

Kamenny Vek
ADVANCED BASALT FIBER

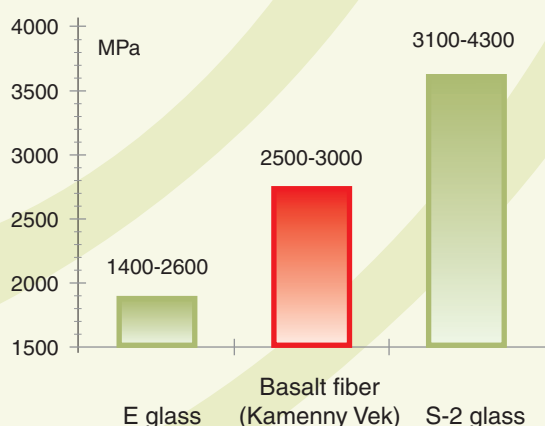
Advanced basalt fibers for automotive industry

Kamenny Vek company provides a range of special products for automotive industry. They include: high strength basalt roving for filament winding of CNG cylinders, roving and chopped strands for SMC/BMC technology, chopped strands for friction materials, basalt roving for car mufflers, basalt woven fabrics for fire protection, heat and sound insulation, mats and veils for interior parts, and others

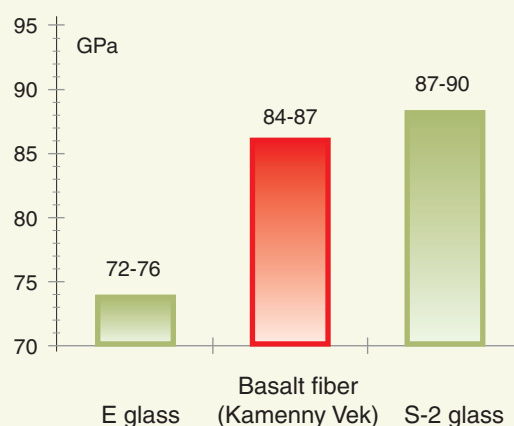
Car body

Our advanced basalt fibers have higher strength and elastic modulus than conventional E glass getting close to special high strength S glass and carbon fibers. So they offer for car makers an opportunity for significant cost reduction of SMC/BMC parts while keeping high strength and stiffness. The dielectric properties of basalt fibers are equal to ones of glass fibers. And switch from glass to basalt does not change radar transparency.

Tensile strength in impregnated strand (ASTM D2343)



Tensile modulus in impregnated strand (ASTM D2343)



Our advanced basalt fibers have 150°C more heat resistance than regular glass fibers. Basalt woven fabrics and mats ideally suited for heat and sound insulation of car interior and engine parts. They create more safe and more comfortable conditions for drivers.

Thermal properties	Basalt fiber (Kamenny Vek)	E glass
Application temperature, °C	-260 up to +560	-60 up to +460
Heat conductivity, W/(m.°K)	0.031-0.038	0.034-0.04

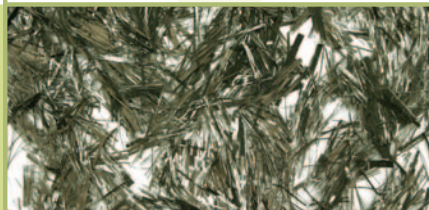
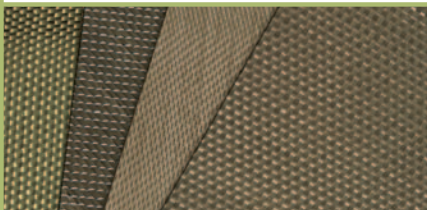
Car equipment

Kamenny Vek provides high strength basalt roving for filament winding of compressed natural gas (CNG) cylinders. Using our basalt fibers in high pressure vessels instead of S-glass, car makers reduce cost of this product significantly!

Mechanical properties	Basalt fiber (Kamenny Vek)	E glass
Tensile strength of dry fiber (ASTM D3822), mN/tex	600-730	350-500
Tensile strength of single filaments (ASTM D2101), MPa	4000-4300	3450-3800
Tensile modulus of single filaments (ASTM D2101), GPa	84-87	72-76

Basalt chopped strands are good for use in friction materials. Brake pads based on basalt fiber have better and more stable friction coefficient and higher endurance than glass fiber ones.

Also, basalt fibers provide many benefits as filler for car mufflers showing great silencing properties and good resistance to thermal cycling.



Basalt fibers reinforcement provides much better recycling ability for polymer composites. During the incineration of regular glass fiber reinforced plastics the melted glass deposits onto the incinerator walls and floor, while basalt fiber reinforced plastics transform into fine powder, which is easy to remove from equipment and to recycle.