

Technical Data



Performance you can trust



SAPPHIRE® Endure



ISO 21469 Certified

Food grade, high performance, extreme pressure (EP) lubricant fortified with PTFE

Product Overview

ROCOL® SAPPHIRE Endure is an Oxygen Compatible NLGI No.2 perfluoropolyether based lubricant which lengthens relubrication periods dramatically due to its ability to resist degradation in hostile conditions.

SAPPHIRE Endure is designed for use on anti-friction and plain bearings, small gears, slides, pins, valves, plungers, screws etc. particularly where a non-toxic, NSF H1 lubricant is required.

SAPPHIRE Endure has extreme resistance against aggressive chemicals and strong oxidising agents make it a natural choice for all types of industries including food, pharmaceutical and other clean industries.

Features and Benefits

- SAPPHIRE Endure has an excellent wide temperature range from -25°C to +280°C.
- SAPPHIRE Endure is an oxygen resistant, non-toxic lubricant with an extremely high oxidation and thermal resistance.
- SAPPHIRE Endure has outstanding EP performance with a weld load of 620kg.
- SAPPHIRE Endure is a chemically inert, non-toxic lubricant with extremely high oxidation and thermal resistance.
- The product has an exceptionally long service life providing excellent cost effectiveness from extended lubrication intervals, reduced downtime and reduced labour costs.
- SAPPHIRE Endure will have no detrimental effect on rubbers, plastics or metals.
- SAPPHIRE Endure lubricates by 'smear technology' requiring a minimal amount during service.
- SAPPHIRE Endure 700g cartridge has metal detectable plastic components (end caps) capable of detection by most metal detection equipment.

Directions for Storage and Use

- SAPPHIRE Endure can be applied manually or by other methods suitable for dispensing an NLGI No.2 lubricant.
- SAPPHIRE Endure is compatible with other perfluoropolyether greases. However, for best results the bearings should be purged of the previous lubricant prior to application.
- If the previous lubricant used was not perfluoropolyether based, it is important to ensure that the components are fully cleaned with a suitable solvent, for example ROCOL Industrial Cleaner Rapid Drying Spray.
- The storage temperature should be controlled between +1°C and +40°C.
- Shelf life is 5 years from date of manufacture.

Typical Applications

- SAPPHIRE Endure does not contain: mineral hydrocarbons, animal derived materials, nut oils or genetically modified ingredients.
- SAPPHIRE Endure is manufactured from only FDA listed ingredients:
 - FDA Group 21 CFR 178.3570
- SAPPHIRE Endure is NSF registered:
 - NSF H1 registered – 123718
- ISO 21469
- Halal Certified
- Kosher Certified
- WRAS approved material for drinking water

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Property	Test Method	Result
Appearance	Visual	Smooth white lubricant
NLGI Number	IP50 - ASTM D217	2
Base Type	N/A	Perfluoropolyether
Base Fluid Viscosity at 20°C	IP71 – ASTM D445	1525cSt
Base Fluid Viscosity at 40°C	IP71 – ASTM D445	420cSt
Base Fluid Viscosity at 100°C	IP71 – ASTM D445	40cSt
Thickener	N/A	PTFE
Temperature Range	N/A	-25°C to +280°C
4-Ball Weld Load	IP239 - ASTM D2596	620kg
4-Ball Wear Load Index	IP239 - ASTM D2596	106kg
Oil Separation (30 hours & 204°C)	IP121	13%
Specific Gravity	N/A	1.9
Solvent Resistance	N/A	Most solvents
Chemical Resistance	N/A	Most acids
Soluble in:	N/A	Fluorinated solvents

Values quoted above are typical and do not constitute a specification.

Sapphire Endure is produced at a Halal Control Certified Site (Swillington UK) and is certified as Halal only where the Halal Control Logo is displayed on the product label (certificate registration number C-912-350-05-01/1).



Metal detectable caps on cartridge to reduce potential contamination

Safety Data Sheets

Safety data sheets are available for download from our website www.rocol.com or may be obtained from your usual ROCOL contact.

The information in this publication is based on our experience and reports from customers. There are many factors outside our control or knowledge which affect the use and performance of our products, for which reason it is given without responsibility.

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