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## MEMORANDUM

**Date:** May 18, 2007

**Subject:** **Fiberglass UNISTRUT® Channel & Flat Fittings Properties Materials, Temperature and Chemical Resistance**

**From:** Unistrut Engineering

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| Property                              | Test       | Direction | Unit         | Polyester | Vinyl Ester |
|---------------------------------------|------------|-----------|--------------|-----------|-------------|
| Tensile Strength                      | ASTM D-638 | Long      | PSI          | 30,000    | 35,000      |
|                                       |            | Trans     | PSI          | 7,000     | 10,000      |
| Modulus of Elasticity                 | ASTM D-638 | Long      | PSI          | 2,500,000 | 3,000,000   |
|                                       |            | Trans     | PSI          | 800,000   | 1,000,000   |
| Electric Strength Short Time - In Oil | ASTM D-149 | Perp      | Volts / mil  | 200       | 200         |
|                                       |            | Parallel  | KV / in      | 35        | 35          |
| Dielectric Const                      | ASTM D-150 | Perp      |              | 5.0       | 5.0         |
| Dissipation Factor                    | ASTM D-150 | Perp      |              | 0.03      | 0.03        |
| Arc Resistance                        | ASTM D-495 | Either    | Seconds      | 80        | 120         |
| Coeff of Thermal Exp                  | ASTM D-696 | Long      | in / in / °F | 5,000,000 | 5,000,000   |
| Color                                 |            |           |              | Gray      | Beige       |
| Flammability                          | UL 95      |           |              | V-0       | V-0         |
| Flammability                          | ASTM E-84  |           |              | < 25      | < 25        |
| Smoke                                 | ASTM E-84  |           |              | 215       | 215         |

- Manufactured by the pultrusion process which includes surfacing veils for UV and weather resistance - though fading may occur.
- Operating temperature range is -35°F to +200°F. This range is a general guideline since continual exposure to elevated temperatures reduces strength properties.
- Channels are offered in two (2) distinct profiles: Patented Flange and SST. The Patented Flange profile is intended for use with fiberglass pipe clamps and channel nuts. The SST



Columbia-MBF



KAF-TECH



UNISTRUT



UNISTRUT Construction



profile is intended for use with metallic pipe clamps and channel nuts. Metallic pipe clamps and channel nuts will not fit in the Patented Flange channel. Similarly, fiberglass pipe clamps and channel nuts will not fit in SST channel.

- All cuts and holes should be properly sealed with a clear urethane sealer.
- Load Data – Refer to the latest edition of the General Engineering Catalog
- Chemical compatibility chart – See Attachment