



Castrol Braycote 602 EF

Grease, Molybdenum Disulfide Compound,
Rocket Propellant Compatible, Low Temperature

Description

Castrol Braycote 602 EF is a smooth, buttery, gray colored NLGI #2 grease. The base fluid (Castrol Brayco® 815Z) is a stable perfluorinated polyether with exceptional chemical resistance, extremely low volatility, and a wide temperature service range. The gelling agent is a tetrafluoroethylene telomer. This grease contains molybdenum disulfide. This product is nonflammable, does not use any chlorofluorocarbons (CFC's) during product manufacture, and is in general, chemically inert. It is an excellent lubricant, has good shear stability, and low acute toxicity. Castrol Fluoroclean™ X100 or Castrol Fluoroclean™ HE can be used to remove this lubricant. Refer to the data sheets for these products for more information.

Application

Braycote 602 EF is designed to operate in the presence of fuels, oxidizers, and deep space vacuums. Typical applications include ball and roller bearings, gears, electrical contracts, and as an assembly lubricant for O-rings and elastomers. This grease is highly recommended in applications where temperature extremes and/or low vacuums are routine. Perfluorinated greases, such as this product, exhibit excellent shelf life due to their intrinsic inertness.

Typical Characteristics

TEST METHOD	DESCRIPTION	RESULT
D 1403	Penetration, 25°C (77°F), mm ⁻¹ Unworked	268
	Worked, 60 strokes	273
D 2265	Dropping Point, °F (°C)	460 (238)
FTM 321	Oil Separation, % wt 30 hrs, 204°C (400°F)	10.8
	Evaporation Loss, %	0.12
D 2266	Four-Ball Wear-Test, AWSD @ 167°C, mm 1200 rpm, 40 Kg, 1 hr	
	@ 75°C (167°F)	1.15
	@ 204°C (400°F)	1.04
BOC	Evaporative weight loss, 72 hrs at 450°F (232°C)	0.22
D 2596	Four-Ball Extreme-Pressure Weld, Kg	800+
	AWSD @ 600 Kg, mm	1.85
Spec	Molybdenum Disulfide Content, (Mil-M-7866), % wt	5
D 2512 (MSFC 106)	LOX Impact Sensitivity 1100 mm, 20 drops	Pass
E 595 NASA SP-R-0022A	Vacuum Stability Test	
	24 hrs, 125°C (257°F), 10 ⁻⁶ torr	
	Total Weight Loss (TML), % wt	0.21
	Volatile Condensable Material (VCM), % wt	0.04

TEST METHOD	DESCRIPTION	RESULT
D 3336	High temperature bearing performance, hours	700+
D 1478	Low temperature torque, gm-cm @ -62°C (-80°F) Starting	585
	Running, 1 hr	228
	@ -73°C (-100°F) Starting	592
	Running, 1 hr	429
Base Oil Characteristics		
D 287	Specific Gravity @ 20°C (68°F)	1.85
	Pounds per gallon @ 20°C (68°F)	15.4
D 445	Kinematic Viscosity, cSt @ 99°C (210°F)	45
	@ 38°C (100°F)	148
	@ -54°C (-65°F)	11,500
D 2270	Viscosity Index	350
D 97	Pour Point, °C (°F)	-72 (-100)
Knudsen	Vapor Pressure, torr @ 20°C (68°F)	4×10^{-13}
	@ 100°C (212°F)	2×10^{-9}
	@ 200°C (392°F)	2×10^{-5}

Additional Information

Temperature Range

-80°C to 204°C (-112°F to 400°F)

Limitations

Braycote 602 EF is compatible with most commonly utilized materials, plastics, and elastomers. It may be adversely affected by Lewis Acid catalysts such as aluminum chloride, at elevated temperatures. Newly exposed rubbing surfaces of aluminum, magnesium or titanium alloys may react with this product 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 high vacuum with loads exceeding 100,000 psi for extended periods of time.

Packaging

Braycote 602 EF is packaged in 2 oz (AVDP) and 4 oz disposable plastic syringes and 1 pound jars.

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