



Braycote 631 RP

Grease, Perfluoroether Rust Inhibited,

Description

Castrol Braycote™ 631 RP is a smooth, buttery, off-white NLGI #2 grease based upon a perfluoroether oil. This grease is nonflammable and is in general chemically inert. It is thermally stable either alone or in the presence of oxygen, has exceptionally low volatility, and has little tendency to form deposits. In addition Braycote 631 RP exhibits excellent lubricating properties, good dielectric properties, and shear stability. Castrol Fluoroclean™ X100 and Castrol Fluoroclean™ HE can be used to remove this lubricant. Refer to the data sheets for information regarding these products.

Application

Braycote 631 RP is designed for static or dynamic service in the presence of fuels and oxidizers. It has been used in gears, ball and roller bearings, electrical contacts, and as a thread and elastomer sealant. It is particularly useful as a lubricant in corrosive or oxygen (LOX/GOX) service and as a plug valve lubricant. This product is compatible with concentrated acids and bases and it does not hydrolyze or oxidize. Perfluorinated greases, such as Braycote 631 RP, exhibit excellent shelf lives due to their inertness.

Typical Characteristics

Name	Method	Units	Braycote 631 RP
Unworked Penetration	ASTM D217 / IP 50	0.1 mm	284
Worked Penetration (60 strokes @ 25°C / 77°F)	ISO 2137 / ASTM D217	0.1 mm	285
Evaporation Loss (22hrs @ 204°C / 400°F)	ASTM D2595	% wt	1.68
Oil Separation (30 hrs @ 204°C / 400°F)	ASTM D6184 / FTM 321.2	% wt	9.89
Rust Test (distilled water)	ASTM D1743	Pass	Pass
Resistance to Wash-out by Distilled Water	FTM 5415	Pass	Pass
Copper Corrosion (24 hrs, 100°C / 212°F)	ASTM D4048	Rating	1b
Four Ball Wear test - Wear Scar Diameter (40 kgf / 75°C / 1200 rpm / 1 hr)	ISO 51350 / ASTM D2266	mm	0.66
Low temperature Torque - starting torque @ -54°C / -65.2°F	ASTM D1478	N/m	0.441
Low temperature Torque - torque after 60 mins @ -54°C / -65.2°F	ASTM D1478	N/m	0.147
LOX Impact Sensitivity (100 mm, 20 drops)	-	Pass	Pass
High Temperature Bearing Life test	ASTM D3336	hrs	>500
Dropping Point	ISO 2176 / ASTM D566	°C/°F	183/361
Specific Gravity @ 20°C / 68°F	ISO 12185 / ASTM D4052	kg/m ³	19137
Base Oil Viscosity @ 99°C / 210°F	ISO 3104 / ASTM D445	mm ² /s	11.6
Base Oil Viscosity @ 20°C / 68°F	ISO 3104 / ASTM D445	mm ² /s	490
Viscosity Index	ISO 2909 / ASTM D2270	-	117
Pour Point	ISO 3016 / ASTM D97	°C/°F	-36/-30

Additional Information

Temperature

Range -54°C to above 204°C (-65°F to above 400°F)

Limitations

Braycote 631 RP is only slightly soluble or insoluble in most current fuels and oxidizers in propellant service, and in most organic solvents and materials other than fluorinated solvents. It is compatible at normal operating temperatures with conventional metals, plastics and elastomers. Braycote 631 RP may be adversely affected by Lewis Acids, such as aluminum chloride, at elevated temperatures. Newly exposed rubbing surfaces of aluminum, magnesium or titanium alloys may react with Braycote 631 RP under certain conditions. Such systems should be thoroughly evaluated. Surfaces must be well cleaned of organic rust inhibitors prior to grease application to insure proper lubrication. This product is not recommended for use in applications under vacuum and loads exceeding 100,000 psi for extended periods of time.

Packaging

Braycote 631RP is packaged in 2 oz (AVDP) disposable syringes, 1 lb plastic containers, 1.75 lb cartridge and 45 lb pail.

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