

DOF

Dilute Eltinert F Oil

The Eltinert series of contact lubricants have been developed to provide superior protection to electrical contacts under the most difficult conditions. These include extended periods at high temperatures and under corrosive chemical atmospheres. They are also ideal for the protection of noble metals, either in switches or connectors. DOF is a 1% solution of EOF in non-flammable perfluorocarbon solvent. This dilute oil is ideal in most applications where only a very thin film is required (< 0.15 mg/cm²).

- Dilute oil version for use in very thin films; undiluted oil and grease versions available
- Excellent electrical characteristics combined with very good plastics compatibility
- Excellent oxidation and chemical resistance; high protection in harsh environments
- Prevents and cures high contact resistance caused by silicone contamination

| Approvals | RoHS-2 Compliant (2011/65/EU): | Yes |
|---|--------------------------------|---|
| Typical Properties | | |
| Colour | | Colourless |
| Density (g/ml) | | 1.85 |
| Temperature Range (°C) | | -60 to +300 |
| Vapour Pressure | | 10 ⁻³ Torr @ 20°C 8 x 10 ⁻² Torr @ 250°C |
| Evaporation Weight Loss (% 22 hours @ 150°C) | | <1 |
| Copper Strip Corrosion (IP154 / ISO 2160) | | Nil |
| Base Oil Type | | PFPE |
| Base Oil Viscosity @ 20°C (Kinematic Viscosity (cSt)) | | 280 |
| Base Oil Viscosity Index (ASTM D 2270) | | 338 |
| Pour Point (ASTM D 97 (°C)) | | -65 |
| Flash Point (COC ASTM D 92 (°C)) | | None |
| Surface Tension (Dynes/cm) | | 25 |
| UV Trace | | No |
| Electrical Properties | | |
| Dielectric Constant @ 1 MHz | | 2.1 |
| Dielectric Strength (kV/mm) | | 40 |

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Electrolube cannot be held responsible for the performance of its products within any application determined by the customer, who must satisfy themselves as to the suitability of the product.

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BS EN ISO 9001:2008
Certificate No. FM 32082

| <u>Description</u> | <u>Packaging</u> | <u>Order Code</u> | <u>Shelf Life</u> |
|-----------------------|----------------------|-------------------|-------------------|
| Dilute Eltinert F Oil | 1 Litre Bulk (1.6kg) | DOF01L | 72 Months |

Typical Product Applications

Dilute Eltinert F Oil is a diluted oil for use on contact surfaces requiring very thin films of lubricant. For greater environmental protection Eltinert F Grease (EGF) is recommended.

The polar nature of these lubricants ensures good bonding to all metals, including gold. Although gold itself is not subject to environmental attack, gold plate is porous and attack can occur on the substrate metals, e.g. silver, copper or tin. Eltinert F Oil prevents this attack and can allow the use of thinner gold plate.

Eltinert F fluorinated lubricants have two main areas of application:

1. As contact lubricants - particularly suitable for contacts involving gold and/or aggressive environments e.g., printed circuit edge connectors, plug connectors, rotary and sliding switches.
2. For the lubrication of plastics and rubbers, including those known to be particularly prone to solvent stress cracking.

The following plastics, normally regarded as prone to solvent stress cracking, are unaffected by Eltinert F Oil at 70°C: 'Noryl' (PPO/Polystyrene), Polystyrene, Impact modified polystyrene, ABS, Polycarbonate.

The following vulcanised rubbers showed minimal change in properties at 70°C: Natural rubber, EPDM, SBR, Butadiene-acrylonitrile, Butyl.

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