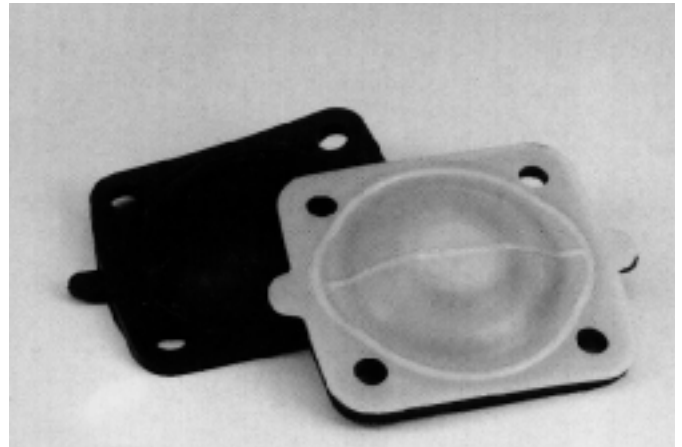


## Pure-Flo® "TM" PTFE & #16 EPDM Diaphragms

ITT Industries Engineered Process Solutions Group has developed a modified PTFE (polytetrafluoroethylene) diaphragm to better withstand the critical process protocols associated with the Pharmaceutical/Bioprocessing Industries, resulting in increased performance and longer life. The "TM" compound is a second generation polytetrafluoroethylene (PTFE) polymer modified with a co-monomer PPVE (perfluoropropylvinylether). The TM compound conforms with 21 CFR 177.1550, (a) and is classified as a PTFE homopolymer according to IS 12086, as well as ASTM D-4894. This classification is applicable since the degree of modification is less than 1% resulting in:



- More Amorphous Compound - increasing flex life, and better mechanical properties.
- Reduced Melt Viscosity - slightly lower density provides greater particle bonding and adhesion during sintering, more homogeneous microstructure, smoother surfaces, fewer voids, resulting in less permeation.
- Reduced Creep - reduced cold flow, similar to 25% carbon reinforced PTFE, less permanent deformation when subjected to pressure and temperature.

In short, the "TM" PTFE diaphragm provides greater dimensional stability, longer flex life, lower porosity, lower permeability, superior thermo-mechanical performance and is tougher and more durable. In addition to assist in the qualification of the compound, USP Class VI biological reactivity data, to section #87 and #88 in vitro and in vivo respectively has been generated by a third party independent lab. This data is available for your review upon your request.

### Grade #16 EPDM Diaphragm

ITT has also developed a new EPDM (ethylene-propylene diene monomer) compound, grade #16 to withstand the inherent process protocols in the Pharmaceutical/Bioprocessing Industries. The grade #16 compound complies with 21 CFR 177.2600 and conforms to USP Class VI biological reactivity test sections #87 & #88 in vitro and in vivo respectively. The compound is comprised of a high molecular weight terpolymer elastomer which provides increased mechanical properties while reducing compression set. In addition, the diaphragm is peroxide cured rather than sulfur cured enhancing the biocompatibility of the material.

## Materials and Specifications

### **"TM" PTFE Diaphragm**

Two piece PTFE diaphragm with EPDM backing cushion.

Diaphragm manufactured utilizing sintering process to increase dimensional stability and flex life.

Maximum Temperature Rating - 350°F, consult factory for steam applications.

Compound complies to 21 CFR 177.1550, (a).

Compound conforms to test requirements as outlined in USP XXII Class VI Biological Reactivity Tests section #87 & #88.

### **Grade #16 EPDM Diaphragm**

Peroxide cured

Maximum temperature rating - 300°F, consult factory for steam applications.

Compound complies to 21 CFR 177.2600.

Compound conforms to test requirements as outlined in USP XXII Class VI Biological Reactivity Tests section #87 & #88.

## Pure-Flo® Solutions Group

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