

# DuPont™ Tefzel® HT-2202

## fluoropolymer resin

### Description

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

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

Tefzel® HT-2202 is an easy-to-process adhesive material. Tefzel® HT-2202 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® HT-2202 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® HT-2202 can be processed by conventional melt-extrusion techniques and by 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® HT-2202. The polyamide resin as well as the Tefzel® HT-2202 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

#### WARNING!

#### VAPORS CAN BE LIBERATED THAT MAY BE HAZARDOUS IF INHALED.

Before using Tefzel® HT-2202, read the Material Safety Data Sheet and the detailed information in the “Guide to the Safe Handling of Fluoropolymer Resins,” latest edition, published by the Fluoropolymers Division of the Society of the Plastics Industry—available from DuPont.

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® HT-2202, may cause flu-like symptoms (chills, fever, sore throat) that may not occur until several hours after exposure and that 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 polymer 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.

### Freight Classification

Tefzel®, when shipped by rail or express, is classified as “Plastics, Synthetic, O.T.L., NOIBN.” Resin shipped by truck is classified as “Plastics, Materials, O.T.F.C.E. or S. Granules.”



**Table 1**  
**Typical Property Data for DuPont™ Tefzel® HT-2202 Fluoropolymer Resin**

Property	ASTM Standard	Unit	Value
<b>Thermal</b>			
Nominal Melting Point	D3159	°C (°F)	250-280 (482-536)
Flow Rate	D3159	g/10 min	7
<b>Mechanical</b>			
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
<b>General</b>			
Water Absorption, 24 hr	D570	%	0.007
Weather and Chemical Resistance	—	—	Excellent
Limiting Oxygen Index	D2863	%	30–32

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**CAUTION:** Do not use in medical applications involving permanent implantation in the human body. For other medical applications, see "DuPont Medical Caution Statement," H-50102.



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