

PETRONAS TUTELA SP

Extreme Pressure Lithium Automotive Grease

PETRONAS TUTELA SP Grease is an extreme pressure Lithium grease specially developed for automotive applications.

Formulated with selected mineral base oils enhanced with Lithium 12-hydroxystearate soap, advanced extreme pressure, antioxidant, anti-rust, molybdenum Disulphide and corrosion inhibitors. PETRONAS TUTELA SP Grease provides excellent load carrying capabilities, wear protection, excellent stability, and resistance to water wash-out.

PETRONAS TUTELA SP Grease meets or exceed key industrial specifications.

Applications

PETRONAS TUTELA SP Grease is recommended for use in:

- applications involving oscillating or limited relative motion and where fretting corrosion is likely to occur
- applications include chassis lubrication and grease lubricated universal joints (CV Joints)

Note: PETRONAS TUTELA SP Grease is recommended for operating temperature range of -30° C to $+120^{\circ}$ C (Max. $+130^{\circ}$ C).

Features and Benefits

Features	Benefits		
High load carrying capacity	Contains special additives which enables the grease to withstand heavy shock loads without losing the lubricant film		
Very good anti-wear protection	Protects equipment components from excessive wear and provides long equipment life		
Excellent rust & corrosion protection	Protects bearing and metal surfaces against corrosion even when the grease is contaminated with water		
High thermal and oxidation stability	Has very good oxidation resistance and can withstand high operating temperatures without hardening or forming bearing deposits		
Mechanical stability	A highly stable grease with little or no change to consistency when worked in the lubrication of wheel bearings.		

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Typical Properties

Characteristic	Method	Specification	SP
Thickener Type		Lithium	Lithium
NLGI	ASTM D217	2	2
Color	Visual	Grey	Grey
Worked Penetration, mm/10	ASTM D217	265 - 295	280
Worked Penetration 100.000x, Penetration Change, mm/10, Max.	ASTM D217	+15	+10
Oil Separation, Mass %, Max.	ASTM D1742	5	2
Dropping Point, °C, Min.	ASTM D2265	180	188
Four Ball Wear, mm, Max.	ASTM D2266	0,50	0,50
Four Ball EP Weld Point, Min.	ASTM D2596	250	250
SKF R2F B at 120°C	SKF	Pass	Pass
Flow Pressure at -30°C, mbar, Max.	DIN 51805 mod	1400	<1400
Roll Stability, % of Penetration Change, Max.	ASTM D1831	10	8
Water Washout at 38°C, %, Max.	ASTM D1264	10	5
Water resistance at 90°C, Max.	DIN 51807:1	3	1
Rust Protection, rating	ASTM D1743	Pass	Pass
Emcor Test (Salt Water), rating, Max.	ASTM D6138	1-1	0-0
Molybdenum Disulfide, Mass %	Calculated	-	1
Base Oil Viscosity @40°C, cSt	ASTM D445	190 - 210	200

All technical data are provided for reference only / SS is available upon request including quality control limits

Performance Levels

- DIN 51502 KPF2K-30
- ISO 12924 L-XC(F)CIB2

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Health, Safety and Environment

This product is unlikely to present any significant health and safety hazards when used in the recommended application. Avoid contact with skin. Wash immediately with soap and water after skin contact. Do not discharge into drains, soil or water.

For further detail regarding storage, safe handling, and disposal of product, please refer to product SDS or contact us at: <u>www.pli-petronas.com</u>.

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