tensile strength of dry fiber (ASTM D3822), mN/tex	650 - 730	350-500
Tensile strength of epoxy impregnated strand (ASTM D2343), MPa	2900 - 3200	2400 - 2700
Tensile modulus of epoxy impregnated strand (ASTM D2343), GPa	84 - 87	72 - 76

## Car's brake pads and clutch plates

Basalt chopped strands are used as an alternative to asbestos in production of brake pads and provide the following advantages to final products:

- 2-3 times longer service life
- Extended working temperature range
- Resistance to chemically aggressive conditions
- Eco friendliness

### Typical Basfiber® products for this application:

3.2 or 6.4 mm chopped strands, 13 or 16  $\mu\text{m}$ , KV-42 or KV-12 sizing (epoxy or phenolic compatible).



## Muffler's filler

Basfiber® advantages compared to traditional materials:

- 3 times longer service life
- Much higher operating temperature
- High resistance to thermal cycling
- Greater noise reduction
- Lower moisture absorption

### Typical Basfiber® products for this application:

Assembled roving 17 µm, 2400 or 4800 tex, KV-42 or KV-12 sizing (epoxy and phenolic compatible).



## Thermo insulation for exhaust system



Basfiber® is used for production of thermo insulating sleeves, braids, and fabric for car's exhaust system.

The flexible knitted sleeve, when installed on vehicle exhaust pipes, prevents exhaust gases from losing their high temperature as they flow through the exhaust system.

The technology enables more complete conversion of gases and particulates, such as CO<sub>2</sub> and unburned carbon, in the catalytic converter; the result is better engine effectiveness and less environmentally damaging exhaust effluents.

### Typical Basfiber® products for this application:

Textured roving for sleeves and braids or high tex twisted yarn (up to 600 tex) for fabric.

	Basfiber®	E-glass
Application temperature, °C	-260 up to +560	-60 up to +460

## Interior and exterior parts

### Fabrics for interior and exterior parts

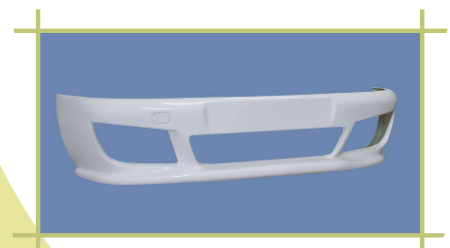
Many interior and exterior parts of cars are made of fabrics and Basfiber® products are used by some car producers in this application because of its attractive dark-brown color, high mechanical properties, fire-resistance and competitive price.

### Thermoplastic parts and components

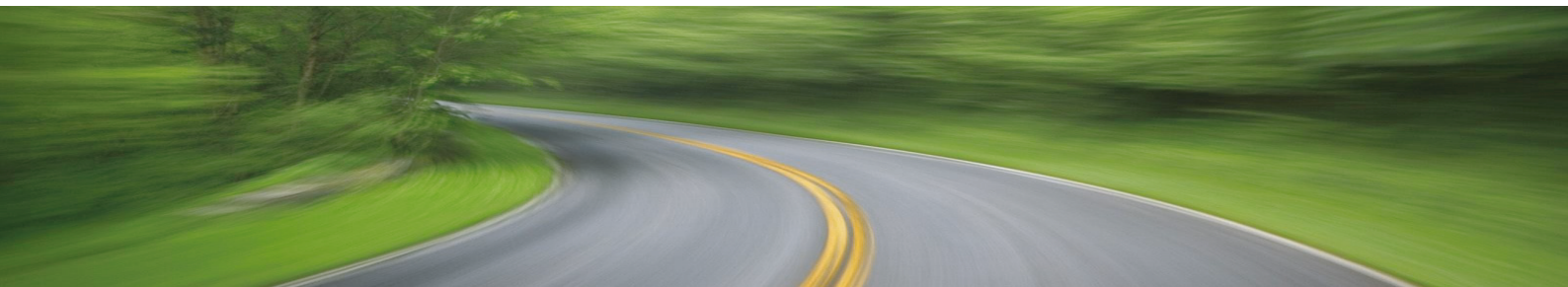
Today auto manufacturers widely use thermoplastic fiber composites as alternative to metal to reduce vehicles weight and cost of production. With its outstanding mechanical properties, resistance to high temperature and "green" advantages, Basfiber® also can be successfully used for this application.

### Typical Basfiber® products for this application:

Dry chopped strands, 13 or 17 µm, cut length 3.2 or 6.4 mm, covered by KV-16 sizing, specially developed for PP and HDPE matrixes.







## Logistics advantages

- English speaking staff
- Packaging labels and shipment documents in English
- Door-to-door delivery all around the world
- Worldwide distribution network
- Regional warehouses in Europe and USA



## Ways of delivery

- 20' container, 11 pallets 120x80 cm (max net weight is 10 000 kg)
- 40' container, 23 pallets 120x80 cm (max net weight is 18 500 kg)
- Truck, up to 33 pallets (max net weight is 18 500 kg)

## Distribution Network

Kamenny Vek supplies its products on international market exclusively through its Global distributor Finborough Trading Company which is located in Canada.

Finborough supplies Basfiber products to customers through regional distributors in Europe, USA and Australia. Please find the list of these distributors below:

### USA

#### **B & W Fiber Glass, Inc.**

[www.bwfiberglass.com](http://www.bwfiberglass.com)  
100 Glass Way, Shelby,  
North Carolina 28152, USA

Mr. Brent Beason, President  
Tel: +1-704-434-8005,  
[brentb@bwfiberglass.com](mailto:brentb@bwfiberglass.com)

Mr. Miguel H. Ferré, Director of Strategic Growth  
Tel: +1-704-434-8005 ext 117,  
Mobile: +1-336-479-3849,  
[miguelhf@bwfiberglass.com](mailto:miguelhf@bwfiberglass.com)

### EUROPE

#### **Basaltex NV**

[www.basaltex.com](http://www.basaltex.com)  
Zuidstraat 18, 8560 Wevelgem, Belgium

Ms. Ilse De Roos,  
Tel: +32 56 43 00 92,  
Fax: +32 56 42 42 34,  
[info@basaltex.com](mailto:info@basaltex.com)

### AUSTRALIA

#### **BASALT FIBER TECH**

[www.basaltft.com](http://www.basaltft.com)  
85 Atherton Road, Oakleigh,  
Victoria, 3166, Australia

Mr. Chris Christodoulou,  
Managing Director

Phone: +61 3 8395 6986,  
Mobile: +61 407 153818,  
Email: [chris@basaltft.com](mailto:chris@basaltft.com); [info@basaltft.com](mailto:info@basaltft.com)