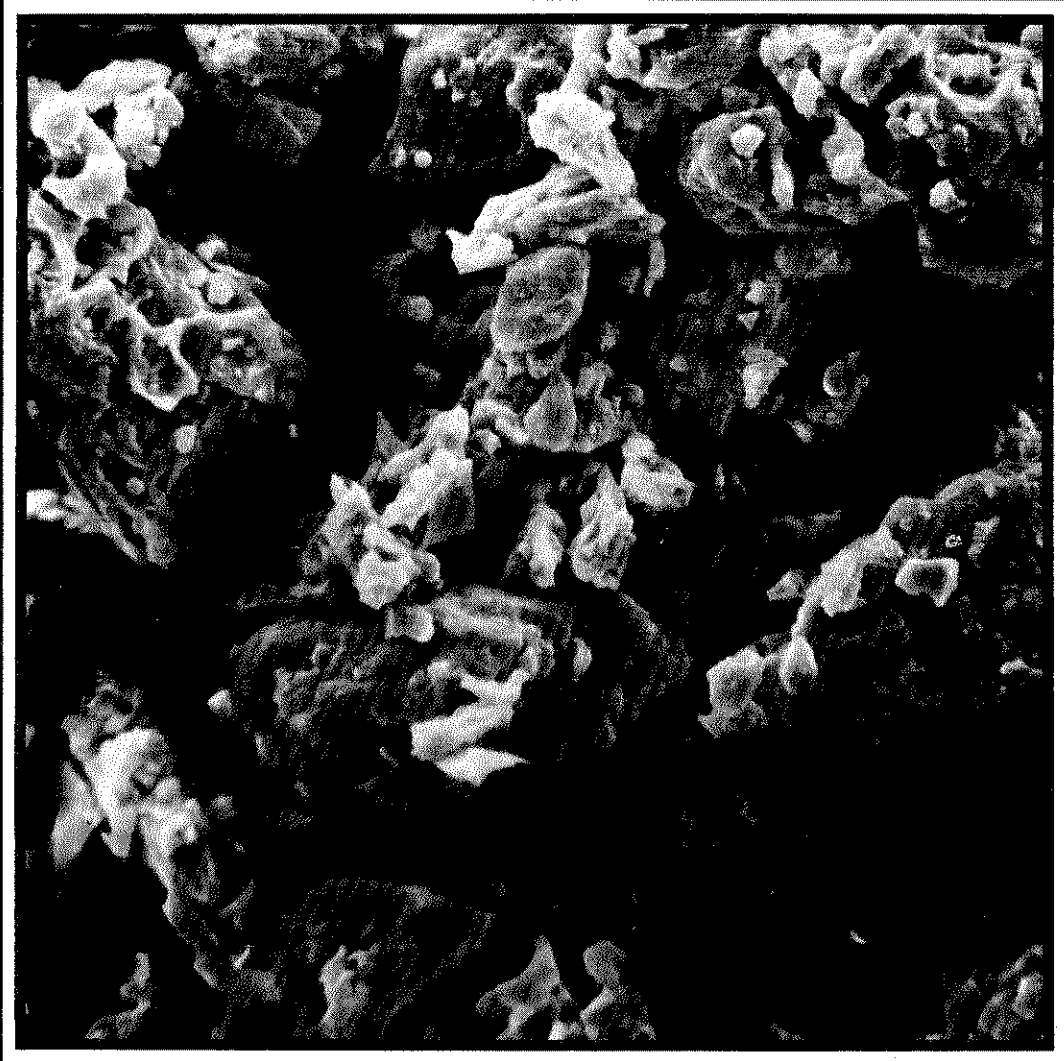
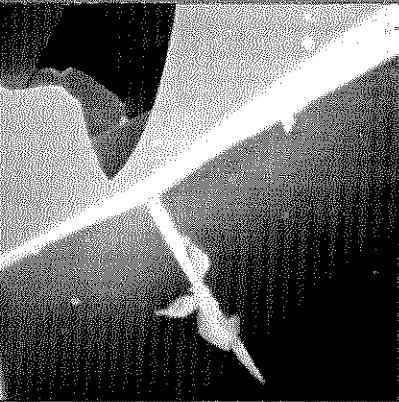
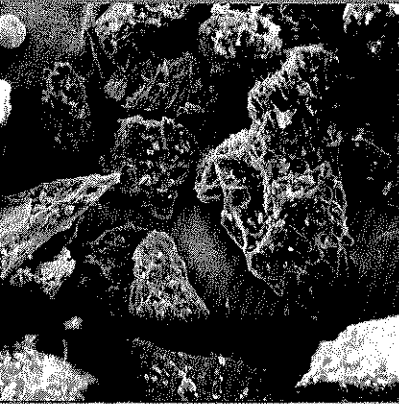


