



Teflon™ PFA 340

Molding and Extrusion Resin

Product Information

For inventory control purposes, product name may be followed by an X.

Products labeled PFA 340 and PFA 340 X are equivalent, and all information in this document is applicable to both.

Typical Applications

Applications for Teflon™ PFA 340 include extruded tubing and other profiles for hose, wire and cable insulation, and sleeving; industrial film; and injection or compression molded articles requiring superior electrical, chemical, and thermal properties.

Description

Teflon™ PFA 340 is a general-purpose fluoroplastic resin available in pellet form. Compared with other grades of Teflon™ PFA, its most unique features are a relatively high melt flow rate (typical MFR of 14) and properties that make it suitable for a variety of processes and demanding end uses. Table 1 shows the typical property data for Teflon™ PFA 340.

Teflon™ PFA 340 is used when traditional extrusion and molding processes are required for producing products with the superior properties of a fluoroplastic resin. Compared to other thermoplastics, the high melt strength and thermal stability of Teflon™ PFA 340 can be used to improve processing rates. Compared with other fluoroplastics, creep resistance at high service temperatures provides a superior balance and level of end-use properties. Teflon™ PFA 340 combines the processing ease of conventional thermoplastics with many properties similar to those of polytetrafluoroethylene.

Properly processed products made from neat Teflon™ PFA 340 resin provide the superior properties characteristic of fluoroplastic resins: chemical inertness, exceptional dielectric properties, heat resistance, toughness and flexibility, low coefficient of friction, non-stick characteristics, negligible moisture absorption, low flammability, performance at temperature extremes, and excellent weather resistance.

In a flame situation, products of Teflon™ PFA 340 resist ignition and do not promote flame spread. When ignited by flame from other sources, their contribution of heat is very small and added at a slow rate with very little smoke.

Processing

Teflon™ PFA 340 can be processed by conventional melt extrusion, and by injection, compression, and transfer molding processes. High melt strength and heat stability permit the use of relatively large die openings and high temperature draw-down techniques that increase production rates. Reciprocating screw injection molding machines are preferred. Corrosion-resistant metals should be used in contact with molten fluoroplastic resin. Extruder barrel should be long, relative to diameter, to provide residence time for heating the resin to approximately 390 °C (730 °F). For more detailed processing information, including recommended draw-down ratios, consult your Chemours sales representative.

Safety Precautions

WARNING! VAPORS CAN BE LIBERATED THAT MAY BE HAZARDOUS IF INHALED.

Before using Teflon™ PFA 340 resin, 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 of Teflon™ PFA 340 should be exhausted completely from the work area. Contamination of tobacco with these polymers must be avoided. Vapors and fumes liberated during hot processing that are not properly exhausted, or from smoking tobacco or cigarettes contaminated with Teflon™ PFA 340, may cause flu-like symptoms, such as chills, fever, and sore throat. This may not occur until several hours after exposure and will typically pass within about 24 hours. Mixtures with some finely divided metals, such as magnesium or aluminum, can be flammable or explosive under some conditions.

Freight Classifications

Teflon™ PFA 340 resin is classified as "Plastics, Materials, Pellets."

Storage and Handling

The properties of Teflon™ PFA 340 resin are not affected by storage time. Ambient storage conditions should be designed to avoid airborne contamination and water condensation on the resin when it is removed from containers.

Packaging

Teflon™ PFA 340 is supplied as pellets and is available in 25-kg multilayer bags with an integral polyethylene liner.

Table 1: Typical Property Data for Teflon™ PFA 340 Molding and Extrusion Resin

Property	Test Method		Unit	Typical Value
GENERAL				
Melt Flow Rate	ISO 12086	ASTM D3307	g/10 min	14
Melting Point	—	ASTM D4591	°C (°F)	305 (581)
Specific Gravity	—	ASTM D792	—	2.15
Critical Shear Rate, 372 °C (702 °F)	—	—	1/s	50
MECHANICAL				
Tensile Strength	ISO 12086	ASTM D3307	MPa (psi)	
23 °C (73 °F)				25 (3,600)
250 °C (482 °F)				12 (1,800)
Ultimate Elongation	ISO 12086	ASTM D3307	%	
23 °C (73 °F)				300
250 °C (482 °F)				480
Flexural Modulus	ISO 178	ASTM D790	MPa (psi)	
23 °C (73 °F)				590 (85,000)
250 °C (482 °F)				55 (8,000)
MIT Folding Endurance (0.20 mm, 8 mil film)	—	ASTM D2176 [†]	Cycles	15,000*
Hardness Durometer	ISO 868	ASTM D2240	—	D55
ELECTRICAL				
Dielectric Strength, Short Time, 0.25 mm (0.010 in)	IEC 243	ASTM D149	kV/mm (V/mil)	80 (2,000)
Dielectric Constant, 1 MHz (10 ⁶ Hz)	IEC 250	ASTM D150	—	2.03
Dissipation Factor, 1 MHz (10 ⁶ Hz)	IEC 250	ASTM D150	—	<0.0002
Volume Resistivity	ISO 1325	ASTM D257	ohm-cm	10 ¹⁸
OTHER				
Water Absorption, 24 hr	—	ASTM D570	%	<0.03
Weather and Chemical Resistance	—	—	—	Outstanding
Limiting Oxygen Index	ISO 4589	ASTM D2863	%	>95
Continuous Service Temperature [‡]	—	—	°C (°F)	260 (500)
Flammability Classification [†]	—	UL 94	—	V-0

