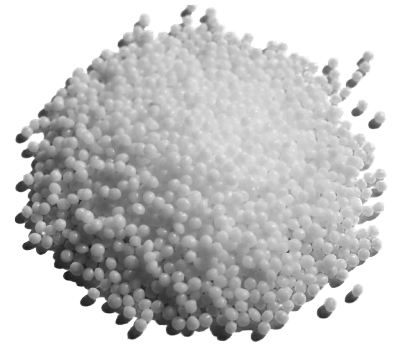
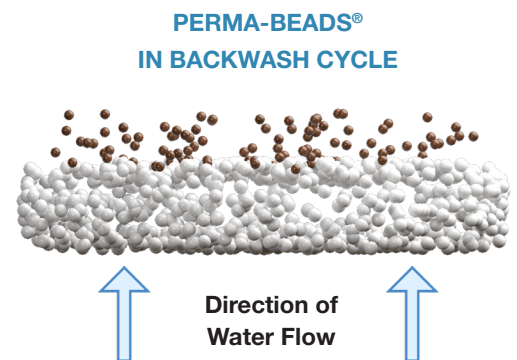
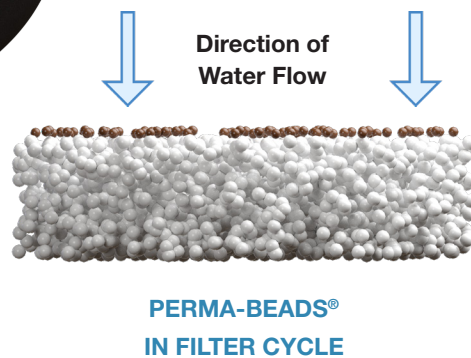




Perma-Beads® are sinking plastic beads that are specifically designed to replace sand in rapid sand filters. Perma-Beads® do not have any flat or porous surfaces that can stick together as in sand or other angular or porous media. The smooth ellipsoid shape and central bulge of each bead prevents adhesion and bridging to other beads. This unique egg shape also creates large interstitial spaces between Perma-Beads® trapping large quantities of debris thereby extending the time between backwashes while minimizing water use. The result is a superior filtration media that can be used in organically loaded systems without the clogging and channeling problems associated with sand media.



PERMA-BEADS® FILTRATION MEDIA



PERMA-BEADS® DESCRIPTION

SURFACE PROPERTIES

The very hard surface properties of Perma-Beads® prevent bacteria from etching into the surface and the very slippery surface allows even the stickiest waste to be scrubbed off when the bed fluidizes upon backwash. In fact, as Perma-Beads® age, they remove smaller particles as a thin film of nitrifying bacteria covers each bead. These are the same bacteria that creates bridging, clogging and channeling in other media, but in Perma-Beads®, this mechanism actually serves to trap smaller particles that are then easily removed in the backwash cycle.

PHYSICAL PROPERTIES

Perma-Beads® are made from high quality, stable, and inert plastic media which is completely safe for use in aquatic life support systems. Perma-Beads® are designed with an ideal density which enables optimum fluidization of beads to release trapped particles while preventing excessive water loss during a backwash cycle. Perma-Beads® never need replacement and can even be repeatedly sterilized using chlorine or muriatic acid without any adverse effects upon the Perma-Beads®.

HOW TO CONVERT SAND TO PERMA-BEADS®

There are no plumbing changes required when converting a sand filter to Perma-Beads®. Simply remove the sand and pour in the Perma-Beads®. To determine the amount of Perma-Beads® required, take the sand filter manufacturer's rating for pounds of sand, multiply by .6 and divide by 55. Round up or down to the closest whole number. This is the number of cubic feet you need. Sold in 1 cubic foot boxes, 12" x 12" x 12" (weight 55 lbs).



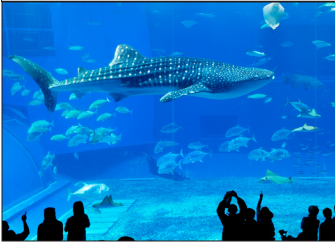
PERMA-BEADS® APPLICATION

DISPLAY PONDS AND WATER FEATURES



Koi ponds and water gardens, landscape water features. Ideal for commercial and residential projects.

PUBLIC AQUARIUMS & ZOOS



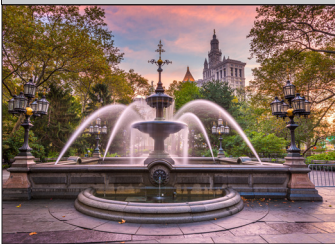
Fish displays, exhibits, quarantine systems, holding tanks.

AQUACULTURE SYSTEMS



Commercial and research applications including incoming water filtration, recirculating systems, fish holding and breeding systems.

COMMERCIAL AND INDUSTRIAL



Commercial swimming pools, water displays, and process treatment.

COMPLETE "PLUG AND PLAY" PERMA-BEAD® FILTRATION SYSTEMS AVAILABLE

CALL FOR FREE SYSTEM DESIGN SERVICES AND TECHNICAL SUPPORT

REPLACE SAND AND PREVENT CLOGGING IN ANY SAND FILTER. NO PLUMBING CHANGES. JUST TAKE OUT THE SAND AND POUR IN THE PERMA-BEADS®. PROVEN IN THOUSANDS OF FILTERS FOR OVER 30 YEARS

PROVEN AND PERMANENT SOLUTION

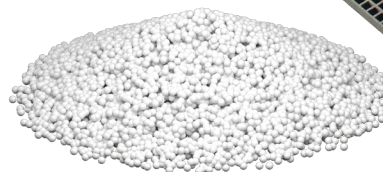
Perma-Beads® are a permanent media solution successfully and continuously used in thousands of filters over 30 years. Unlike sand, Perma-Beads® never need to be replaced.

SUPERIOR WATER QUALITY

Perma-Beads® filters consistently provide exceptionally clear and healthy water quality, especially in organically loaded systems with live aquatic animals. Perma-Beads® offer superior filtration performance compared to sand media due to the effective release of trapped organic particles during the backwash cycle. While sand media filtration performance declines over time, Perma-Beads® filtration performance improves over time.

SAVE WATER, MONEY AND TIME

Perma-Beads® filters operate at lower differential pressure than sand filters allowing pumps to run cooler and more efficiently, saving energy and extending useful pump life. Better filtration performance with Perma-Beads® reduces the frequency and duration of backwashes over time which can save thousands of gallons of water per year. With a 20 year life span, Perma-Beads® are a long-term filtration solution which save money by eliminating costly labor associated with sand media replacement.



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PERMA-BEADS® FILTRATION MEDIA - VERSION 1.5 - 2022-10

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