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USE OF VERMICULITE FOAMED WITH THERMAL INSULATION MATERIAL

Annotation: Thermal insulation materials include the use of expanded vermiculite in the construction of residential and industrial buildings, heating units, and pipelines to reduce heat loss to the environment.
Keywords: foamed vermiculite, natural rock, house density, baking foam

Thermal insulation materials are materials used in the construction of residential and industrial buildings, heating units, as well as pipelines and wrapped materials in order to reduce heat loss to the environment. Thermal insulation materials are the main raw material type, shape and varies in appearance, structure, density, hardness, and thermal conductivity. The average density of expanded vermiculite varies from 80 to 400 kg / m3, depending on the size of the granular particles, and has a thermal conductivity of 0.05 to 0.9 W / m0K (Figure 1).

Figure 1. Multiple vermiculitis.

Expanded vermiculite is obtained by burning natural vermiculite at a temperature of 900-12000C. As a result of the fact that the volume of such fillers increases by 10-20 times during heat treatment, the density of the pile becomes very small.

must meet the technical requirements for these materials. Lightweight fillers, like dense fillers, are divided into large and small types. Large aggregates range in size from 5 to 40 mm and include light gravel or crushed stone. Porous gravel or crushed stone is divided into grains of the following sizes: 5-10; 10-20; 20-40 mm. Fine aggregates are less than 5 mm in size and contain light sand. Light sands come in two grains. The size of fine sand grains is less than 1.2 mm, and coarse sand grains are 1.2-5 mm.

According to the density of the pile, the porous fillers are divided into the following brands: 100, 150, 200, 250, 300, 350, 400, 500, 600, 700, 800, 900, 1000, 1100, 1200. {{1 }} The void content of a mixture of porous fillers depends on the granular composition of large and small fillers. The relative amount of large and small fillers can be reduced. This saves the amount of cement used in the lightweight concrete composition and improves the technical properties of the concrete.

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