

# Physical Characteristics of Perlite

## TYPICAL PHYSICAL PROPERTIES

Color	White
Refractive Index	1.5
pH (of water slurry)	6.5 - 8.0
Free Moisture (maximum)	0.5%
Specific Gravity	2.2 - 2.4
Bulk Density (loose weight)	Expanded: 2 - 25 lb/ft <sup>3</sup> 32-400 kg/m <sup>3</sup> Crude Ore: 60 - 75 lbs/ft <sup>3</sup> 960 - 1200 kg/m <sup>3</sup>
Mesh Sizes	Available as desired; 4 - 8 mesh and finer
Softening Point	1600 - 2000°F 871 - 1093°C
Fusion Point	2300 - 2450°F 1260 - 1343°C
Specific Heat	0.2 Btu/lb•F 837 J/kg•K
Thermal Conductivity at 75°F (24°C)	0.27 - 0.41 Btu•in/h•ft <sup>2</sup> •°F 0.04 - 0.06 W/m•K
Solubility	Soluble in hot concentrated alkali and HF Moderately soluble (<10%) in 1N NaOH Slightly soluble (<3%) in mineral acids (1N) Very slightly soluble (<1%) in water or weak acids

## TYPICAL ELEMENTAL ANALYSIS

<i>parts per hundred</i>	
Silicon	33.8
Aluminum	7.2
Potassium	3.5
Sodium	3.4
Iron	0.6
Calcium	0.6
Magnesium	0.2
Trace	0.2
Oxygen (by difference)	47.5
Net Total	97.0
Bound Water	3.0
Total	100.00

*All analyses are shown in elemental form even though the actual forms present are mixed glassy silicates. Free silica may be present in small amounts, characteristic of the particular ore body. More specific information may be obtained from the ore supplier involved.*



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