Rock report samples

Technology, Development

The rock I will be examining in this report is granite. Granite – is the most commonly spread rock in the continental crust formed by the slow cooling and solidification of magmatic melting rocks in depth. Granite can also be formed during metamorphism – under the influence of high temperature and pressure, as well as under the influence of a variety of liquids and gases (fluids), rising from the depths. Granites play a huge role in the structure of the Earth`s crust and the whole continents, since this solid rock is one of the main materials forming the outer part of the Earth's crust.

The name " granite" comes from the Latin word " Granum" meaning in translation the " grain". This, however, as you know, does not mean talking about wheat or rye grains. Grains are so called crystals of quartz, mica, feldspar, hornblende, and other minerals, which are the components of granite. Granite color may be different. Most often it has a grayish or pinkish color, but the presence of different impurities can change its color.

Granite – is a felsic, intrusive igneous rock. It is formed in the mountain regions. So, when magma is cooling down at great depths, rocks above, like a huge blanket, prevent too rapid cooling of magma resulting in forming of a new type of rock – granite that was previously solidified. It needs to be mentioned, that the progress of solidification can take up to millions of years in the course of which under the influence of many factors granite acquires its unique richness of colors, which we can notice today. Granite rocks appear outside, visible for a man only when the external covers are completely " weathered", that means destroyed by water, wind, ice, or in the result of movements in the earth's crust, where granite giant rocks are pushed up to the surface. The fact that astonished me was the average age

of granites on Earth. Scientists believe that the formation of granite in the continental crust began somewhere in the Archean geologic Eon around 2, 500 million years ago.

In construction, granite is so widely used that it, without exaggeration, can be called a versatile building material. The place where I found this rock is a construction site in my area of living. It is planned to build a new learning center for children of preschool age at that site. This rock seemed to be one of the thousands of granite crushed stones that should become components of cement in the house footing. However, right next to the construction site there was a building already finished with walls stoned with granite of the same color. Moreover, next to piles with bricks there were piles with stones that seemed to be gabbro (which, I assume, to be used as a lining material), gneisses (which, I presume, would also be uses in some decorations of the building). This led me to think that without rocks, without granite especially, it would be hard to imagine construction process, even in an era when reinforced-plastic structures are widely used in construction. Because of this I decided to devote my report to specifically this rock – granite. Despite the scientific progress, creation of new synthetic materials mankind continues using rocks, granite in particular, for building up everything starting from cottage houses and finishing with skyscrapers. Granite is that rock which is used everywhere in construction activity, starting from footing of the building and ending with final facing of the houses built. I chose specifically this rock to show how greatly this rock is needed nowadays. I made a little research which resulted in the following. I came to the conclusion that granite is very widely used in the house building due to its properties. I will

try to explain what they are.

- Durability. The best varieties of small-grained granite begin to show the first signs of destruction in more than 500 years, so it is often called the " eternal" stone.

- Strength. Granite is highly resistant to abrasion, compression and wearing-off. Its hardness granite is obliged to quartz, which content may exceed 70%. When processing granite is cut and polished with the use of diamond.

- Resistance to atmospheric phenomena and acids. Granite does not change its properties during hundreds of cycles of freezing and thawing, that`s why it is the perfect natural stone for exterior finishing of buildings. An example of this will be that building which is under construction, near which I found my stone.

- Water resistance. Granite does not absorb moisture. Therefore, it possesses high resistance to frost.

- Environmentally friendliness. Contrary to the prejudices, natural radiation level of granites is extremely low, meaning that granite is safe and suitable for all kinds of building without restrictions.

- Natural beauty. When granite is polished to a mirror shine, it manifests the unique game of lights of mica inclusions – that is why granite is highly appreciated among designers. Wide textural features make granite one of the basic materials of monumental sculpture.

- Compatibility with other materials and other types of natural stone. Granite perfectly combines with wood, metal, ceramics and other materials used in modern construction.