



## Product Data

# Castrol Longtime<sup>®</sup> PD 1 + PD 2

**Castrol Longtime PD 1 + 2** - universal solid free extreme pressure greases for long term lubrication with wide application range.

**MICROFLUX TRANS<sup>®</sup>** (**TRANS** = **TR**iple **A**ction **N**on-sacrificial **S**urface engineering) improves friction surfaces to an extent not possible with normal machining processes and conventional EP lubricants. In a tribological system the polarized MICROFLUX TRANS<sup>®</sup> additives instantaneously create a passive film on friction surfaces before friction occurs. At a given load level, the MICROFLUX TRANS additives release compounds forming a resistant protective layer on friction surfaces.

Under severe load, components of the MICROFLUX TRANS additive combination are activated and diffuse into the surfaces initiating an improvement of their friction characteristics through plastic deformation. The organic reaction products become a component of the tribopolymer system. Unlike the case with conventional lubricants, the tribopolymers formed by MICROFLUX TRANS are long-chained compounds with excellent lubricity and adhesion. The load carrying area is improved, a hydrodynamic lubrication film is easier to maintain. This unique physio-chemical reaction is CASTROL surface engineering and achieves a non-sacrificial micro-smoothing of the friction surfaces.

The MICROFLUX TRANS additive technology provides optimum wear protection and an extremely low coefficient of friction even under extremes of pressure, vibration, shock loads, at high or low speeds or varying micro-smoothing of the friction surfaces.

### Features

- reduction of running-in period, suitable for lifetime lubrication
- surface improvement to an extent not possible before
- outstanding load carrying capacity
- notably decreased coefficient of friction resulting in energy savings
- optimum wear protection in high load range
- smoothing of existing pitting on damaged components
- reduction of noise levels
- excellent rust protection, largely prevents fretting corrosion
- compatible with all conventional sealing materials and nonferrous metals
- easily pumpable in central lubrication systems
- resistant to cold and hot water

## Product Data

- temperature range:
  - for LONGTIME PD 1: -35°C/-31°F to +130°C/+266°F
  - for LONGTIME PD 2: -35°C/-31°F to +140°C/+284°F

### Uses

**For a large field of applications and various difficult operating conditions, i.e.,** extreme pressures, vibration, shock loads, wide temperature range and components that are prone to fretting corrosion. For constant velocity (CV) joints, ball joints, ball spindles.

For bearings with rotating outer ring and high stresses due to centrifugal load, e.g. in spreader rolls, roll neck bearings in steel mills; for bearings with changing rotational directions or slewing movements.

**For long-term and lifetime lubrication of heavily loaded bearings in** motor vehicles, wheel hubs, shaker screens, wood and metal routers, machine tool spindles, spinning spindles, disk drives, high speed looms, robots.

For high speeds up to Dn factors of 1,000,000.

Cost-benefit offered by MICROFLUX TRANS additive technology:

- extended lifetime of machine elements and wear parts, lower maintenance and labor costs by minimized wear and friction
- full load operation within shortest time, virtually eliminating the running-in period
- lower costs for lubricants and waste oil disposal because of significant extensions of both service life and relubrication intervals
- energy savings due to reduced coefficient of friction, lower temperature of lubricant and component, improvement in operating efficiency
- product consolidation, i.e. simplification and reduction of lubes and spare parts
- reduction of noise resulting from high frequency stick-slip
- for "life" lubrication in some applications

### Application

Specifications of antifriction bearing manufacturers must be followed. Maximum performance only if applied unmixed. CASTROL LONGTIME PD greases allow production consolidation of previously used lubricating greases; their high efficiency ensures economical use and hence a reduction of lubricant expenses.



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### Typical Characteristics

	<u>PD 1</u>	<u>PD 2</u>
Consistency / LGI Grade	1	2
Color	Brown	Brown
Thickener Type	Lithium	Lithium
Specific gravity	0.900	0.886
Worked Penetration, ASTM D 217, mm/10 Pw60	310-340	265-295
Prolonged worked penetration Pw 100,000 - Pw 60, mm/10, pointschange	< 12	< 17
Base Oil Viscosity, ASTM D 445 @ 40°C / 104°F, mm <sup>2</sup> /s	93.9	94.9
Dropping Point, ASTM D 2265, °C/°F	180/356	180/356
Flow Pressure, DIN 51805, mbar: @-35°C/-31°F	<1220	<1580
Water Resistance, DIN 51807, T. 1 @ 90°C/194°F	1	1
SRV test run, test mode 5ae: (300 N, 50°C/122°F, ball/area/2h) Coefficient of friction	0.063	0.070
Wear, DIN E51834 a. Ball/scar Ø (mm)	0.55	0.55
b. Profile depth Pt (µm)	1.0	1.0

Subject to usual manufacturing tolerances.

All reasonable care has been taken to ensure that this information is accurate as of the date of printing. Nevertheless, such information may be affected by changes in the blend formulation occurring subsequent to the date of printing. Material Safety Data Sheets are available for all Castrol products. The MSDS must be consulted for appropriate information regarding storage, safe handling and disposal of a product.