Hess Perlite Grade 270E

EXPANDED PARTICLE SIZE SPEC GRADE 270E

SIZE		ALLOWABLE PERCENT PASSING
MICRON	U.S. MESH	
595	30	69-100
149	100	0-49

TEST METHOD: C29

EXPANDED LOOSE BULK DENSITY GRADE 270E

5-6 lbs/per cubic foot

CHEMICAL COMPOSITION AND PHYSICAL PROPERTIES

Chemical Name: Sodium Potassium Aluminum Silicate

TYPICAL ANALYSIS

- Silicon Dioxide: 76.5%
- Aluminum Oxide: 13.5%
- Potassium Oxide: 4.65%
- Sodium Oxide: 3.34%
- Iron Oxide: 1.18%
- Calcium Oxide: 0.89%
- Titanium Oxide: 0.8%
- Chlorine: 0.5%
- Barium Oxide: 0.18%
- Magnesium Oxide: 0.12%
- Bound Water: 3.0%

GENERAL PROPERTIES

- Appearance: White Powder, Odorless
- Refractive Index: 1.5
- Hardness (MOHS): 5.5
- pH: Neutral
- Fusion Point: 1260 degrees C (2300F)
- Flash Point: Non-flamable
- Specific Gravity: 2.33
- Solubility:
  - Negligible in water and weak acids
  - Soluble in hot concentrated alkali and HF
  - Moderately soluble (<10%) in 1N NaOH
  - Slightly soluble (<3%) in mineral acids (1N)
- Thermal Conductivity (at 75˚F/24˚C):

Conductivity: **0.3332** Btu·in/ft²·hr·˚F
Resistivity (R-per-inch): **3.001** ft²·hr·˚F/Btu·in

DESCRIPTION

Perlite ore is a glassy volcanic rock with a vitreous, pearly luster and a characteristic concentric or perlitic fracture. Closely related to pumice, it differs from other volcanic glasses principally in its combined water content, which produces the unusual characteristic of expanding, or "popping," up to 20 times its original volume upon being exposed to rapid, controlled heating. Rapidly heating perlite ore to temperatures of about 900°C (1,700°F) softens the volcanic glass, causing entrapped water molecules in the rock to turn to steam and expand the particles like popcorn. The resulting expanded particles—actually clusters of minute glass bubbles—are spherical in shape, usually fluffy or frothy, highly porous due to a foam-like cellular internal structure, and have a very low density.

GRADE APPLICATIONS

Used for: masonry loose fill insulation, lightweight concrete and plaster sand, cryogenic applications, high-temperature insulative applications, water retentive fines in engineered soils and soilless grow media, functional bulking agent, filter aid.

PACKAGING OPTIONS

- Plastic Bags (4 cubic feet)
- Super sacks (55 or 118 cubic feet)

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