

Halar® 901

chlorotrifluoroethylene polyethylene

General

| | | | |
|-------------------|--|-----------------------------|-----------------|
| Material Status | • Commercial: Active | | |
| Availability | • Africa & Middle East • Asia Pacific | • Europe • North America | • South America |
| Features | • High Viscosity | | |
| Forms | • Pellets | • Powder | |
| Processing Method | • Extrusion | | |

Physical

| | Typical Value | Unit | Test Method |
|---|---------------|----------|-------------|
| Specific Gravity | 1.68 | | ASTM D792 |
| Melt Mass-Flow Rate (MFR) (275°C/2.16 kg) | 1.0 | g/10 min | ASTM D1238 |
| Molding Shrinkage - Flow | 0.025 | in/in | ASTM D955 |
| Water Absorption (Equilibrium) | < 0.10 | % | ASTM D570 |

Mechanical

| | Typical Value | Unit | Test Method |
|---------------------------------------|---------------|------|-------------|
| Tensile Modulus ¹ (73°F) | 240000 | psi | ASTM D638 |
| Tensile Strength ¹ | | | ASTM D638 |
| Yield, 73°F | 4350 | psi | |
| Break, 73°F | 7830 | psi | |
| Tensile Elongation ¹ | | | ASTM D638 |
| Yield, 73°F | 5.0 | % | |
| Break, 73°F | 250 | % | |
| Flexural Modulus ² (73°F) | 245000 | psi | ASTM D790 |
| Flexural Strength ² (73°F) | 6820 | psi | ASTM D790 |
| Coefficient of Friction | | | ASTM D1894 |
| vs. Itself - Dynamic | 0.20 | | |
| vs. Itself - Static | 0.20 | | |
| Taber Abrasion Resistance | | | |
| 1000 Cycles, 500 g, CS-17 Wheel | 5.00 | mg | |

Impact

| | Typical Value | Unit | Test Method |
|---------------------|---------------|----------|-------------|
| Notched Izod Impact | | | ASTM D256 |
| -40°F, 0.126 in | 3.9 | ft·lb/in | |
| 73°F, 0.126 in | No Break | | |

Hardness

| | Typical Value | Unit | Test Method |
|------------------------------|---------------|------|-------------|
| Rockwell Hardness (R-Scale) | 90 | | ASTM D785 |
| Durometer Hardness (Shore D) | 75 | | ASTM D2240 |

Thermal

| | Typical Value | Unit | Test Method |
|--|---------------|----------|-------------|
| Deflection Temperature Under Load | | | ASTM D648 |
| 66 psi, Unannealed | 194 | °F | |
| 264 psi, Unannealed | 149 | °F | |
| Brittleness Temperature | < -105 | °F | ASTM D746A |
| Glass Transition Temperature | 185 | °F | DMA |
| Melting Temperature | 468 | °F | ASTM D3418 |
| Peak Crystallization Temperature (DSC) | 432 | °F | ASTM D3418 |
| CLTE - Flow | 0.000056 | in/in/°F | ASTM D696 |

| Thermal | Typical Value Unit | Test Method |
|--|-----------------------------------|-------------|
| Specific Heat (73°F) | 0.230 Btu/lb/°F | ASTM D3418 |
| Thermal Conductivity (104°F) | 1.0 Btu·in/hr/ft ² /°F | ASTM C177 |
| Crystallization Heat | 40.0 J/g | ASTM D3418 |
| Heat of Fusion | 42.0 J/g | ASTM D3418 |
| Thermal Stability - 1% mass loss, N ₂ | 761 °F | TGA |
| Electrical | Typical Value Unit | Test Method |
| Volume Resistivity ³ (73°F) | 5.5E+16 ohm·cm | ASTM D257 |
| Dielectric Strength (73°F, 0.126 in) | 350 V/mil | ASTM D149 |
| Dielectric Constant (73°F, 1 MHz) | 2.57 | ASTM D150 |
| Flammability | Typical Value Unit | Test Method |
| Flame Rating - UL | V-0 | UL 94 |
| Oxygen Index | 52 % | ASTM D2863 |

Notes

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

¹ 2.0 in/min

² 0.098 in/min

³ 50% RH

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