

## **ADVANTAGES OF USING QUARTZITE IN THE CONSTRUCTION INDUSTRY**

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Quartzite is a hard, non-foliated metamorphic rock which was originally sandstone. In the world there are only few so much the big deposits of quartzites - in Brazil, in the United States, in the United Kingdom, in Russia and in Banychi, Ukraine.

Quartzite is a popular stone in the construction industry. When quartzite is split, it splits through the quartz granules rather than around them as sandstone splits. This allows quartzite to be split into flat surfaces. There are list of the properties of quartzite, which makes it a popular choice for various types of construction works:

1. One of the major properties of this stone is high resistance to wear and tear. This is a very hard stone and is also resistant to weathering. Properties like durability and suitability to every type of construction project is one of the major reasons for its popularity.

2. Quartzite has high abrasion hardness and is also resistant to harsh chemical attacks.

3. The surface of the stone is also very glossy, which is helpful for decoration and landscaping purposes.

4. It is available naturally in various forms, textures, and colors. It has a high aesthetic appeal and thus can be used for decorating the outer walls of the houses.

5. It is suitable for use in all surfaces - hones, polished, sand blasted, or flamed [1].

Also because of its hardness and angular shape, crushed quartzite is often used in as railway ballast. Quartzite is a decorative stone and may be used to cover walls, as roofing tiles, as flooring, and stair steps. Crushed quartzite is sometimes used in road construction. High purity quartzite is used to produce ferrosilicon, industrial silica sand, silicon and silicon carbide.

Owing to its ability to split along the foliations, it is generally used for wall claddings. The granoblastic form of the stone has a medium-grained texture that allows the material to be used in the construction of floors. Various other types of exterior and interior designer tiles are also created with such stones. The stone is also a perfect choice for the construction of pool decks, entrances, stair treads. It is considered to be the best choice for areas where foot traffic is heavier. Quartzite rock is used on waterway embankments to prevent soil erosion. Dirt roads, parking lots, driveways and walkways are grated and topped with quartzite rock. More finely-crushed rock is used in the making of concrete. Quartzite also is used in industry for making glass. Silicone, the predominant element of quartzite, is used in industries for making ceramics, lubricants and waterproofing products. This is because; the material is easy to clean and provides a non-skid surface naturally.

You can expose the stone to heavy traffic and harsh weather conditions. In the US, quartzite is generally crushed and used as aggregate base for pavement projects. During the Stone Age quartzite was used as an inferior alternative to flint. It is interesting to note that during the 17th century, West African nations used the stone as money.

Advantages of using quartzite in the construction industry are:

1. It is an extremely hard stone and lacks tiny orifices. Thus, it can be used for shower floors. The texture of the stone will prevent people from slipping even when water spills on them.

2. Dirt generally does not accumulate due to its smooth surface and it can withstand stress. So, it can be used for flooring in areas of heavy traffic.

In Ukraine in the total reserves of quartzite exceed 180 million tons and there are 7 fields of quartz raw materials, including 4 deposit of quartzite. Total reserves of quartz raw materials in Ukraine (01.01.2005) were 196.3 million tonnes, confirmed -189.36 million tonnes, including the development - 181.08 million tonnes While stocks quartzite were: general - 179.7 million tons, confirmed - 173.1 million tons, including the development - 164.5 million tons

Commercial deposits of quartzite found within the Ukrainian shield. Large deposits of quartzite are Ovruch, Banicheskoe, Tolkachevskoe. Their field is in Dnipropetrovsk, Zhytomyr, Kirovohrad regions (Ovruch, Tolkachevskoe, Belokorovitskoe, Vasilkovskoye and Ivanovo). In this case, Ovruch quartzite deposits in quality crystalline quartzite and reserves is unique in Europe. *SiO<sub>2</sub>* content of 98.8%, proven reserves - more than 150 million tons, and probable reserves - 500 million tons.

## LIST OF SOURCES

1. Orson Dixon. Properties, uses, and advantages of quartzite - <http://ezinearticles.com/?Properties,-Uses,-and-Advantages-of-Quartzite&id=6050053>

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