



Braycote 803 RP

Perfluoroether Grease, Rust Inhibited

Description

Castrol Braycote™ 803 RP is a smooth, buttery, off-white NLGI #2 grease, based on perfluoropolyether oil (Castrol Brayco® 812) and thickened with a tetrafluoroethylene gelling agent. It contains a rust and corrosion inhibitor for ferric component protection. Castrol Braycote 803 RP is thermally stable in air, vacuum, strong acids and oxidizers. Castrol Fluoroclean™ X 100 or Castrol Fluoroclean™ HE can be used to clean this product. Refer to the data sheets for information regarding these products.

Application

Castrol Braycote 803 RP was developed for use in applications in which long-term exposure to high temperature or hard vacuum is expected. This product is fully compatible for use in direct or indirect contact with Liquid and Gaseous Oxygen (LOX/GOX). Castrol Braycote 803 RP is stable with exposure to strong acids and oxidizers. Perfluorinated greases, in general, exhibit excellent shelf lives due to their intrinsic inertness.

Additional Information

Temperature Range

Below -62°C to above 260°C (below -80°F to above 499°F). Lower temperature operation below -62°C (-80°F) is possible where adequate torque is available.

Compatibility

Castrol Braycote 803 RP is compatible with all commonly used construction materials including metals, plastics and elastomers. Lewis Acids, such as aluminum chloride, can adversely affect any PFPE grease at elevated temperature. Newly exposed rubbing surfaces of aluminum, magnesium or titanium at elevated temperatures may react with Castrol Braycote® 803RP under certain conditions. Such systems should be thoroughly evaluated. Surfaces must be well cleaned of organic rust inhibitors prior to grease application to ensure proper lubrication.

Packaging

Castrol Braycote 803 RP is available in 2 ounce (AVDP) disposable plastic syringes and 1 pound plastic jars.

Typical Characteristics

Name	Method	Units	Braycote 803 RP
Unworked Penetration	ASTM D217 / IP 50	0.1 mm	287
Worked Penetration (60 strokes @ 25°C / 77°F)	ISO 2137 / ASTM D217	0.1 mm	288
Evaporation Loss (22hrs @ 204°C / 400°F)	ASTM D2595	% wt	0.29
Oil Separation (30 hrs @ 204°C / 400°F)	ASTM D6184 / FTM 321.2	% wt	8.83
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 D2260	mm	0.75
Four Ball Weld Load test - Weld Point	ISO 11008 / ASTM D2596	kgf	800
High Temperature Bearing Life test	ASTM D3336	hrs	2,000+
Low temperature Torque - starting torque @ -54°C / -65°F	ASTM D1478	N/m	0.177
Low temperature Torque - torque after 60 mins @ -54°C / -65°F	ASTM D1478	N/m	0.103
Low temperature Torque - starting torque @ -62°C / -80°F	ASTM D1478	N/m	0.218
Low temperature Torque - torque after 60 mins @ -62°C / -80°F	ASTM D1478	N/m	0.127
Vacuum Stability	ASTM E595 / NASA SP-R-0022A	Total Weight Loss (% wt) / Volatiles (%wt)	0.1 / 0
LOX Impact Sensitivity (1100mm, 20 drops)	-	Pass	Pass
Density of finished grease @ 15°C / 59°F	In-house test	lb/gallon	15.71
Base Oil Viscosity @ 20°C / 68°F	ISO 3104 / ASTM D445	mm ² /s	434
Base Oil Viscosity @ 40°C / 104°F	ISO 3104 / ASTM D445	mm ² /s	187
Base Oil Viscosity @ 100°C / 212°F	ISO 3104 / ASTM D445	mm ² /s	33
Viscosity Index	ISO 2909 / ASTM D2270	-	224
Knudsen Vapour Pressure @ 20°C / 68°F	-	Torr	<1x10 ⁻¹⁰
Knudsen Vapour Pressure @ 100°C / 212°F	-	Torr	<1x10 ⁻⁷
Pour Point	ISO 3016 / ASTM D97	°C/°F	< -60 / -75

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