* Depending on fabrication conditions

† Historical standard

‡ Definition of continuous service temperature: The continuous service temperature is based on accelerated heat-aging tests, and represents the temperature at which tensile strength and ultimate elongation retain 50% of the original values after 20,000 hr thermal aging. Continuous service temperature above 260 °C (500 °F) may be feasible, depending on such factors as chemical exposure, support from the substrate, etc. When considering uses of Teflon™ PFA 340 above 260 °C (500 °F), preliminary testing should be done to verify suitability.

† These results are based on laboratory tests under controlled conditions and do not reflect performance under actual fire conditions; current rating is a typical theoretical value.

Note: Teflon™ PFA 340 meets the requirements of ASTM D3307, Type I

Typical properties are not suitable for specification purposes.

Statements or data regarding behavior in a flame situation are not intended to reflect hazards presented by this or any other material when under actual fire conditions.

HOW TO USE THE TEFLON™ BRAND NAME WITH YOUR PRODUCT

Teflon™ is a registered trademark of Chemours for its brand of fluoroplastic resins, coatings, films, and dispersions. The Teflon™ brand name is licensed by Chemours in association with approved applications. Without a trademark license, customers may not identify their product with the Teflon™ brand name, as Chemours does not sell such offerings with the Teflon™ trademark. Unlicensed customers may refer to the Chemours product offering with only the Chemours name and product code number descriptor as Chemours sells its product offerings. There are no fair use rights or exhaustion of rights to use the Teflon™ trademark from buying from Chemours, a Chemours customer, or a distributor without a trademark license from Chemours.

If you are interested in applying for a trademark licensing agreement for the Teflon™ brand, please visit www.teflon.com/license

CAUTION: Do not use Chemours materials in medical applications involving permanent implantation in the human body or contact with bodily fluids or tissues, unless the material has been provided from Chemours under a written contract that is consistent with Chemours policy regarding medical applications and expressly acknowledges the contemplated use. For further information, please contact your Chemours representative. You may also visit www.teflon.com/industrial to download a copy of the "Chemours POLICY Regarding Medical Applications" and "Chemours CAUTION Regarding Medical Applications." For medical emergencies, spills, or other critical situations, call (866) 595-1473 within the United States. For those outside of the United States, call (302) 773-2000.

The information set forth herein is furnished free of charge and based on technical data that Chemours believes to be reliable. It is intended for use by persons having technical skill, at their own discretion and risk. The handling precaution information contained herein is given with the understanding that those using it will satisfy themselves that their particular conditions of use present no health or safety hazards. Because conditions of product use are outside our control, Chemours makes no warranties, express or implied, and assumes no liability in connection with any use of this information. As with any material, evaluation of any compound under end-use conditions prior to specification is essential. Nothing herein is to be taken as a license to operate under or a recommendation to infringe any patents.

NO PART OF THIS MATERIAL MAY BE REPRODUCED, STORED IN A RETRIEVAL SYSTEM OR TRANSMITTED IN ANY FORM OR BY ANY MEANS ELECTRONIC, MECHANICAL, PHOTOCOPYING, RECORDING OR OTHERWISE WITHOUT THE PRIOR WRITTEN PERMISSION OF CHEMOURS.

For more information, visit teflon.com/industrial

For sales and technical support contacts, visit teflon.com/industrialglobalsupport

© 2015 The Chemours Company FC, LLC. Teflon™ and any associated logos are trademarks or copyrights of The Chemours Company FC, LLC. Chemours™ and the Chemours Logo are trademarks of The Chemours Company.

Replaces: K-26135

C-10103 (7/15)