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ISOLITE®CG TEST DATA

PERCOLATION RATE

Saturated permeability coefficient (inches/hr)

Soil Type	No Treatment	<u>ISOLITE</u> 10 %	20%	<u>Zeolite</u> 20%	<u>Perlite</u> 20%	<u>Vermiculite</u> 20%
Sandy Loam	20"	28.4"	83.5"	.34"	2.3"	2.7"
Clay Soil	.02"	3"	5"	.015"	.033"	.026"

ISOLITE®CG is very useful when one has a tight soil with which to work. Native soils can be used in combination with ISOLITE®CG to permanently keep a decent percolation rate. In special cases where there is very high traffic, more than a 20% rate (by volume) may be necessary, however, most adverse soil conditions can be helped with from 10% to 20 % ISOLITE®CG.

Architectural Specifications:

Porous Ceramic: Main component is diatomaceous earth

Extruded, combusted, & cylindrical, 1 mm or 2 mm in diameter

Specific Surface Area - B.E.T. method - 4.6 m² / g-- Mercury Intrusion Method - 20.42 m²/g

Bulk Weight is approximately 850 pounds per cubic yard, or 32 pounds per cubic foot

Porosity: 74% (minimum of 70%)

Chemical Composition

SiO₂: 78%

Al₂O₃: 12%

Fe₂O₃: 5%

All other chemicals (clay) present equal less than 5%, CaO <2.0%, MgO, K₂O, NaO and TiO₂

*Pore Size: <.5 microns = 6% -- .5 to 1 microns = 12% -- 1 to 3 microns = 43%-- >3 microns =39%***

Pore Characteristics: Continuous, open ended and interconnecting (no dead-end pore space)

Bulk Density: <0.7 g/cc (compared with 1.2g/cc for fired clay, and 1.4g/cc for soil)

Particle Density: 2.27 (compared with 2.56 for sand)

Cation Exchange Capacity: <2 meq/100g

Electrical Conductivity: <0.5 mmhos/cm. (Isolite®CG has no interaction with sodium and is not a significantly charge particle)

Chemically Inert: Has no direct affect on soil chemistry (pH is 7)

ASTM-88 degradation % loss - < 3%

***Important: ISOLITE'S specifications are unique. Pore space distribution is important in determining water release and entry of bacteria. The bulk of the pore space must be greater than 1 microns for each of these functions.

Isolite®CG Properties

- **Manufacturing Processes:** made from **diatomaceous earth** and small amount of clay particles (porous ceramic), extruded for size consistency, and dried using proprietary combustion
- **Water Retention:** absorbs and wicks water exceedingly well - does not swell or soften, water is released slowly
- **Chemically inert Particle Density:** 2.27 (compared to 2.56 for sand)
- **Pore characteristics:** continuous, interconnected and open ended; thereby permitting easy inoculation with microbes
- **Pore size:** 0.1 to 2 microns with 30% being over 1 micron
- **Life Expectancy:** has an indefinite lifetime and can be reused

