

AVI CRYO PERL

AVI CRYO PERL is a special grade of insulating perlite, inorganic in nature composed of siliceous volcanic rocks. A special grade expanded perlite, insulating for cryogenic and low temperature storage tanks, in shipping containers, cold boxes, test chambers and in food processing, capable of insulation for (-269 °C to 1093°C).

Temperature

The storage temperature of (-100°) and below considered cryogenic, while

Storage temperature of (-100°C) and above to (4°C) are considered low temperature

Super cold and extremely cold cryogenic fluids

Typical Chemical Physical Properties

Chemical Formulation	% by Weight
SiO ₂	71.0 – 75.0
Al ₂ O ₃	12.5 – 18.0
K ₂ O	4.0 – 5.0
CaO	2.9 – 4.0
Fe ₂ O ₃	0.5 – 2.0
MgO	0.5 – 1.5
TiO ₂	0.1 – 0.5
MnO ₂	0.03 – 0.2
SO ₃	0.03 – 0.1
FeO	0 – 0.2
Cr	0 – 0.1
Ba	0 – 0.05
PbO	0 - 0.03

Physical Properties

Density	3-4.5 lbs/ft ³ (48-72 kg/m ³)
Sieve Size Analysis	
Percentage retained by weight	Max 10% = 16 mesh (1.18mm) Min 50% = 100 mesh (0.15mm)
Thermal Conductivity	0.24 – 0.27 Btu.in/h.ft. ³ F (0.035 – 0.39 W/M.K)
Temperature Application (at mean temperature of -40°F or -40°)	
Non Evacuated Cryogenic	0.17 – 0.2 Btu in/h.f. ³ .F
Mean Temperature (-195°F or -126°C)	0.025 – 0.029 W/M.K.)
*Note: Thermal conductivity varies with temperature, density, pressure and conductivity of the gas which fills the annulus or insulation space.	

Advantages

AVI CRYO PERL is inorganic in nature, low in cost, easy to handle and install, does not shrink, sell, wrap or slump. It is non-combustible and meets all the fire regulations. It is rot and vermin proof.

Uses

For insulating cryogenic storage vessels, double-wall tanks with the annulus filled.

It is also used to fill large storage tanks, cold boxed ships and other double-walled vessels and pipes.