

3M Advanced Materials Division

# 3M™ Dyneon™ Fluoroplastic PVDF 6010/0000

## Features and Benefits

- Excellent chemical resistance to wide variety of aggressive fluids and solvents
- Good permeation resistance
- Excellent strength and dimensional stability
- Extrusion or compression molding grade
- Good color stability

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

## Typical Properties

| Property                                 | Test Conditions                | Test Method | Dyneon PVDF 6010/0000  |
|--|--------------------------------|-------------|------------------------|
| Specific Gravity                         |                                | ISO 1183    | 1.78 g/cm <sup>3</sup> |
| Melt Flow Index                          | 230°C, 5 kg                    | ASTM D1238  | 6 g/10 min             |
|  | 230°C, 2.16 kg                 | ASTM D1238  | 2 g/10 min             |
| Tensile Strength at Yield                | 23°C, 50 mm/min                | ASTM D638   | 55 MPa<br>7975 psi     |
| Tensile Strength at Break                | 23°C, 50 mm/min                | ASTM D638   | 42 MPa<br>6090 psi     |
| Elongation at Yield                      | 23°C, 50 mm/min                | ASTM D638   | 7%                     |
| Elongation at Break                      | 23°C, 50 mm/min                | ASTM D638   | 35%                    |
| Flexural Modulus                         | 23°C, 2 mm/min                 | ASTM D790   | 2100 MPa               |
|  |                                |             | 340,500 psi            |
| Melting Point (Crystallinity by DSC)     |                                | ASTM D3418  | 173°C (343°F)          |
| Deflection Temperature (4 mm Thick)      | Load 0.46 MPa, after annealing | ASTM D648   | 110°C (230°F)          |
|  | Load 1.82 MPa                  | ASTM D648   | 110°C (230°F)          |
| UL - 94 Flammability Test                |                                | UL - 94     | V-O Class              |
| Limiting Oxygen Index (Sheet 3 mm Thick) |                                | ASTM D2863  | 44%                    |

## Product Description

Polyvinylidene Fluoride (PVDF) is ideal for multiple applications across a wide array of industries. Widely used in the chemical processing industry, wire and cable industry, semiconductor industry, and oil and gas industry, PVDF is also gaining recognition in automotive, building, electronics, pharmaceutical and battery applications.

3M™ Dyneon™ PVDF 6010/0000 is an extrusion or compression molding grade homopolymer, ideal for pipes, tubes, sheets, and slabs. PVDF is inherently pure and chemically resistant to a wide array of aggressive media. This grade exhibits excellent thermal and dimensional stability, high strength, and maintains its mechanical properties at elevated temperatures.

## Storage and Material Handling

PVDF 6010/0000 should be stored in a clean, dry, uncontaminated place with packaging intact. Dyneon PVDF generally does not require drying before processing unless high humidity conditions create surface moisture adsorption. Opened containers should be tightly resealed to prevent dust contamination from static charge accumulation and moisture ingress. The shelf life of this product has not been determined. If the user has any question about whether significant property change(s) have occurred due to an extended storage period, please contact 3M.

## Safety/Toxicology

This is a fluoroplastic material so normal precautions observed with fluoroplastics should be followed. Before processing this product, be sure to read and follow all precautions and directions for use contained in the product label and the Safety Data Sheet. General handling/processing precautions include: (1) Process only in well ventilated areas; (2) Do not smoke in areas contaminated with powder/residue from this product; (3) Avoid eye contact; (4) After handling this product 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. Appropriate local exhaust ventilation such as vapor extractor units should be installed above processing equipment. When cleaning processing equipment, do not burn off any of this product with an open flame or in a furnace.

Please visit [3M.com/fluoropolymers](http://3M.com/fluoropolymers) for additional regional contact information.

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