EGF
Eltinert F Grease

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. EGF has outstanding high temperature performance with less than 1% weight loss in 24 hours at 150°C. EGF is suitable for continuous use up to 200°C and for shorter periods up to 300°C.

- Excellent mechanical lubrication, greatly reduces friction
- 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 Compliant (2015/863/EU):**	**Yes**

Typical Properties

Colour	White
Density (g/ml)	1.9
Temperature Range (°C)	-25 to +300
Vapour Pressure	10^{-8} Torr @ 20°C 8 x 10^{-2} Torr @ 250°C
Evaporation Weight Loss (% 7 days @ 100°C)	0.8
Copper Strip Corrosion (IP154 / ISO 2160)	≤1b
Drop Point (IP32 / ISO 2176 (°C))	>250
Cone Penetration Worked (ASTM D217, 60 strokes @ 20°C)	280
Consistency (NLGI)	2
Fliessdruck (Flow Pressure) (DIN 51805, mbar @ -40°C)	1100
Oil Bleed / Separation (IP121)	5%
Plastic Compatibility - ABS	Test
Plastic Compatibility - PC	Test
Thickener	Fumed Silica
UV Trace	No

Electrical Properties

Dielectric Constant (ASTM D877/67 @ 250°C)	2.1
Dielectric Strength (ASTM D877/67 @ 250°C)	40kV/mm

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Base Oil Properties:

Base Oil Type	PFPE
Base Oil Viscosity @ 40°C (Kinematic Viscosity (cSt))	345
Base Oil Viscosity @ 100°C (Kinematic Viscosity (cSt))	33
Base Oil Viscosity Index (ASTM D 2270)	135
Pour Point (ASTM D 97 (°C))	-25
Flash Point (COC ASTM D 92 (°C))	Not Determined

Mechanical Properties:

4 Ball Wear (mm)	1.071
Weld Load (kgf)	400

Description	Packaging	Order Code	Shelf Life
Eltinert F Grease	1Kg Bulk	EGF01K	72 Months
	10ml syringe	EGF10S	48 Months

Typical Product Applications

Eltinert F grease (EGF) is non-melting and will not migrate from vertical contacts or surfaces. It has similar properties to the oil (EOF) but allows even greater protection from environmental conditions and is also recommended for applications involving heavy arcing. If lower vapour pressure, lower evaporation weight loss or lower temperature capability are required Electrolube DOF may also be considered. A separate data sheet for these products is available.

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 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 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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