

POOL PRO STOCKS

# PERLITE



PERLITE IS A PREMIUM FILTRATION MEDIA ENGINEERED TO REPLACE DIATOMACEOUS EARTH (D.E.) FILTER MEDIA IN D.E. PRECOAT FILTERS. IT IS A DIRECT REPLACEMENT FOR D.E. FILTER MEDIA.



## KEY FEATURES

- ✓ **Improves Filter Operation.** Perlite precoats fast and effectively.
- ✓ **Saves Time.** Perlite backwashes quickly and completely, resulting in less time spent on filter cleaning.
- ✓ **All-Natural.** Perlite is all-natural and chemically inert.
- ✓ **Easy to Handle.** Perlite is half the weight of traditional D.E. filter aids making it easier to lift and carry.
- ✓ **Saves Money.** Perlite being 2/3<sup>rd</sup>s the density means up to 30% less is required for the same application.
- ✓ **Sand Filters.** Perlite will remove 97-99% of Cryptosporidium when added to mixed media filters.

## ADVANTAGES OF PERLITE

Perlite is superior to D.E. in removing dirt and oil contaminants from swimming pools for the following reasons:

- Perlite's higher solids and oil holding capacity results in longer filtration cycles.
- Perlite's lower density allows for a uniform precoat thickness and deposition on element, resulting in quick and complete backwashing and filter aid regeneration.

Perlite is a direct replacement for D.E. No modifications to equipment are required.

One x 10kg bag of Perlite is equivalent to one x 15kg bag of D.E. The volumes are the same, the only difference is the weight.

# PERLITE



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 vapourises 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.

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

## 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-µm microspheres.

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

Removal of 5-µm 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). D.E. is not.

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

Perlite generates high zeta potential, enabling ultrafine filtration performance.

Swimming Pool Filter Media Type	Pore Volume (mL/g)	Oil Absorption (%)	Wet Density (kg/m <sup>3</sup> )
Perlite	6.5	370	175
Diatomaceous Earth	2.7	185	320
Cellulose	2.4	190	203

*The physical properties of the products represent typical values. They are provided here as a general reference only, are subject to change without notice, and should not be relied on for any particular application.*

## SIZES AVAILABLE FROM POOL PRO

Order Code: AQP45	4.5kg	Bag
Order Code: AQP10S	10kg	Bag
Order Code: AQP10 (Commercial Grade)	10kg	Bag

FEATURES	
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+
Flow rate (sec)	15-25
Bulk Density (kg/m <sup>3</sup> )	110-140
Wet Cake Density (kg/m <sup>3</sup> )	180-250
Pereability (Darcy)	2.04-3.41
Floats < %	< 8
Average Particle Size (µm)	85
Medium Particle Size (µm)	68
90% of particles are less than (µm)	166

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