



Water Filters - Selecting the Right Material for POU/ POE Filters by Robyn Gordon

In an increasingly crowded world, the need for clean water concerns everyone. RV consumers should carefully consider the various types of water cartridge medias when choosing pre-filtration and post filtration for their water systems.

Most filters are made from selected materials to form a barrier against suspended dissolved solids. Filter designs include: loose media filters with grains, resins, particles lying in beds or loosely packed in column form; and cartridge-type filters that may contain membranes, fabric bonded ceramic, pre-coat, or cast solid-block media.

We will look at the different types of sediment filters:

1. Pleated Filters

The pleated filter is manufactured from one of three materials.

Pleated paper is the most economical material but cannot be effectively reused. These filters tend to feed on the cellulose portion of the media. What also can happen is that bacteria can get trapped in the pleats which can cause harm.

The second type of pleated filter is a cellulose/polyester, which is the next most economical material and a better medium because it offers the filtering ability of a cellulose with the strength of polyester.

The third choice of pleated filter is polyester and polypropylene, which are the most expensive filter materials, yet they are strong enough to handle repeated washing and reuse.

2. Depth Filters

Depth filters usually have a 3/4" to 7/8" porous wall

that captures particles winding their way through the material. The most common materials are polypropylene, cotton, or resin-bonded cellulose. These materials are spun, string-wound, or vacuum and machined.

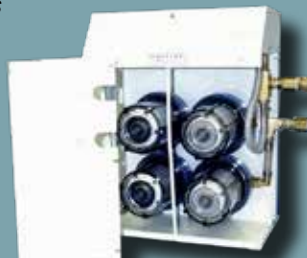
String wound polypropylene cartridges are manufactured from polypropylene, and fine fibers are bonded and spun to form a solid structure. Water flows through the twisted paths, and sediment is trapped within the filter.

These cartridges are used to filter large amounts of sediment or fine sediment. They have graded densities, with a lower density at the surface and a higher density in the center. Sediment is trapped throughout the entire cartridge since water is forced through the path between spaces in the cartridge.

Pleated and depth filter cartridges are generally used as a pre-filtration in point-of-use (POU) installations. Depth filters cost less and capture particles smaller than the filter's hole size. The advantage of pleated filters is that the surface area may be eight to 12 times greater than the surface area of depth filters. The decision to choose between these styles of filter cartridges may come down to personal preference or the application desired.

POINT OF ENTRY WATER SYSTEM

Unit is portable and delivers up to 4 gallons of filtered water per minute. 5 micron sediment filters remove small debris. Half micron carbon filters remove chemicals and small parasites. Then the water is exposed to a high intensity UV lamp to destroy bacteria and viruses. Clear filter housings aids monitoring of the filters.



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