Teflon™ PTFE

Modified Granula

Product Information

Description

Teflon™ PTFE NXT 70 is a chemically modified PTFE polymer. When properly processed, it offers an excellent combination of properties that are characteristic of Teflon™ fluoroplastic resins:

- Chemical inertness
- Exceptional dielectric properties
- Heat resistance
- Toughness and flexibility
- Low coefficient of friction
- Non-stick characteristics
- Negligible water absorption
- Excellent weather resistance

In addition, this resin offers weldability, improved resistance to deformation under load, increased resistance to permeation of chemicals, and a higher dielectric breakdown voltage. It exhibits minimal sagging in billets as large as 350 kg (800 lb).

Typical Applications

Teflon™ NXT 70 is a fine-cut resin designed for compression molding of blocks and sheets. It can be used for:

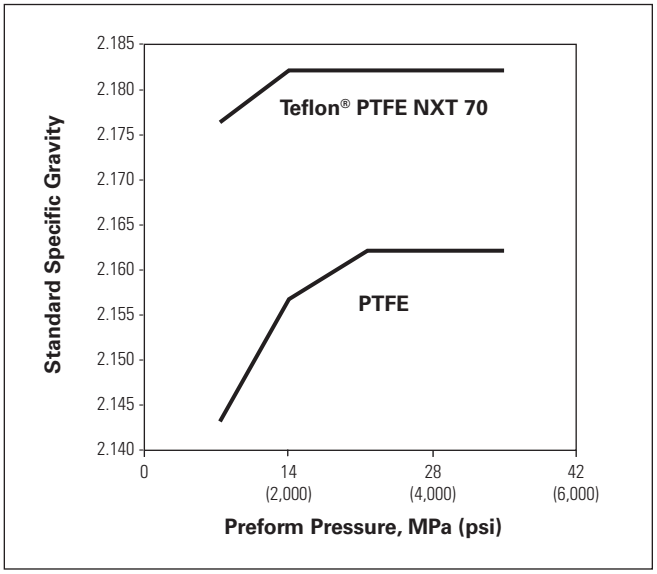
- Seal rings
- Valve seats
- Bearing pads
- Linings
- Encapsulations
- Base resin for filled compounds

Processing

Teflon™ NXT 70 may be converted by compression molding techniques. A preform made at room temperature at the recommended pressure of 14 MPa (2,000 psi) can subsequently be sintered. Refer to the typical property data in Table 1.

Of particular significance for sheet molding is the fact that maximum density after sintering is reached at lower pressures when compared with non-modified granular grades as shown in Figure 1. This allows for the production of larger sheets with existing equipment.

Figure 1. Effect of Preform Pressure on Standard Specific Gravity



Food Contact Compliance

Properly processed products (sintered at high temperatures common to the industry) made from Teflon™ NXT 70 resin can qualify for use in contact with food in compliance with FDA Regulation 21 CFR 177.1550.

Safety Precautions

Before processing any fluoroplastics, read the Material Safety Data Sheet, available upon request from our Customer Service Group at (844) 773-CHEM/2436 in the U.S. or (302) 773-1000 outside of the U.S. Also read the detailed information in the latest edition of the "Guide to the Safe Handling of Fluoropolymer Resins," published by the Fluoropolymers Division of The Society of the Plastics Industry (www.fluoropolymers.org) or by PlasticsEurope (www.plasticseurope.org).

Storage and Handling

Preforming is easiest when the resin is between 21–27 °C (70–80 °F). As temperature declines below this range, the resin will be increasingly difficult to mold without cracks and problems with condensed moisture. Higher temperatures inhibit flow and promote lumping. Storage conditions should be set accordingly.

Cleanliness is a critical requirement for successful use of Teflon™ NXT 70. The white resin and high sintering temperatures cause even very small foreign particles to become visible in finished moldings.

Keep resin drums closed and clean. Good housekeeping and careful handling are essential.

Packaging

Teflon™ NXT 70 is packaged in 40-kg (88-lb) drums. Each drum has a bag liner made of polyethylene resin.

Table 1. Typical Property Data for Teflon™ PTFE NXT 70 Modified Granular Fluoroplastic Resin*

Property	Test Method	Unit	Typical Value
Average Bulk Density	ASTM D4894	g/L	400
Average Particle Size	ASTM D4894	µm	33
Standard Specific Gravity	ASTM D4894		2.17
Tensile Strength	ASTM D4894	psi (MPa)	5600 (38.6)
Elongation at Break	ASTM D4894	%	550
Deformation Under Load 14 MPa (2,000 psi), 23 °C (73 °F), 24 h	D621 Method A	%	4

Teflon™ PTFE NXT 70 meets the requirements of ASTM D4894-15, Type III, Grade 1.
*Typical properties are not suitable for specification purposes.