

DAI-EL® Fluoroelastomer G-684BP

Characteristics

DAI-EL® G-684BP is a gum terpolymer with medium Mooney viscosity. It is designed for compression molding of o-rings, seals and other parts where exceptional fluid resistance is required. When properly compounded and cured it has low compression set.

Properties*

| | |
|-----------------------------------|-------------------------------------|
| Fluorine content | 70% |
| Specific gravity | 1.90 |
| Mooney viscosity (ML1+10 @ 121°C) | 44 |
| Color | Translucent with gold hue |
| Solubility | Soluble in lower ketones and esters |

*Typical properties are not suitable for specification purposes.

Typical Applications

O-rings, seals, gaskets, molded tubing

Foam & Packaging

DAI-EL® G-684BP is packaged as slabs with polyethylene film separators in a polyethylene bag. The standard shipping container is a 20 kg (44 lb) net weight carton.

Safety

- (1) Store and use all fluoroelastomers in a well-ventilated area.
- (2) Do not smoke in areas contaminated with dust from fluoroelastomers.
- (3) Avoid eye contact.
- (4) After handling, wash any skin that came in contact with the product with soap & water.

Potential hazards, including evolution of toxic vapors, exist during compounding or processing under high temperatures. Before processing Daikin fluoroelastomer, consult the SDS (Safety Data Sheet) and follow all label directions and handling precautions. Read and follow all directions from other compound ingredient suppliers. Mixing agents that contain metallic particulate such as powdered aluminum can rapidly decompose at high temperatures, and therefore should not be used with this product.

Typical Compound Properties

| Test Formula | phr |
|-------------------------|-----|
| DAI-EL® G-684BP | 100 |
| MT Carbon Black (N-990) | 30 |
| Magnesium oxide | 3 |
| Calcium hydroxide | 6 |
| Bisphenol AF | 2 |
| Phosphonium Accelerator | 0.5 |

| Rheological Properties | MDR2000 |
|--|----------------------------------|
| Temperature: 177°C Frequency: 100 cpm | Strain: 0.5° Test time: 6 min |
| ML (minimum torque), lb-in (dNm) | 1.1 (1.2) |
| MH (maximum torque), lb-in (dNm) | 19.9 (22.5) |
| t _{s2} (scorch time), minutes | 2.4 |
| t'50 (time to 50% cure), minutes | 3.1 |
| t'90 (time to 90% cure), minutes | 4.4 |

| Physical Properties | |
|---|------------------|
| Press Cure | 10 min at 177 °C |
| Post Cure | 24 hrs @ 232 °C |
| Hardness, Shore A | 80 |
| Tensile strength, MPa(psi) | 11.4 (1660) |
| Elongation at break, % | 230 |
| 100% Modulus, MPa(psi) | 5.1 (740) |
| Compression Set, ASTM D395 Method B (#214 O-ring) | |
| 70 hours @ 200 °C, % | 16 |

| Low Temperature Retraction, ASTM D1329 | |
|--|----|
| TR10, °C | -9 |

| Heat Aging Properties, 70 h @ 250 °C | |
|--------------------------------------|-----|
| Change in Hardness, pts. Shore A | 0 |
| Change in Tensile strength, % | -2 |
| Change in Elongation at break, % | +4 |
| Change in 100% Modulus, % | -12 |

| Fuel CM20 (20% Methanol), 70 h @ 23 ° | |
|---------------------------------------|------|
| Change in Hardness, pts. Shore A | -5 |
| Change in Tensile strength, % | -20 |
| Change in Elongation at break, % | +4 |
| Change in 100% Modulus, % | -23 |
| Change in Volume, % | +4.0 |

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