

## 3M Dyneon™ FC 2174 Fluoroelastomer

Category : Polymer , Thermoset , Fluoropolymer, TS , Rubber or Thermoset Elastomer (TSE)

### Material Notes:

3M™ Dyneon™ Fluoroelastomer FC 2174 can be compounded using standard water cooled internal mixers or two-roll mills with standard fillers and ingredients utilized in typical fluoroelastomer formulations. The “dry” ingredients should be blended before adding to the masticated gum. For best results, Dyneon FC 2174 should be banded on the mill several minutes prior to adding the blended dry ingredients. Once mixed, the compounded stocks have good scorch resistance and storage stability. Composition: di-polymer of vinylidene fluoride and hexafluoropropylene Medium viscosity Process targets: compression and transfer molding, and calendaring Excellent compression set resistance Proprietary incorporated cure technology Information provided by Dyneon, A 3M Company

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_3M-Dyneon-FC-2174-Fluoroelastomer.php](http://www.lookpolymers.com/polymer_3M-Dyneon-FC-2174-Fluoroelastomer.php)

| Physical Properties | Metric                    | English                   | Comments |
|---------------------|---------------------------|---------------------------|----------|
| Specific Gravity    | 1.80 g/cc                 | 1.80 g/cc                 |          |
| Mooney Viscosity    | 40<br>@Temperature 121 °C | 40<br>@Temperature 250 °F | ML1+10   |

| Mechanical Properties     | Metric      | English  | Comments   |
|---------------------------|-------------|----------|--|
| Hardness, Shore A         | 78          | 78       | Press Cure 5 minutes @ 177°C, Post Cure 24 hours @ 260°C; ASTM D2240 |
| Tensile Strength at Break | 16.9 MPa    | 2450 psi | Press Cure 5 minutes @ 177°C, Post Cure 24 hours @ 260°C             |
| Elongation at Break       | 180 %       | 180 %    | Press Cure 5 minutes @ 177°C, Post Cure 24 hours @ 260°C; ASTM D4645 |
| 100% Modulus              | 0.00724 GPa | 1.05 ksi | Press Cure 5 minutes @ 177°C, Post Cure 24 hours @ 260°C             |
| Compression Set           | 12 %        | 12 %     | Aged 70 hours @ 200°C, -214 O-rings; ASTM D395 Method B              |

| Thermal Properties         | Metric   | English   | Comments         |
|----------------------------|----------|-----------|------------------|
| Transformation Temperature | -18.0 °C | -0.400 °F | TR10; ASTM D1329 |

| Component Elements Properties | Metric | English | Comments |
|-------------------------------|--------|---------|----------|
| Fluorine, F                   | 65.9 % | 65.9 %  |          |

| Descriptive Properties | Value            | Comments   |
|------------------------|------------------|--|
| Color                  | Opaque Off-White |  |
| MH, Maximum Torque     |                  | 100 cpm, 0.5° Arc, 6 Minutes @ 177°C, ASTM D5289 |

| Descriptive Properties              | 24.6 inch-lb<br>Value | Comments   |
|-------------------------------------|-----------------------|--|
| ML, Minimum Torque                  | 1.5 inch-lb           | 100 cpm, 0.5° Arc, 6 Minutes @ 177°C, ASTM D5289 |
| Solubility                          | Ketones and Esters    |  |
| t <sup>50</sup> , Time to 50% cure  | 1.4 minutes           | 100 cpm, 0.5° Arc, 6 Minutes @ 177°C, ASTM D5289 |
| t <sup>90</sup> - Time to 90% cure  | 2 minutes             | 100 cpm, 0.5° Arc, 6 Minutes @ 177°C, ASTM D5289 |
| ts2 - Time to 2 in-lb rise from min | 1.2 minutes           | 100 cpm, 0.5° Arc, 6 Minutes @ 177°C, ASTM D5289 |

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