

**Technical Bulletin VF-001:
Superior Water Filtration**

Technical Data

- **Specific Gravity**
2.50
- **Bulk Density**
75 to 80 lbs/cu.ft.
- **Effective Size**
Ranges from 0.30 to 1.10 mm
- **Coefficient of Uniformity**
Ranges from 1.45 to 1.80
- **Estimated Sphericity**
Approximately 0.40
- **Porosity**
Typically 48%
- **Shape**
Angular to sub-angular
- **Permeability**
VF25 typically 4.0×10^{-1} cm/sec
- **Physical Composition**
Amorphous soda-lime glass
- **Typical Chemical Composition**
 - SiO₂ 73%
 - Na₂O 14%
 - CaO 10%
 - MgO <1%
 - Al₂O₃ <1%
 - SO₃ <1%

Packaging

- 50-lb plastic bags
- 50-, 90- & 100-paper bags
- 3000-lb bulk bags
- Pallets, stretch-wrap & plastic covers

**For Use in Residential, Commercial, Industrial,
and Environmental Applications**

VitroClean® is made from 100% recycled glass. It is crushed, dried at 250°F, and screened into various sized fractions to achieve optimal filtration properties.

As the grains are nearly all angular in shape and have a fairly high degree of sphericity, the filter bed tends to have more open packing resulting in better permeability than a filter of spherical silica grains.

Because glass is amorphous and has no internal crystal structure, the particles are homogenous and have no grain boundaries. This gives glass more resistance to breakdown through filtration/back washing cycles.

Furthermore the lack of grain boundaries minimizes cracks where bacteria can lodge and resist flushing in back washing.

Glass particles have a slight negative charge on their surface, which tend to hold onto fine particles during the filtration cycle. Upon back washing, this weak charge apparently releases these fine particles to the effluent thereby contributing to better filtration action. Theoretically, at least one should see less use of back flushing water owing to the better permeability of a glass filter.

As crushed glass is lighter than silica sand, between 15 and 20% less glass is needed to fill a filtration unit. With the better filtration characteristics and lower density glass is a superior filtration media for many filtration applications. It can be used in swimming pool and spa filters as well. Glass filter media are now being used in storm water runoff filtration systems as a replacement for silica sand. Using glass not only results in good performance, but in real cost benefits over the life of a filter bed.



Typical VitroClean® Filtration Product Specifications			
Product # Number	U.S. Mesh Size	Effective Size	Approximate Size Range
VF#5	1/4" x 1/8"	N/A	7.1 x 3.4 mm
VF#8	1/8" x 1/16"	1.80 mm	3.4 x 1.7 mm
VF#12	8 x 16 mesh	1.10 mm	2.4 x 1.1 mm
VF#25	16 x 35 mesh	0.45 mm	1.1 x 0.4 mm
VF#35	25 x 50 mesh	0.30 mm	0.7 x 0.3 mm

VF25 is a typical replacement for #20 silica sand in pool filters. VF8 or a coarser product can be placed in the bottom of the filter around the laterals to minimize movement of the laterals on back flushing. VF35 can be installed in the top of the filter bed over VF25 in order to improve filtration of finer particles.

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