

## Borealis FR4830 Chemically Crosslinkable Polyethylene Compound for Primary Automotive Wires

Category : Polymer , Thermoplastic , Polyethylene (PE)

### Material Notes:

FR4830 is a chemically crosslinkable Non-halogen flame retardant Polyethylene compound for Primary Automotive and Appliance Wire.

Applications: FR4830 is intended for use as a 125° C rated primary insulation for crosslinked automotive and appliance wires.

Specifications FR4830 meets the applicable requirements as below when processed using sound extrusion practice and testing procedure:

SAE J1128/J1127, and UL 44 SIS. Information provided by Borealis AG

Order this product through the following link:

[http://www.lookpolymers.com/polymer\\_Borealis-FR4830-Chemically-Crosslinkable-Polyethylene-Compound-for-Primary-Automotive-Wires.php](http://www.lookpolymers.com/polymer_Borealis-FR4830-Chemically-Crosslinkable-Polyethylene-Compound-for-Primary-Automotive-Wires.php)

| Physical Properties | Metric    | English                   | Comments  |
|---------------------|-----------|---------------------------|-----------|
| Density             | 1.40 g/cc | 0.0506 lb/in <sup>3</sup> | ASTM D792 |

| Mechanical Properties     | Metric   | English  | Comments                 |
|---------------------------|----------|----------|--------------------------|
| Hardness, Shore D         | 50       | 50       | ASTM D2240               |
| Tensile Strength at Break | 12.8 MPa | 1860 psi | after aging, 168h, 165°C |
|                           | 16.0 MPa | 2320 psi | ASTM D412                |
| Elongation at Break       | 220 %    | 220 %    | ASTM D412                |

| Thermal Properties      | Metric      | English     | Comments   |
|-------------------------|-------------|-------------|------------|
| Brittleness Temperature | <= -50.0 °C | <= -58.0 °F | ASTM D2863 |
| Oxygen Index            | 25 %        | 25 %        | ASTM D2863 |

| Electrical Properties | Metric                         | English                        | Comments  |
|-----------------------|--------------------------------|--------------------------------|-----------|
| Volume Resistivity    | >= 1.00e+6 ohm-cm              | >= 1.00e+6 ohm-cm              | ASTM D257 |
| Dielectric Constant   | 3.7<br>@Frequency 6.00e+7 Hz   | 3.7<br>@Frequency 6.00e+7 Hz   | ASTM D150 |
| Dielectric Strength   | >= 22.0 kV/mm                  | >= 559 kV/in                   | ASTM 149  |
| Dissipation Factor    | 0.010<br>@Frequency 6.00e+7 Hz | 0.010<br>@Frequency 6.00e+7 Hz | ASTM D150 |

| Processing Properties     | Metric    | English   | Comments                          |
|---------------------------|-----------|-----------|-----------------------------------|
| Processing Temperature    | 55.0 °C   | 131 °F    | humidified air drying temperature |
| Middle Barrel Temperature | 96.0 °C   | 205 °F    | barrel 1                          |
|                           | 110 °C    | 230 °F    | barrel 6                          |
| Melt Temperature          | <= 125 °C | <= 257 °F |                                   |

| Descriptive Properties     | Value | Comments                 |
|----------------------------|-------|--------------------------|
| Single Vertical Flame Test | Pass  | 20AWG;ISO 6722/SAE J1128 |

## Contact Songhan Plastic Technology Co.,Ltd.

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