

Technical Services



ACO Polymer Products, Inc.

Polyester Fiberglass Composition

Fiberglass is a very lightweight material. This enables longer, wider channels to be manufactured that can still be easily handled on-site. It can be cast into precision shapes, and is relatively low cost material to use for custom applications. Fiberglass for the FG100 and FG200 channels is made using polyester resins; Aquaduct channels are available using a wide range of different resins and fibers to meet higher corrosion resistance requirements.

Surface performance

The smooth internal surface (Manning's roughness coefficient for fiberglass is 0.008) encourages improved liquid flow. ACO Drain trench systems allow greater discharge rates to be achieved, or longer lengths of channel to be installed before an outlet is required.

Resistance to biological attack

The channels' smooth impervious internal surface resists bacterial growth. Chemical cleaning and disinfecting can be carried out regularly without danger of deterioration. The use of high concentrations of bleach and caustic solutions should not be used with polyester fiberglass (FG100 & FG200 channels) an Aquaduct system using Vinyl ester resin should be considered.

Resistance to temperatures

With a moisture absorption rate of nil, fiberglass is completely resistant to frost and freeze-thaw cycles. The maximum recommended temperature for permanent contact is 176°F (80°C). ACO Drain channels can occasionally be steam cleaned or exposed to boiling water, without risk of damage. Where continual exposure to boiling liquids or intensive steam cleaning is likely, an alternative channel material, for example stainless steel, should be considered. For further information contact Aquaduct, Inc. at (800) 662-2377.

Physical properties – fiberglass

Compressive strength 16,000 psi

Flexural strength 24,000 psi

Manning's roughness coefficient 0.008 (av)

Water absorption (by weight) 0%

Chemical resistance

ACO Drain fiberglass channels are highly resistant to chemical attack and, with the appropriate grating, can be used in most environments where acids and dilute alkalis are likely to be encountered. Fiberglass is also not affected by road de-icing salts.

In situations where exposure to aggressive chemicals is likely, Aquaduct should be contacted to consider other resins such as Vinyl ester and possibly other fibers.