Tefzel™ ETFE HT-2202HS

Fluoroplastic Resin

Product Information

Description

Tefzel™ ETFE HT-2202HS is a special-purpose fluoroplastic resin available in 2.5-mm (0.1-in) pellets. Tefzel™ ETFE HT-2202HS is a high flow modified ETFE resin designed to promote adhesion between polyamide resins and ETFE resins.

Tefzel™ ETFE HT-2202HS and the other Tefzel™ fluoroplastics are melt processible, modified copolymers of ethylene and tetrafluoroethylene. They are high-performance resins that can be processed at relatively high rates compared with other fluorocarbon resins. They are mechanically tough and offer an excellent balance of properties.

Tefzel™ ETFE HT-2202HS is an easy-to-process adhesive material. Tefzel™ ETFE HT-2202HS is inert to most solvents and chemicals, hydrolytically stable, and weather-resistant. Recommended upper service is 150 °C (302 °F); useful properties are retained at cryogenic ranges. The level and stability of dielectric properties are excellent. Mechanical properties include outstanding high-impact strength, cut-through, and abrasion resistance.

Typical End Products

Tefzel™ ETFE HT-2202HS is ideal for many end products, including electrical components, such as sleeving, coil forms, sockets, connectors, and switches; lab ware, multi-layer tubing, valves, containers, and fasteners; battery or instrument components that require chemical inertness; and mechanical parts.

Processing

Tefzel™ ETFE HT-2202HS can be processed by conventional melt-extrusion techniques and injection, compression, transfer, and blow molding processes. Also, the melt viscosity of Tefzel™ is reduced with increasing shear rate; thus, permitting the use of pressure extrusions through narrow dies without requiring appreciable draw-down. All standard multilayer equipment can be used to manufacture parts with Tefzel™ ETFE HT-2202HS. The polyamide resin as well as the Tefzel™ ETFE HT-2202HS must be molten at the same time to get best adhesion properties. Corrosion-resistant metals should be used in contact with molten resin.

Processing temperatures should be held as cold as possible, preferably around 300 °C (572 °F), to minimize thermal degradation of the resin.

Safety Precautions

Before using Tefzel™ ETFE HT-2202HS, refer to the Safety Data Sheet and the latest edition of "The Guide to the Safe Handling of Fluoropolymer Resins," published by The Society of the Plastics Industry, Inc. (www.fluoropolymers.org) or by PlasticsEurope (www.plasticseurope.org).

Open and use containers only in well-ventilated areas using local exhaust ventilation (LEV). Vapors and fumes liberated during hot processing, or from smoking tobacco or cigarettes contaminated with Tefzel™ ETFE HT-2202HS, may cause flu-like symptoms (chills, fever, sore throat) that may not occur until several hours after exposure and typically pass within about 24 hours. Vapors and fumes liberated during hot processing should be exhausted completely from the work area; contamination of tobacco with polymers should be avoided.

Mixtures with some finely divided metals, such as magnesium or aluminum, can be flammable or explosive under some conditions.

Storage and Handling

Ambient storage conditions should be designed to avoid airborne contamination and the formation of water condensation on the resin when it is removed from containers.

Packaging

Tefzel™ ETFE HT-2202HS is packaged in 45.4-kg (100-lb) drums with a polyethylene inner liner.

Table 1. Typical Property Data for Tefzel™ ETFE HT-2202HS Fluoroplastic Resin

Property	Test Method	Unit	Value
Thermal			
Nominal Melting Point	D3159	°C (°F)	250–280 (482–536)
Melt Flow Rate	D3159	g/10 min	30
Mechanical			
Tensile Strength, 23 °C (73 °F)	D3159	MPa (psi)	35 (5,000)
Specific Gravity	D792	—	1.7
Ultimate Elongation, 23 °C (73 °F)	D3159	%	250
Flexural Modulus, 23 °C (73 °F)	D790	MPa (psi)	1,000 (150,000)
Impact Strength, 23 °C (73 °F)	D256	J/m (ft·lb/in)	No Break
General			
Water Absorption, 24 hr	D570	%	0.007
Weather and Chemical Resistance	—	—	Excellent
Limiting Oxygen Index	D2863	%	30–32

*ASTM method unless otherwise specified
Typical properties are not suitable for specification purposes.

HOW TO USE THE TEFZEL™ BRAND NAME WITH YOUR PRODUCT

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