

THV Polymer

THV – Tetrafluoroethylene
Hexafluoropropylene Vinylidene Fluoride

Overview-

THV offers a high degree of flexibility while having the highest degree of optical clarity of any fluoropolymer. Combined with the traditional chemical and environmental resistance of most fluoropolymers, THV is an ideal choice for applications requiring good UV transmittance. THV easily welds to itself with a variety of methods, and it also can be formed into shapes.

THV has a moderately high working temperature and has found use in a variety of low- and high-end applications including aerospace. As a conduit for lighting boards, THV's optical clarity is particularly beneficial. THV is used as sheathing for fiber optics where its flexibility is preferred, and THV's chemical resistance has made it highly favored for such fluid management applications as semiconductor and chemical-specific industries.



THV extruded tubing with high optical clarity.

APPLICATIONS

- Fluid management tubing
- Housing for LED lighting
- Fiber optic sheathing
- Medical components

AVAILABLE PRODUCTS

- Extruded tubing
- Custom profiles
- Multi-Lumens
- Monofilament
- Co-extrusions

QUICK SUMMARY OF PROPERTIES

- Moderate working temperature
302 °F / 150 °C
- Excellent optical clarity
- Exceptional flexibility
- Low moisture absorption
- Chemically resistant



FLEXURAL MODULUS



MOISTURE ABSORPTION













CHEMICAL RESISTANCE



THV

The information presented in this publication is believed to be accurate and is not intended to constitute a specification. Property characteristics are dramatically impacted by geometry and processing method, thus properties of extruded parts may vary. In some instances, data may not be available for publication and will be notated as “na” where applicable.

These tables are meant to serve as a general guideline only. Users should evaluate the material to determine suitability for their own particular application.

PHYSICAL		ASTM	THV
	Density (g/cm ³)	ISO 12086	1.93 - 2.06
	Refraction Index	D542	1.35 - 1.36
	Oxygen Index (%)	D2863	> 65
MECHANICAL		ASTM	THV
	Hardness, Shore D	D2240	44 - 59
	Ultimate Tensile Strength (MPa)	ISO 527 (1 or 3)	20 - 29
	Elongation at Break (%)	ISO 527 (1 or 3)	420 - 600
	Flexural Modulus (MPa)	D790	80 - 525
ELECTRICAL		ASTM	THV
	Dielectric Constant 1 MHz	D150	5.72
	Dielectric Strength (V/mil)	D149	1574.8
THERMAL		ASTM	THV
	Melt Temp (°C)	ISO 12086	115 - 225