

# Perlite Filter Media for Swimming Pools

Supplier of Premium Perlite For Pool Filtration





# AUSPERL



## OUR COMPANY

AUSPERL was incorporated in 2006 to purchase the perlite and vermiculite processing business previously operated by FERNZ and then ORICA in Australia. The business is family owned, and has been involved in the mineral processing industry since 1996.

### ► Perlite

AUSPERL has preferential agreements with suppliers from Australia, New Zealand, US, Greece and Turkey. The perlite ore is processed at our Sydney facility into a range of expanded and milled grades for use as a filtration media, a light-weight filler, soil-less growing media and as cryogenic insulation.

### ► Vermiculite

We have preferential supply agreements with ore suppliers in Australia, Brazil and South Africa. Applications for exfoliated product include fire proofing, refractory blocks, brake linings and horticulture.

### ► Pumice

AUSPERL is the appointed distributor in Australia of Industrial Processors Limited (INPRO) of New Zealand. Various grades of pumice are supplied including those for horticulture and construction, and highly processed and milled grades for mild abrasive applications (e.g. printed circuit board cleaning, soaps, dentistry and exfoliants).

### ► Cellulose

AUSPERL is the appointed distributor in Australia of the cellulose products produced by Creafill USA Limited.

## COMPETITIVE ADVANTAGES

- Our ISO9001 quality control procedures maintain the supplied products in specification at all times.
- Large production and warehousing facility ensuring ample stocks of finished products.
- We can supply on demand with a minimum of delay or fuss from our dedicated interstate warehouses.
- We have an established and long history in the processing and trading of industrial minerals.
- Our products are always professionally packed and shipped.



## PERLITE FOR POOL FILTRATION APPLICATIONS - AQUAPERL

AQUAPERL is a specially formulated perlite specifically developed for the aquatics industry.

Perlite is an important filtration media used in the clarification of beverages including beer, wine and fruit juices and in swimming pool and other water filtration applications.

Perlite is a generic name for a naturally occurring siliceous volcanic rock. A unique property of perlite is that it expands up to twenty 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, this water vaporises 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 lightweight glass-like bubbles that are milled and classified under stringent quality controlled conditions to produce perlite filter aids. These perlite filter aids exhibit a unique, jagged interlocking structure with a myriad of microscopic channels affording optimum flow rates and clarities for a wide variety of applications.

Perlite filter aids do not impart taste, colour or odour to liquids being filtered and they are virtually insoluble in mineral and organic acids at all temperatures.





Comparative products such as diatomaceous earth (DE), sand and zeolite are also used in filtration. DE can have high crystalline silica levels.

DE, sand and zeolite are much heavier than perlite and for products sold by the kilogram this often makes them relatively more expensive (perlite is at least 30 per cent lighter than these competing materials).

Because perlite is a Generally Recognised as Safe (GRAS) substance, it is more easily disposed of.

AUSPERL is the primary supplier of perlite filter media in Australia and New Zealand. Products are matched to client requirements.

Manufacturing takes place in Sydney where a disciplined testing regime ensures that the product is highly consistent.

AQUAPERL is supplied for home or commercial use and is available in 4.5kg and 10kg bags.

## APPLICATION OF PERLITE IN POOL FILTERS

### ► Removal of Cryptosporidium

The Journal of Environment Engineering concluded that adding 1.2kg/m<sup>2</sup> (0.25lb/ft.) of perlite to a sand filter significantly improved the removal of 5-um microspheres.

Previous research indicated that these microspheres serve as a reasonable surrogate for Cryptosporidium Oocysts in pool water.

Removal of 5-um microspheres averaged less than 20% through sand filters without perlite but the mean removal increased to 98% when perlite was added to the filter.

### ► Replacement of Diatomaceous Earth

Perlite is deemed a GRAS substance by the US Federal Drug Administration (FDA). DE is not.

Perlite is 30% lighter than DE. That means that 30% less product (by weight) is required to replace DE used in traditional filters. It is critical that filters are filled by volume and not weight to ensure the same consistency of filterability.

As perlite is 30% lighter, it will operate at higher pressures, but will require a greater backwash "burst" in order to circulate it through a filtration system.

## PERLITE TECHNICAL DETAILS

FEATURE	
Colour	White
Shape	Rounded/Angular
Bulk Density (a)	40-160kg/m <sup>3</sup>
Moisture Loss @ 110 °C	0.5-2%
pH (in water)	6-9
Combustibility	Non-combustible
MOH Hardness	1-2
Sintering Temperature	1260-1340 °C
Fusion	1260-1340 °C
Water Holding Capacity (a)	220-325% by wt 20-50% by vol

GRADE	AQUAPERL+	AQUAPERL
Flow Rate (Sec)	15~25	25~35
Bulk Density (kg/m <sup>3</sup> )	110~140	110~145
Wet Cake Density (kg/m <sup>3</sup> )	180~250	200~280
Pereability (Darcy)	2.04~3.41	1.46~2.04
Floats <%	< 8	<6
Average Particle Size (um)	85	78
Medium Particle Size (um)	68	55
90% of particles are less than (um)	166	162





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