Product Data Sheet

Experimental Product

3M™ Dyneon™ Fluoroplastic E-15188H THV

Product Description

Dyneon Fluoroplastic E-15188H is a fluorothermoplastic containing tetrafluoroethylene, hexafluoropropylene and vinylidene fluoride. This terpolymer provides a combination of performance advantages unmatched by any other melt processable fluorothermoplastic, offering new opportunities to make multi-layer hoses, tubing, film, sheet, seals and containers.

Special Features

- Excellent flexibility
- Excellent chemical resistance
- Excellent permeation resistance to fuels
- Bondable to itself and other substrates (for multi-layer constructions)
- Processing profile allows co-processing with olefinic plastics and hydrocarbon elastomers
- Low flammability
- High transparency
- Low refractive index

Properties	Test method	Unit	Value
Elongation at break	DIN EN ISO 527-1	%	450
Glass Transition (Tg)	ASTM D 4591	°C	26
Limiting Oxygen Index	ASTM D 2863	%	> 75
Melt Flow Index (MFI)	DIN EN ISO 1133	g/10 min	5
Melting point	DIN EN ISO 12086	°C	165
Refractive Index	ASTM D 542	n_D	1.36
Specific Gravity	DIN EN ISO 12086	g/cm³	2.0
Tensile strength at break	DIN EN ISO 527-1	MPa	24
UV-Vis Light Transmission (100µm film)	300 nm	%	85
	600 nm	%	93

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Typical Properties

E-15188H provides a balance of low temperature processing, low flammability, thermal stability, and melt processability. This product exhibits excellent weatherability and good anti-soiling properties.

Typical Applications

Dyneon Fluoroplastic E-15188H can be used in extruding films, tubes, profiles, and wire coating and for applications that require flexibility, low temperature processing and good chemical resistance.

Processing Recommendations

The processing recommendations depend on a variety of factors and best advice is to contact a technical service person before embarking on extrusion trials. However, it is possible to use the following as a starting point for the extrusion of E-15188H:

Cooling on the feed throat of the extruder to maintain a temperature of 30 - 70 °C, Zone 1 180 °C, Zone 2 220 °C, Zone 3 260 °C, the die and other tooling around 270 °C.

Typical processing temperatures for injection moulding are around 260 - 280 °C for the nozzle temperature and 50 - 100 °C for the mould.

A screen pack of 1000µm / 500µm / 200µm is recommended.

Corrosion-resistant equipment and an air exhausting system are highly recommended for safe processing.

Storage and Handling

Dyneon Fluoroplastic E-15188H has an unlimited shelf life provided it is stored in a clean, dry place. E-15188H is hydrophobic, and generally does not require drying before processing unless high humidity conditions create surface moisture adsorption.

Safety Instructions

Follow the normal precautions observed with all fluorothermoplastic materials.

Please consult the Material Safety Data Sheet and Product Label for information regarding the safe handling of the material. By following all precautions and safety measures, processing these products poses no known health risks. General handling/processing precautions include: 1) Process only in well-ventilated areas. 2) Do not smoke in areas contaminated with powder/residue from these products. 3) Avoid eye contact. 4) If any skin comes into contact with these products during handling, wash with soap and water afterwards. 5) Avoid contact with hot fluoropolymer.

Potential hazards, including release of toxic vapours, can arise if processing occurs under excessively high temperature conditions. Vapour extractor units should be installed above processing equipment. When cleaning processing equipment, do not burn off any of this product with a naked flame or in a furnace.

Delivery Form

E-15188H is delivered in granular form.

Packaging size is:

- 50 kg cardboard box, containing two PE-bags with 25 kg content each

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Fluoroplastic E-15188H
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Important Notice

This product - marked by the designation “E” - is an experimental or developmental product provided for the purpose of experiments, testing and evaluation. It may be subject to modification, product limitation or cancellation by Dyneon at any time without prior notice. In addition, because of its experimental nature, specifications and pricing may not be established or may be subject to change. Dyneon makes no guarantee as to its future commercial availability. The health and environmental risks of this product in your application are not fully known. Available health, environmental and safe handling information can be obtained from the MSDS sheet, from other information shipped with the product or from Dyneon.

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General recommendations on health and safety in processing, on work hygiene and on measures to be taken in the event of accident are detailed in our material safety data sheet.

You will find further notes on the safe handling of fluoropolymers in the brochure "Guide for the safe handling of Fluoropolymers Resins" (download link) by PlasticsEurope, Box 3, B-1160 Brussels, Tel. +32 (2) 676 17 32.

You can also download it with your smartphone using the QR code below.

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