Basalt - future technology

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During of hundreds year's mankind have extracted the mineral wealth and have created new materials based on them. Because of depletion of the conventional deposits the price of mining rapidly is increasing. Owing to this, creation of new composite materials becomes very important today, which are able to change traditional materials.

From a large range of materials - one of the greatest prospects is production of high quality basalt from deposits of basalt and different composite materials based on them. High-grade Georgian basalt is very important for production of basalt fiber, because raw material doesn't need any chemical additives. All that on the one hand, reduces the price of basalt fiber, and on the second hand, ensures ecological purity of the product.

During of definite period it was known only traditional areas of using of basalt - construction and industry, but modern technological progress gives a new opportunities for use of this unique material. At present, the most prospective are basalt continuous fibers and materials based on them because they are characterized numerous of important and useful properties.

Potential users of products obtained based on basalt are:

- **Agriculture** - basalt fiber-reinforced polymeric pipes for melioration, for building of different buildings;
- **Construction of roads** – basalt roving-netting for autobahns and other roads, reinforced materials for platforms;
- **Building and utility construction** – materials for heat insulation, pipes for water supply system, sewerage and communications;
- **Shipbuilding** – composition materials resistant against sea water, acoustic and heat insulation, fuel tanks, vapor and water pipes, corrosion-resistant paintwork materials, hulls for small ships;
- **Machine building** – constructions working in conditions of high vibration, petrol tanks, deterioration-resistant parts and shock-proof parts;
- **Railway** - rail carriage, acoustic, electro and heat insulation, noncombustible composition materials;
- **Energy** - insulation of steam boilers, turbines, heat insulation of heating mains, electro insulation posts for high-tension transmission lines;
- **Electronics** – reinforced materials for printed circuits, carcass for electronic installation;
- **Chemical and oil industry** – chemical-resistant and deterioration-resistant pipes, volumes, fireproof and noncombustible composition materials.

Advantage of basalt in comparison with other materials is undoubtedly. The products obtaining based on basalt surpass widespread traditional materials by their physico-chemical properties, by ecological purity and some other parameters, they are considerably stable at high temperature and aggressive environment, do not undergoes oxidation, have a long period of exploitation and by variation of composition of these materials they can substitute steel, asbestos, reinforced concrete, etc.