

3M™ Dyneon™ PTFE TF 1620

Features and Benefits

- Meets ASTM D4894 Type IV, Grade 2 resin
- Semi-free-flowing compression molding powder
- High bulk density
- Good for large billets and thin walled isostatic moldings
- Very dense polymer structure, similar to non-free-flowing grades
- Excellent flex life
- Good dielectric strength

Note: Data in this document are not for specification purposes.

Typical Properties

| Powder | Test Method | |
|-----------------------|----------------|---------|
| Bulk Density | ASTM D4894-98a | 850 g/l |
| Average Particle Size | ASTM D4894-98a | 220 μ |

| Mechanical (measured at 23°C (73°F) on sintered moldings) | | |
|---|----------------|------------|
| Tensile Strength, Minimum | ASTM D4894-98a | 4000 psi |
| Elongation at Break | ASTM D4894-98a | 350% |
| Specific Gravity | ASTM D4894-98a | 2.15 g/cc |
| Shrinkage | ASTM D4894-98a | 3% |
| Tensile Modulus | ASTM D638 | 87,000 psi |
| Deformation Under Load | ASTM D621 | |
| 2175 psi - 24 Hours | | 15% |
| 2175 psi -100 Hours | | 17% |
| 2175 psi - Permanent | | 11% |

| Thermal | | |
|---------------------------|-----------------------------------|----------|
| Flammability | UL94 | V-0 |
| Melt Point (Initial) | ASTM D4894-98a | 342±10°C |
| (Second) | ASTM D4894-98a | 327±10°C |
| Service Temperature Range | -200°C to 260°C (-328°F to 500°F) | |

| Electrical | | |
|---------------------|---------------|------------|
| Dielectric Strength | ASTM D149-95a | 2.5 kV/mil |

Processing Information

If transport or storage temperatures are too high the material can agglomerate in its container. In such cases, it is advisable to store the material for 48 hours at below 23°C (73°F) and then sieve it (mesh size 4 mm) (.16 in) before filling the mold. To achieve optimum properties, compression molding should be carried out within a temperature range of 23°C to 26°C (73°F to 78°F) at a pressure of 20-25 MPa (2900-5100 psi). The sintering temperature should be in the range of 375°C to 380°C (707°F to 716°F).

Product Form and Packaging

3M™ Dyneon™ PTFE TF 1620 is supplied in moisture and dust-tight plastic drums with a polyethylene liner.
Quantity per drum: 50 kg (110 lbs.)
Order quantity per pallet: 300 kg (660 lbs.)



Storage and Material Handling

3M™ Dyneon™ PTFE TF 1620 has an unlimited shelf life provided it is stored in a clean, dry place. Dyneon PTFE TF 1620 is hydrophobic, and generally does not require drying before processing unless high humidity conditions create surface moisture adsorption.

Management System - ISO 9001 and ISO 14001

All 3M design, development, production and service facilities have achieved a global ISO 9001 registration for their quality management system. In addition, our Gendorf, Germany location has achieved ISO 14001 for its environmental management system.

Regulatory

PTFE TF 1620 is in compliance with FDA regulation 21 CFR 177.1550. It is the responsibility of the user to determine whether its specific formulation and intended use comply with applicable laws and are suitable for its intended applications.

Safety/Toxicology

These are fluoroplastic materials, so normal precautions observed with fluoroplastics should be followed. Before processing these products, consult the Material Safety Data Sheet and follow all label directions and handling precautions. 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) After handling these products wash any contacted skin with soap and water. Potential hazards, including evolution of toxic vapors, can exist if processing occurs under excessively high temperature conditions. Vapor extractor units should be installed above processing equipment. When cleaning processing equipment, do not bum off any of this product with an open flame or in a furnace.

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