Perlite Filter Aids

The Uniform, Low Density
Filter Aids For Economical
Liquid/Solid Separation



Photomicrographs of typical milled and classified perlite filter aids.



Perlite is a generic name for naturally occurring siliceous volcanic rock readily available throughout the world. A unique property of perlite is that it expands up to 20 times its original volume when it is heated to its softening range.

This expansion process is caused by the presence of water in the crude rock. When perlite ore is rapidly heated to above 850°C (1600°F)*, this water vaporizes and causes the softened rock to expand. Tiny glass-like bubbles are produced which account for the light weight and exceptional physical properties of expanded perlite.

It is these light weight glass-like bubbles that are milled and classified under stringent quality control conditions to produce perlite filter aids. This material exhibits a unique, jagged, interlocking structure with myriads of microscopic channels affording optimum flow rates and clarities for a wide variety of applications. Perlite filter aids do not impart taste, color or odor to liquids being filtered and they are virtually insoluble in mineral and organic acids at all temperatures. Solubility in strong alkalis varies depending on temperature and contact time.

*Numerical conversions are approximate

TYPICAL CHEMICAL ANALYSIS, %

SiO ₂	73.8
Al ₂ O ₃	13.9
K ₂ O	4.3
Na ₂ O	4.7
Fe ₂ O ₃	0.9
CaO	0.9
MgO	0.3
Traces	0.2
Percent Moisture (at 105°C for 4 hrs.)	< 1.0
	100.0

TRACE ELEMENTS, %

Arsenic	< 0.001*
Barium	< 0.1
Boron	< 0.01
Chlorine	< 0.0005
Chromium	< 0.0075
Copper	< 0.0015
Gallium	< 0.05
Lead	< 0.001*
Manganese	< 0.3
Molybdenum	< 0.002
Nickel	< 0.002
Sulfur	< 0.2
Titanium	< 0.1
Zirconium	< 0.003

*By Food Chemicals Codex Method.

Perlite filter aids offer a density advantage of 20-50% over other filter aids.

Major Cost Advantage

Perlite filter aids provide the user with a density advantage of from 20 to 50% over other filter aids which is an important consideration when comparing costs. Perlite filter cake density is only 110 to 270 kg/m³ (7 to 17 lb/ft³). The dry density of perlite filter aid ranges from 100 to 200 kg/m³ (6 to 12 lb/ft³). Experience in a variety of applications in many industries has shown that users of filter aids can substantially reduce filtration costs without sacrificing performance by converting to perlite filter aids.

Usable With Standard Equipment

Perlite filter aids can be used with both pressure and vacuum filtration equipment by merely replacing present filter aid. Plant or laboratory filtration studies will enable the selection of the optimum filter aid to be specified and the dosage that is required. Perlite filter aid manufacturers have wide experience in a variety of different filtration applications. Of spe-

cial note is the fact that when perlite filter aids are used with rotary vacuum filters, filter cakes exhibit less cracking than when other filter aids are used.

High Flow Rates

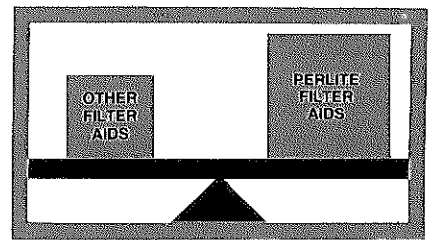
Due to their unique physical structure, perlite filter aids offer high flow rates with optimum clarity. They are especially applicable to highly viscous liquids such as syrup or gelatinous slurries requiring fast flow rates. Productivity, clarity and flow rates may be increased through the use of perlite filter aids.

Full Range of Grades

Perlite filter aids are produced in a wide range of grades to economically meet the flow rate and clarity requirements of almost every industry.

