

# 3M™ Dyneon™ Fluoroplastic PVDF 31508/0009

Polyvinylidene Fluoride

3M Advanced Materials Division

Message:

3M™ Dyneon™ Fluoroplastic PVDF 31508/0009 is a Polyvinylidene Fluoride (PVDF) product. It can be processed by extrusion and is available in Europe or North America. Applications of 3M™ Dyneon™ Fluoroplastic PVDF 31508/0009 include wire & cable and hose/tubing.

Characteristics include:

- Flame Rated
- Chemical Resistant
- Copolymer
- Flame Retardant
- Good Flexibility

| General Information                           |                           |                   |             |
|-----------------------------------------------|---------------------------|-------------------|-------------|
| Features                                      | Copolymer                 |                   |             |
|                                               | Flame Retardant           |                   |             |
|                                               | Good Chemical Resistance  |                   |             |
|                                               | Good Flexibility          |                   |             |
|                                               | High Heat Resistance      |                   |             |
|                                               | High Impact Resistance    |                   |             |
|                                               | Low Shrinkage             |                   |             |
|                                               | Low Smoke Emission        |                   |             |
|                                               | Low Temperature Resistant |                   |             |
| Uses                                          | Insulation                |                   |             |
|                                               | Tubing                    |                   |             |
|                                               | Wire & Cable Applications |                   |             |
| Forms                                         | Pellets                   |                   |             |
| Processing Method                             | Extrusion                 |                   |             |
| Physical                                      | Nominal Value             | Unit              | Test Method |
| Density                                       | 1.76                      | g/cm <sup>3</sup> | ISO 1183    |
| Melt Mass-Flow Rate (MFR)                     |                           |                   | ASTM D1238  |
| 230°C/2.16 kg                                 | 5.0                       | g/10 min          |             |
| 230°C/5.0 kg                                  | 15                        | g/10 min          |             |
| Water Absorption <sup>1</sup> (23°C, 24 hr)   | < 0.040                   | %                 | ISO 62      |
| Mechanical                                    | Nominal Value             | Unit              | Test Method |
| Tensile Strength <sup>2</sup> (Break, 23°C)   | 22.0                      | MPa               | ASTM D638   |
| Tensile Elongation <sup>3</sup> (Break, 23°C) | 480                       | %                 | ASTM D638   |
| Flexural Modulus <sup>4</sup> (23°C)          | 425                       | MPa               | ASTM D790   |
| Thermal                                       | Nominal Value             | Unit              | Test Method |
| Brittleness Temperature                       | -37.0                     | °C                | ASTM D746A  |

| Peak Melting Temperature         | 169                             | °C      | ASTM D3418  |
|----------------------------------|---------------------------------|---------|-------------|
| Electrical                       | Nominal Value                   | Unit    | Test Method |
| Surface Resistivity <sup>5</sup> | > 1.0E+14                       | ohms    | ASTM D257   |
| Volume Resistivity <sup>6</sup>  | > 1.0E+14                       | ohms·cm | ASTM D257   |
| Dielectric Constant (1 MHz)      | 7.00                            |         | ASTM D150   |
| Flammability                     | Nominal Value                   | Unit    | Test Method |
| Flame Rating                     | V-0                             |         | UL 94       |
| Oxygen Index (3.00 mm)           | 100                             | %       | ASTM D2863  |
| NOTE                             |                                 |         |             |
| 1.                               | Method 1                        |         |             |
| 2.                               | 50 mm/min                       |         |             |
| 3.                               | 50 mm/min                       |         |             |
| 4.                               | 2.0 mm/min                      |         |             |
| 5.                               | Voltage <1V, after 2 min - 500V |         |             |
| 6.                               | Intensity = 10mA, after 2 min   |         |             |

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### Susheng Import & Export Trading Co.,Ltd.

Tel: +86 21 5895 8519

Phone: +86 13424755533

Email: sales@su-jiao.com

No. 215, Lianhe North Road, Fengxian District, Shanghai, China

