Seitz + Kerler GmbH + Co. KG

SEILO barite concrete

In general, barite concrete is heavy concrete with a volume weight of 3.2 g/m^3 made of barite grains and cement. However, barite won in our mines and thoroughly conditioned allows the production of a barite concrete with a greater volume weight. Moreover, since our high-quality barite is free from sulphidic ores and other cement contaminants, we can achieve the same concrete quality as with usual concrete aggregates. It ensures full homogeneity and hence safe radiation protection.

If required, concrete aggregates of different compositions can also be used. The following is available:
Mineral aggregates with a bulk density ranging from 4.0 to 4.9 g/cm^3
Metal aggregates with a bulk density ranging from 6.0 to 7.5 g/cm^3

Our barite mixtures comply with the regulations for the execution of structures made of reinforced steel according to DIN 1045.

We supply:

Special barite grains for radiation protection concretes of different volume weights, e.g. 3.2 – 3.5 g/cm^3. These volume weights can be safely achieved with the relevant special barite grains and common compacting procedures. High-density concretes with an even higher volume weight can be produced by adding further weight-increasing materials (for example, iron). On the other hand, by adding barite grains to normal concrete aggregates, we can produce concretes of individually required volume weights ranging between 2.2 (normal concrete) and 3.2. Our special barite grains consist of individual grain size fractions of **0 – 4 / 4 – 16 or 0 – 16 mm** grain diameter.

Processing:

On the basis of the required volume weight and the requested concrete quality we can calculate free of charge the exact composition of the mixture, including the water-cement ratio.
Our special barite grains for the production of high-density concrete can be processed like commonly used aggregates. However, the mixing ratios of grains and cement according to percentage of weight and water-cement factors must be exactly adhered to. Barite grains are not susceptible to humidity and climatic effects. However, their inherent natural humidity must be taken into account when calculating the amount of water to be added.
Moreover, intensive mixing, whenever possible in a pugmill mixer, is a precondition for a uniform protection effect of the concrete. Plasticizers, which must not contain any air-entraining agents, can be added as usual.
In general, barite grains are delivered as loose supply in the individual grain sizes. They have to be stored separately and protected against contamination until they are processed.

For the formula, see annex.