

## PERMA-BEAD™ TECHNICAL INFORMATION

- ◆ **PHYSICAL SHAPE** - Perma-Beads™ 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.
- ◆ **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 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.
- ◆ **WATER QUALITY** - Since 1989, Perma-Beads™ have been used in thousands of filters, all are still consistently providing exceptionally clear water. The 4,520 square feet of surface area per cubic foot provide a significant surface area for supplemental biological filtration, especially when an oxygenated flow of water enters the filter canister, such as when an AQUACUBE is placed near the suction intake in the pond.
- ◆ **EASILY INSTALLED** - The dense nature of Perma-Beads™ media (1cu. ft. = 55lbs.) prevents loss upon backwash while reducing the weight needed to replace sand by approximately 60%. The high density of Perma-Beads™ also eliminates the need for any plumbing changes when switching from sand to Perma-Beads™. Simply remove the sand and pour in the Perma-Beads™.
- ◆ **PHYSICAL STABILITY**- Perma-Beads™ never need replacement and can even be repeatedly sterilized using chlorine or muriatic acid without any adverse effects upon the Perma-Beads™. Perma-Bead™ media is now in continuous use in thousands of ornamental pond systems as well as aquaculture and industrial sites.
- ◆ **HOW TO PURCHASE PERMA-BEADS™** - Look at the side of the filter or owners manual to find the filter manufacturer's rating for pounds of sand or the make and model of the filter and call (800-994-7599) for a price quote and shipping and any additional questions you may have.