

Castrol Braycote 803

Perfluoroether Grease
Wide Temperature, Low Volatility

Description

Castrol Braycote 803 is a smooth, buttery, translucent-white, NLGI #2, grease, based on perfluoropolyether oil and thickened with a tetrafluoroethylene gelling agent. This product provides excellent lubricity, oxidative and thermal stability, low volatility, good shear stability, low acute toxicity and contain no sodium or other alkali metal containing ingredients. Castrol Fluoroclean™ X100 or Castrol Fluoroclean™ HE can be used to clean this product. Refer to the data sheets for information regarding these products.

Application

Braycote 803 was developed for use in applications where long term exposure to high temperature or high vacuum is expected. This product is fully compatible for use in both direct and indirect contact with liquid and gaseous oxygen (LOX/GOX). Braycote 803 is stable with exposure to strong acids and oxidizers. Perfluorinated greases, in general, exhibit excellent shelf lives due to their intrinsic inertness.

Typical Characteristics

Test Methods	Description	Result
D 1403	Penetration @ 25°C (77°F), mm ⁻¹	
	Unworked	286
	Worked, 60 strokes	283
D 2595	Evaporation Loss, % wt 22 hrs @ 204°C (400°F)	0.33
FTM 321	Oil Separation, % wt 30 hrs @ 204°C (400°F)	8.93
FTM 5309	Copper Strip Corrosion 22 hrs @ 99°C (210°F)	1b
D 2266	Four-Ball Wear-Test, AWS D, mm 1200 rpm, 40 kgf, 1 hr, 75°C (167°F)	0.70
D 2596	Four-Ball Extreme-Pressure Test No Weld Point, kgf	500
D 2266	Dropping Point, °C (°F)	216 (420)
Outgassing Test	Total Mass Loss, 48 hours @ 150°C, ~10-9, % wt	--
D 1478	Low temperature torque, Nm, @ -73°C (-100°F)	
	Starting	0.22
	Running	0.13

Base Oil Information		
	Pounds per Gallon @ 16°C (60°F)	15.71
D 445	Kinematic Viscosity, cSt	
	@ 20°C (68°F)	440
	@ 40°C (104°F)	187
	@ 100°C (212°F)	33
D 2270	Viscosity Index	225
Knudsen	Vapor Pressure, torr	
	@ 20°C (68°F)	$<1 \times 10^{-10}$
	@ 100°C (212°F)	1×10^{-7}
D 97	Pour Point, °C (°F)	<-60 (-75)
Braycote Micronic 803		
FTM 3005.4	Solid Particle Contamination per cc of grease	
	0 - 75 microns	319
	75+ microns	0

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.

Limitations

Braycote 803 is compatible with most commonly used construction materials including metals, plastics and elastomers. This product may be adversely affected by Lewis Acids such as aluminum chloride, at elevated temperatures. Newly exposed rubbing surfaces of aluminum, magnesium or titanium alloys at elevated temperatures may react with Braycote 803 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

Braycote 803 is available in 2 oz (AVDP) disposable syringes, 1 lb plastic jars (NGLI Grade 2). A specially filtered "Micronic" version of NGLI Grade 2 is also available in 2 oz (AVDP) disposable plastic syringes and 1 pound jars.

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