



Product Data

Castrol Braycote® 803 Series

Perfluoroether Grease
Wide Temperature, Low Volatility

Description

Castrol Braycote 803 is a smooth, buttery, translucent-white grease, based on perfluoropolyether oil (Castrol Brayco 812) and thickened with a tetrafluoroethylene gelling agent. It is available in NLGI Grades 0, 2 and 3. These products provide 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.

Characteristics

TEST METHODS	DESCRIPTION	RESULT		
		NLGI 0	NLGI 2	NLGI 3
D 1403	Penetration @ 25°C (77°F), mm ⁻¹			
	Unworked	362	286	230
	Worked, 60 strokes	358	283	223
D 2595	Evaporation Loss, % wt 22 hrs @ 204°C (400°F)	0.10	0.33	0.18
FTM 321	Oil Separation, % wt 30 hrs @ 204°C (400°F)	10.12	8.93	6.93
FTM 5309	Copper Strip Corrosion 22 hrs @ 99°C (210°F)	1b	1b	1b
D 2266	Four-Ball Wear-Test, AWSD, mm 1200 rpm, 40 kgf, 1 hr, 75°C (167°F)	0.45	0.70	1.30
D 2596	Four-Ball Extreme-Pressure Test No Weld Point, kgf	400	500	500
D 2266	Dropping Point, °C (°F)	216 (420)	216 (420)	223 (433)
Outgassing Test	Total Mass Loss, 48 hours @ 150°C, ~10-9, % wt	0.05	--	0.06
E 1559	Extrapolated Vapor Pressure, 20°C, torr Derived from ASTM vapor pressure versus temperature plot. This result is for the whole grease. Refer to the attached plot. All samples preconditioned at 150°C for 48 hours. @60°C (140°F) @100°C (212°F) @150°C (302°F)	8 x 10 ⁻¹¹ 8.9 x 10 ⁻⁹ 9.3 x 10 ⁻⁷		1 x 10 ⁻¹² 9.8 x 10 ⁻⁹ 9.3 x 10 ⁻⁷
D 1478	Low temperature torque, Nm, @-73°C (- 100°F) Starting Running		0.22 0.13	
Base Oil Information				
	Pounds per Gallon @ 16°C (60°F)	15.71		

D 445	Kinematic Viscosity, cSt @ 20°C (68°F) @ 40°C (104°F) @ 100°C (212°F)	440 187 33
D 2270	Viscosity Index	225
Knudsen	Vapor Pressure, torr @ 20°C (68°F) @ 100°C (212°F)	<1 x 10 ⁻¹⁰ 1 x 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 75+ microns	319 0

Health, safety and environmental information are provided for this product in the Materials Safety Data Sheet. This gives details of potential hazards, precautions and First Aid measures, together with environmental effects and disposal of used products. Castrol will not accept liability if the product is used other than in the manner or with the precautions or for the purpose(s) specified. Before using the product other than directed, please contact Castrol for consultation.

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

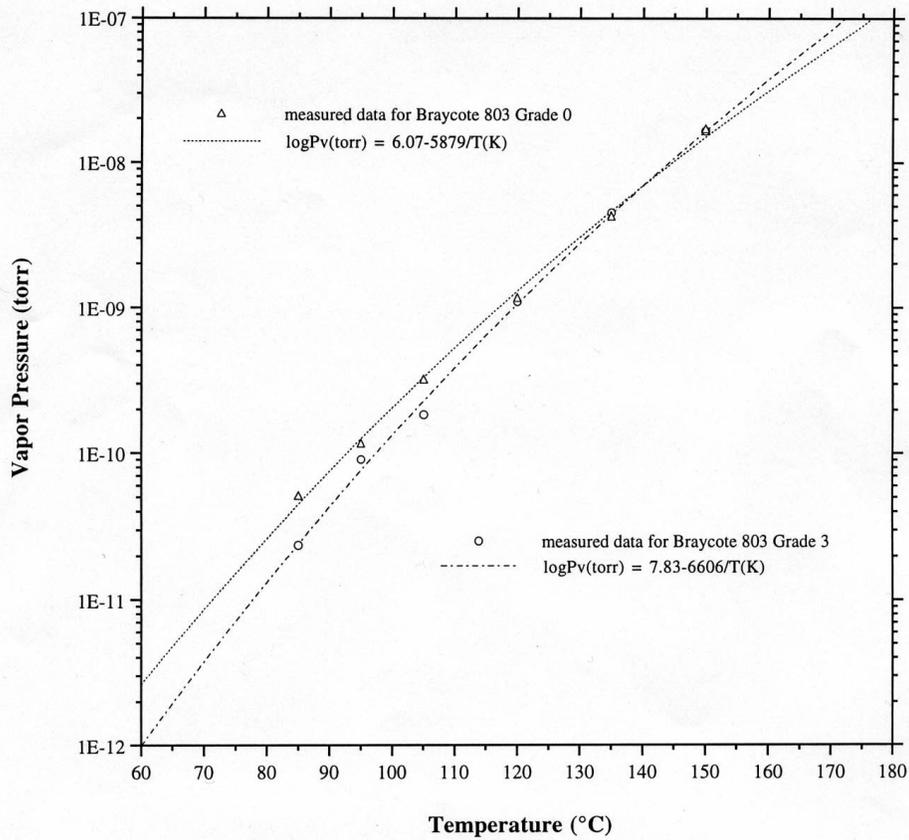
Braycote 803 is compatible with most commonly used construction materials including metals, plastics and elastomers. This product may be adversely affected by Lewis Acids such as aluminum chloride, at elevated temperatures. Newly exposed rubbing surfaces of aluminum, magnesium or titanium alloys at elevated 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). Braycote 803-0 (NGLI Grade 0) and Braycote 803-3 (NGLI Grade 3) are available in 2 oz (AVP) disposable plastic syringes. A specially filtered "Micronic" version of NGLI Grade 2 is also available in 2 oz (AVDP) disposable plastic syringes and 1 pound jars.

Vapor Pressures for Braycote 803 Grade 0 and Grade 3 greases.

(Measurements obtained after preconditioning samples in vacuum for 48 hours at 150°C)



Castrol Braycote 803 Series
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All reasonable care has been taken to ensure that the information contained in this publication is accurate as of the date of printing. However, such information may, nevertheless, be affected by changes in the blend formulation occurring subsequent to the date of printing. Material Safety Data Sheets are available for all Castrol Ltd products. The MSDS must be consulted for appropriate information regarding storage, safe handling and disposal of a product.

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