



PERLITE



A WORLDWIDE INDUSTRIAL GROUP

IMERYS IS THE WORLD'S LARGEST PRODUCER OF WHITE INDUSTRIAL MINERALS, WITH A NETWORK OF PLANTS ACROSS FIVE CONTINENTS, INCLUDING MAJOR SITES IN THE UK, BELGIUM, FRANCE, ITALY, SPAIN, USA, BRAZIL, AUSTRALIA, JAPAN AND CHINA.

IMERYS SUPPLIES MINERALS TO A WIDE RANGE OF INDUSTRIES, INCLUDING POLYMERS, PAINT, PAPER, FILTRATION AND CERAMICS. SPECIALIST DIVISIONS SERVE EACH INDUSTRY, SO THAT OUR CUSTOMERS ALWAYS DEAL WITH PEOPLE WHO UNDERSTAND THEIR BUSINESS. THIS IS SUPPORTED BY AN ABSOLUTE COMMITMENT TO QUALITY, TO ENSURE THE CONSISTENCY AND RELIABILITY OF OUR PRODUCTS AND SERVICES.



WHAT IS PERLITE?

Perlite products are made from a volcanic glass which contains water in its inner structure. When heated rapidly, the steam produced expands the glass to form a foamed structure. Four main families of perlite are manufactured by IMERYS: **perlite ore**, **expanded unmilled perlite**, **expanded milled perlite** refined for filter-aids use, **expanded milled perlite** refined for functional additive applications.

QUICK VIEW

Perlite Ore

Particle Size: (mm)	0.074-0.5/ 0.6 – 1.7/ 1 – 2.5
Bulk Density: (g/L)	1100

Expanded Unmilled Perlite

Particle Size: (mm)	0-1/ 0-6/ 1-6
Bulk Density: (g/L)	45 - 140

Filter Aids

Permeability: (Darcy)	0.1- 5
Cake Density : (g/L)	135 - 275

Functional Additives

D50: (µm)	15 - 35
Bulk Density : (g/L)	110 - 170
Oil Absorption: (% by weight)	140 - 225
Blue Light:	70 – 78
Particle shape:	from tetrahedral to plate-like

INTEGRATED PRODUCTION

3

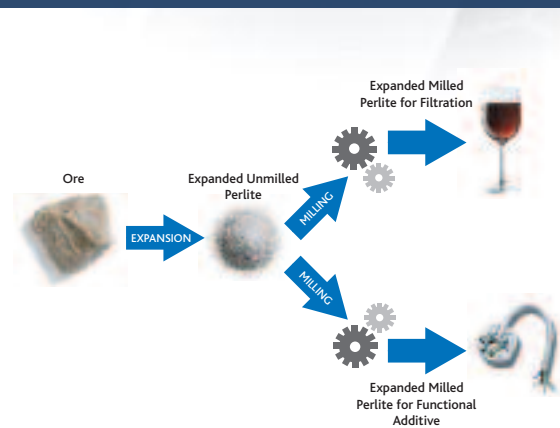
IMERYS owns and operates numerous perlite plants throughout the world, including a sizeable ore deposit in western Turkey, USA and Latin America, which is used to feed the various perlite expansion plants throughout Europe.

QUALITY FROM ORE TO FINAL PRODUCT

IMERYS is one of the few perlite producers able to control the whole quality chain from the mine to the finished product.

AN EXTENSIVE NETWORK OF EXPANSION PLANTS

IMERYS has an extensive network of expansion plants across Europe. Many of our manufactured products are standardised throughout our plants. This guarantees our customers a continuity of service and keeps transport distances to a minimum.



PRODUCTION PROCESS

Perlite ore: production occurs in two stages; extraction of the crude ore at the mine, then drying & milling.

Expanded Unmilled Products: the perlite ore is injected into a naked flame in the base of the expansion tower. The perlite becomes soft enough to be expanded by its internal water which is vapourised.

Expanded Milled Products for Filter-Aids: the expanded perlite produced from the furnace is milled and classified. These different steps are controlled by the end application density and permeability of the filter-aid.

Expanded Milled Products for Functional Additives: in this case the milling and classification stages are controlled to obtain the required particle size and shape of the finished product.

VARIED PROPERTIES MULTIPLE USES



AGRICULTURE:

Perlite is used as a quick release carrier of active ingredients in fertilizer formulations and in animal feed. It is also used in seed coatings to help control the water.



CONSTRUCTION/LIGHTWEIGHTING:

The extreme lightness/low density of expanded perlite helps to reduce the weight of plasters, mortars and cement formulations enhancing handling and workability.



CONSTRUCTION/INSULATION:

The addition of perlite into plaster moulds, plasterboards, ceiling tiles improves their sound and thermal insulation. Perlite can also be used as a "stand-alone" product for loose-fill insulation.



CRYOGENIC/INDUSTRIAL INSULATION:

Due to its very low shrinkage and excellent insulation properties at very low temperatures, perlite is the material of choice for the insulation of LNG and other industrial gas tanks.

At the other extreme of temperature, perlite can be used as the main insulating material in combination with refractory materials in high temperature castables and monolithics.



FILTRATION:

The amorphous and angular structure of expanded milled perlite offers remarkable properties for the filtration of liquids that have high levels of suspended solids, such as sugar syrups and alginate. Due to its extreme lightness it is an ideal precoat for filters prior to the addition of diatomaceous earth as the main filtration aid.



FOUNDRIES:

The controlled expansion properties of perlite ore make it a very effective aid for the coagulation of slag in steel, iron and aluminium foundries.



HYDROPONICS/HORTICULTURE:

Having the ability to retain water and nutrients while providing aeration to the plant, expanded perlite is the product of choice to allow vigorous growth. It can be used with either other composted materials or as a stand-alone growing medium.



PERSONAL CARE:

Thanks to its mild abrasiveness and controlled particle shape, expanded milled perlite can be used as the main abrasive medium in toothpaste.

Perlite's high absorption capacity makes it suitable for use in other personal care formulations such as deodorants, creams and gels.



POLYMER:

The platy morphology of some of our expanded milled perlite grades can reduce, at low loading, die-build up during the extrusion process, such as those used for PVC.



RUBBER:

The thermal stability, chemical inertness, semi-reinforcing nature and particle shape of perlite provides a solid lubrication effect helping extrusion characteristics.

....AND MANY OTHERS

Stonewashing, explosives, well-drilling fluids, ceiling tiles, fuel tank neutralisation, simulated stone, fire doors...

To find out more, please contact your local IMERYS representative.

Par Moor Centre, Par Moor Road, Par, Cornwall PL24 2SQ, UK
Tel: +44 1726 818000 Fax: +44 1726 811200

154 rue de l'Université, 75007 Paris – France
Tel: +33 1 49 55 63 00 Fax: +33 1 49 55 66 56

www.imerys-perfmins.com

www.worldminerals.com