

PUMA

Semi-fluid grease for wheel-rail contact

DESCRIPTION

PUMA is a semi-liquid special water-resistant railway grease. The grease is produced on the basis of mineral oil thickened with lithium soap of fatty acids. Contains solid fillers, antioxidant, inhibiting and antifriction additives. It is produced at one of the most modern industrial facilities in Russia, using high-quality raw materials.

PUMA is recommended to protect wheel flanges and rails from wear. The lubricant is applied to the flanges of the wheels or the side edge of the rail using on-board and track lubricators, as well as on-board wheel flange lubrication system. It is efficient in the temperature range from -30 ± 40 °C to $+110$ °C.

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| <p>ADVANTAGES:</p> <ul style="list-style-type: none"> • High adhesion characteristics allow the grease to adhere to the vertical wheel-rail contact • Good anti-corrosion properties • Excellent water resistance • High tribological characteristics make it possible to reduce wear and increase the service life of the wheel-rail friction pair | <p>COMPOSITION:</p> <ul style="list-style-type: none"> • Mineral oil • Lithium soap • Fillers • A special package of additives, including antioxidant, inhibiting and antifriction additives |
| <p>APPLICATION IN UNITS:</p> <ul style="list-style-type: none"> • Contact of the flange of railway wheels and the inner surface of the rail | <p>APPLICATION EXAMPLES:</p> <ul style="list-style-type: none"> • Stationary track and mobile rail lubricators • On-board wheel flange lubrication system |

PUMA. Edition 12/21, replaces all previously published edition

This product is manufactured according to TU 32 TsT 2232-97

PUMA TYPICAL PROPERTIES

| Standard | Property | Unit | Value |
|------------|---|-------|--------------------------------|
| | NLGI grade | | 0 |
| | Appearance | | Homogeneous dark gray ointment |
| GOST 5346 | Worked penetration @ 25 °C (60 strokes) | mm/10 | 360–400 |
| GOST 7163 | Viscosity @ –30 °C and an average gradient of deformation rate of 10 s ⁻¹ , max. | Pa·s | 100 |
| GOST 2477 | Water content, max | % | Trace |
| GOST 9.080 | Corrosion effect on metals: steel 40, 50 | | Pass |
| GOST 9490 | Four Ball Non-Seizure Load (P _k), min | N | 670 |
| | Four Ball Scar Diameter (D _i) at a load of 196 N for 1 h, max | mm | 0.7 |

HOW TO USE

This grease can be applied through a centralized lubrication system.

USABLE LIFE AND STORAGE

The guaranteed shelf life is 24 months from the date of manufacture in the manufacturer's container, subject to the conditions of transportation and storage.

HANDLING PRECAUTIONS

This product doesn't contain any toxic ingredients. During storage, transportation, and application of this product, the safety rules for handling mineral lubricating materials and the environment protection regulations must be observed.

For further information on how to use LUKOIL® products, please refer to the product MSDS.

TECHNICAL SUPPORT

For correct selection of the proper lubricating materials to meet your needs, and to get more detailed information on the products, as well as if you have any other questions, we recommend you to contact our technical support service specialists by e-mail: grease.support@lukoil.com

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Product technical properties are typical and can vary in strong limits.

Due to research and development of science and technology technical properties of product indicated in this Technical Data Sheet can be changed without notification.