



Product Data

Castrol Optitool™ 214-1

Low Friction, Anti-wear
Cleanroom Grade Grease

Description

Castrol Optitool™ 214-1 is a smooth, fully synthetic NLGI 1 grade grease based upon specially selected raw materials and a proprietary thickener. This product was specifically designed for use in micro-electronic and clean room applications, which are sensitive to metallic elements and other contaminants. **Castrol Optitool™ 214-1** uses no ingredients containing lithium, molybdenum, calcium, aluminum, barium, zinc, or sodium as standard elements. These elements are typically found in other greases and may be contained in relatively high concentration.

Castrol Optitool™ 214-1 provides outstanding friction and wear properties making it ideal for use in all precision requirements and applications which require exceptional lubricity.

Temperature Range

-40°C to 125°C maximum (-40°F to 257°F maximum)

Uses

Castrol Optitool™ 214-1 is intended for use on ball, roller, and needle bearings, linear motion components, carriages, lead screws, gears, sliding and roller surfaces, instruments and precision equipment.

Limitations

Castrol Optitool™ 214-1 is compatible with many lubricants but certain adverse reactions can occur when mixing greases. Mixing of incompatible greases can cause failure and/or decreased performance in certain applications. Before use in any system, consult with your Castrol advisor for compatibility information regarding your specific application and existing grease.

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Castrol Optitool™ 214-1 Typical Properties

Test Method	Description	Results
--	Appearance	Smooth and homogenous, free of lumps and agglomerates
ASTM D 1403	Worked Penetration, 1/10 mm @ 77°F	318
FTM 791 (321)	Oil Separation, % loss, 149°C, 30 hrs	6.1
ASTM D 2266	Four Ball Wear, 40 kg, 1 hr, 75°C, 1200 rpm	0.55
ASTM D 2596	Four Ball Weld, KgF	160
ASTM D 2595	Evaporation loss, %, 100°C, 22 hrs	.12
ASTM D 4048	Copper Corrosion, max	1a
ASTM D 2265	Dropping Point, F	537
ASTM D 287	Specific Gravity @ 60°F	0.8500
ASTM D 1478	Low Temperature Torque, g.cm @ -40°C Starting Running, 1 hour	728 120
ASTM D 5607 (mod)	SRV, 300 N, 1 hr, 50°C, 1 mm, 50 Hz, Coefficient of friction @ 1 hr Ball scar diameter, mm	0.12 0.50
ASTM D 942	Oxidation Stability, psi @ 99°C, 100 hrs	2.0
ASTM 1743	Rust Test	Pass

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.