# Solef® 31508

## polyvinylidene fluoride

Solef® 31508 PVDF copolymer is a low viscosity and very flexible grade for Wire&Cable applications.

| General | | |
|---|---|---|
| Material Status | • Commercial: Active | |
| Availability | • Africa & Middle East<br>• Asia Pacific<br>• Europe | • Latin America<br>• North America |
| Features | • Copolymer<br>• Good Flexibility | • Low Viscosity |
| Uses | • Wire & Cable Applications | |
| Forms | • Granules | |

| Physical | Typical Value | Unit | Test method |
|---|---|---|---|
| Density / Specific Gravity | 1.75 to 1.80 | | ASTM D792 |
| Melt Mass-Flow Rate (MFR) (230°C/2.16 kg) | 3.0 to 8.0 | g/10 min | ASTM D1238 |
| Molding Shrinkage - Flow | 2.0 to 3.0 | % | |
| Water Absorption (24 hr, 23°C) | < 0.040 | % | ASTM D570 |

| Mechanical | Typical Value | Unit | Test method |
|---|---|---|---|
| Tensile Modulus [1] (23°C, 2.00 mm) | 400 to 600 | MPa | ASTM D638 |
| Tensile Strength [2] | | | ASTM D638 |
| Yield, 23°C, 2.00 mm | 14.0 to 35.0 | MPa | |
| Break, 23°C, 2.00 mm | 14.0 to 30.0 | MPa | |
| Tensile Elongation [2] | | | ASTM D638 |
| Yield, 23°C, 2.00 mm | 10 to 12 | % | |
| Break, 23°C, 2.00 mm | 350 to 600 | % | |
| Coefficient of Friction | | | ASTM D1894 |
| vs. Itself - Dynamic | 0.20 to 0.30 | | |
| vs. Itself - Static | 0.20 to 0.40 | | |
| Taber Abrasion Resistance | | | ASTM D4060 |
| 1000 Cycles, 1000 g, CS-10 Wheel | 5.00 to 10.0 | mg | |

| Impact | Typical Value | Unit | Test method |
|---|---|---|---|
| Notched Izod Impact [3] (23°C, 4.00 mm) | 1000 | J/m | ASTM D6110 |

| Hardness | Typical Value | Unit | Test method |
|---|---|---|---|
| Durometer Hardness (Shore D, 2.00 mm) | 53 | | ASTM D2240 |

| Thermal | Typical Value | Unit | Test method |
|---|---|---|---|
| Glass Transition Temperature | -28.0 | °C | ASTM D4065 |
| Vicat Softening Temperature | 110 | °C | ASTM D1525 [4] |
| Melting Temperature | 167 to 171 | °C | ASTM D3418 |
| Peak Crystallization Temperature (DSC) | 125 to 131 | °C | ASTM D3418 |

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| Thermal | Typical Value | Unit | Test method |
|---|---|---|---|
| CLTE - Flow (0 to 40°C) | 1.3E-4 to 1.5E-4 | cm/cm/°C | ASTM D696 |
| Specific Heat | | | ASTM E968 |
| 23°C | 1200 | J/kg/°C | |
| 100°C | 1600 | J/kg/°C | |
| Thermal Conductivity (23°C) | 0.20 | W/m/K | ASTM C177 |
| Crystallization Heat | 22.0 to 28.0 | J/g | ASTM D3417 |
| Heat of Fusion | 23.0 to 29.0 | J/g | ASTM D3417 |

| Electrical | Typical Value | Unit | Test method |
|---|---|---|---|
| Surface Resistivity | > 1.0E+14 | ohms | ASTM D257 |
| Volume Resistivity | > 1.0E+14 | ohms·cm | ASTM D257 |
| Dielectric Strength (23°C, 1.00 mm) | 20 to 25 | kV/mm | ASTM D149 |
| Dielectric Constant (23°C, 1 kHz) | 7.00 | | ASTM D150 |

| Flammability | Typical Value | Unit | Test method |
|---|---|---|---|
| Flame Rating (0.100 mm) | V-0 | | UL 94 |
| Oxygen Index (3.00 mm) | 48 | % | ASTM D2863 |

**Notes**

Typical properties: these are not to be construed as specifications.

[1] Type IV, 1.0 mm/min

[2] Type IV, 50 mm/min

[3] 2 m/s, Partial Break

[4] Rate A (50°C/h), Loading 2 (50 N)

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