Easy Cake Release

Because they remain porous and do not compact, perlite filter aids afford easy cake release at the completion of a filtration cycle. Not only does this facilitate filter cleaning, but it reduces manpower requirements and increases productivity.



Inert-Codex Approved

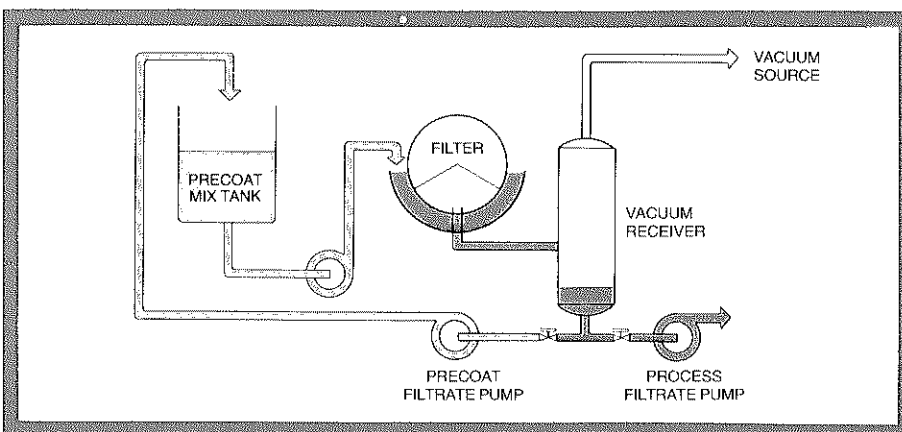
Perlite filter aids are sterile and inert and are widely used for filtering liquids in the beverage, food and pharmaceutical industries. They do not impart taste, odor or color and are listed in the U.S. Food Chemicals Codex published by the National Academy of Sciences. This publication, which is a source of information on the quality and purity of food grade substances, is officially recognized by the U.S. Food and Drug Administration and has been adopted by many government agencies throughout the world.

Use of Spent Filter Cake as Animal Feed

A unique benefit to manufacturers using perlite filter aids in food processing is that spent filter cake is used as a component in animal feed in many countries throughout the world. This reduces spent filter cake disposal costs. In the U.S., this application has been approved by the Association of American Feed Control Officials (AAFCO).

Worldwide Availability

Perlite filter aids are available throughout the world. Any manufacturer desiring to use the product can usually obtain it packaged in bags or in bulk.



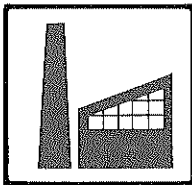
In the past 30 years, perlite filter aids have gained acceptance in almost every industry concerned with the separation of liquids and solids. The following list, although not all-inclusive, should give an indication of the many applications where perlite filter aids are being used.



FOOD PROCESSING ■ CIDER ■ CORN SYRUP
■ FRUIT JUICES ■ SUGAR ■ PECTIN
■ CITRIC ACID ■ VEGETABLE OILS ■ WINE
■ VEGETABLE JUICES ■ BEER ■ LARD
■ MOLASSES ■ SOFT DRINKS ■ CASEIN



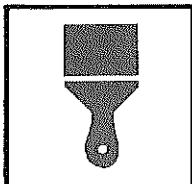
PHARMACEUTICAL ■ ENZYMES ■ EPSOM SALTS
■ PENICILLIN ■ STREPTOMYCIN ■ TETRAMYCIN



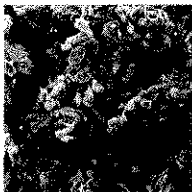
INDUSTRIAL ■ WATER TREATMENT ■ SIZINGS
■ OIL RECOVERY ■ POOL WATER TREATMENT
■ GREASES ■ SOLVENT RECOVERY
■ DISPOSAL WELLS



CHEMICAL ■ INORGANIC CHEMICALS ■ RESINS
■ ORGANIC CHEMICALS ■ SULPHURIC ACID
■ POLYMERS ■ POLYETHYLENE ■ BRINE
■ ADHESIVES ■ TITANIUM DIOXIDE
■ FERTILIZERS ■ WASTE DISPOSAL



PAINTS/COATINGS/TEXTILES ■ WAXES ■ OILS
■ VARNISH ■ GUMS ■ SHELLAC ■ PAINT



PERLITE INSTITUTE, INC.