



ULTRATHERM 2000

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ULTRATHERM 2000 is an ultra high vacuum grease down to 10^{-9} mbar based on perfluorinated polyethers. These oils are completely saturated and are showing optimum oxidation and thermal stability.

Special properties

- Ultra high vacuum grease down to 10^{-9} mbar
- High resistance towards oxydation and high temperatures
- High load carrying capacity
- High chemical resistance, non-combustible
- Low evaporation loss
- No swelling of plastomers and elastomers
- Compatibility with all kind of metals in a large temperature range
- Resistant to radioactive radiation

Product Characteristics	Value	Dimension	Norm / Standard
Colour	white		
Density at 20 °C	1,9	g/cm ³	DIN 51757
Operating temperature range	-60 to 280	°C	
Thickener	PTFE		
Base oil	PFPE		
Kin. viscosity of the base oil at 40 °C	158	mm ² /s	DIN EN ISO 3104
Kin. viscosity of the base oil at 100 °C	48	mm ² /s	DIN EN ISO 3104
Worked penetration	265 – 295	mm/10	DIN ISO 2137
Consistency class (NLGI)	2		DIN 51818
Dropping point	none	°C	DIN ISO 2176
Resistance to water	0 – 90		DIN 51807
Speed factor of grease (n x dm)	300 000	mm/min	
Four-ball test O.K. load / welded load	8500 / 9000	N	DIN 51350
Outgassing rate TML Total Mass Loss	0,08	%	ECSS-Q-70-02 A (ASTM E 595-90)
Outgassing rate CVCM Collected Volatile Condensable Material	0,01	%	ECSS-Q-70-02 A (ASTM E 595-90)
Outgassing rate RML Recovered Mass Loss	0,07	%	ECSS-Q-70-02 A (ASTM E 595-90)
Resistance to radioactive radiation	5×10^6	Gy (=10 ² rd)	

Application

ULTRATHERM 2000 is a lubricating and sealing grease in the ultra high vacuum.

ULTRATHERM 2000 is used, if operating temperatures, chemical and/or physical influences and the aim of the life-time lubrication excludes the use of conventional or other special greases.

Before application of **ULTRATHERM 2000** clean surfaces thoroughly with special detergents as **TURMOTEMPOIL 480**, acetone, isopropanol-alcohol or similar products. The lubricating properties will be only achieved on clean and dry materials.

Packaging units

100 g tube, 190 g tube, 800 g cartridge, 1 kg can, special packing on request

The products are subject to continuous strict production controls and comply with our own factory specifications. A warranty for each case cannot be given, due to the variety of relevant factors. Therefore, we recommend the implementation of field tests. Herewith, any liability is expressly excluded.

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