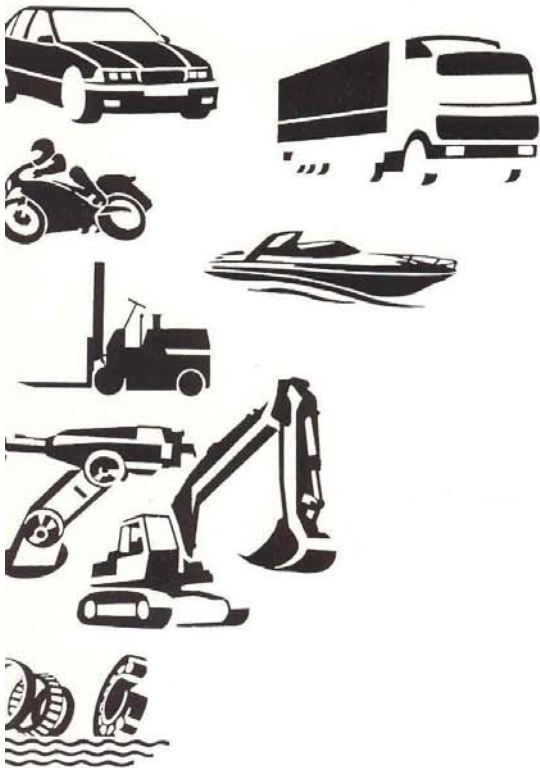


AUTOL

TOP 2000 Super Longtime Grease

A grease in all cases



AUTOL TOP 2000 Super Longtime Grease

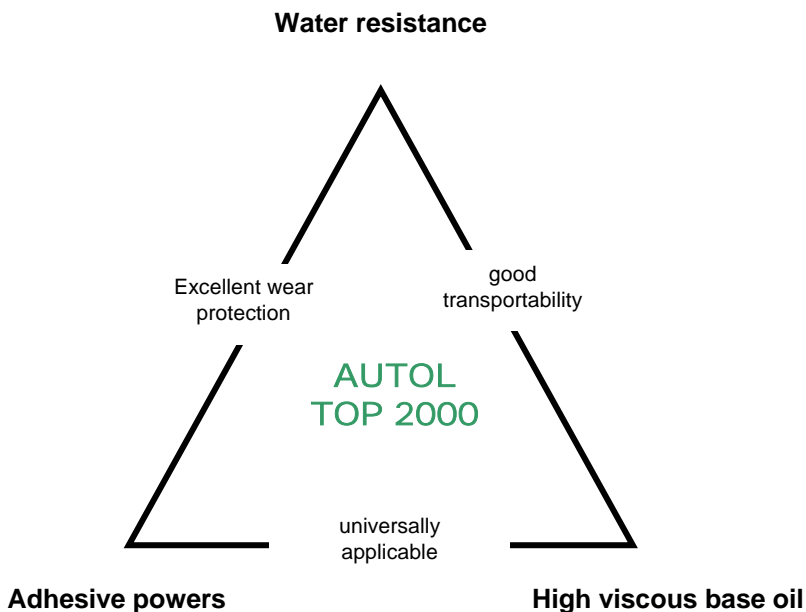
AUTOL TOP 2000 Super Longtime Grease is, how the name already says, a special grease for the universal application. It is based on a patent already used by the earlier AUTOL Company, Hannover. However the formulation had been adapted to today's requirements based on a special calcium soap in connection with a bifunctional base oil.

This grease which is only sold by authorised partners is a legend in the area of greases, once due to its special formulation and due to its broad operational capability.



The major qualities are:

- extremely high adhesive power
- high resistance against water, salt water as well as emulsions from the area of metal working
- neutral behaviour against many materials, among others sealing materials and plastics
- clear reduction of friction in slideways
- high oxidation resistance and therefore suitable for prolonged regreasing intervals
- high mechanical stability takes care of the lubrication film resistance
- best suitable for applications with shock loads or vibration
- good transportability in central lubricating systems (pipe length also more than 70 m)



These general statements are not only based on the practical experience from the last 30 years but can also be proved today in the common tests of the lubrication industry.

Exemplarily some the known tests shall be pointed out.

Shell-Four-Ball Apparatus

DIN 51 350

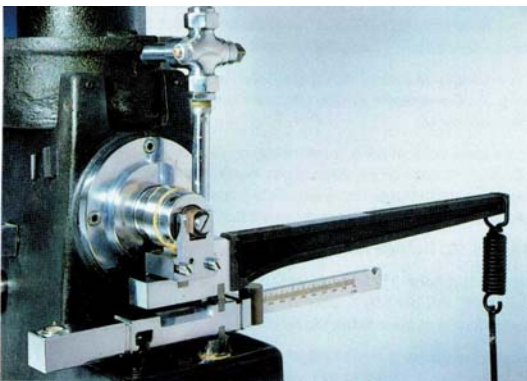


This test is often used for the comparison of different greases, since it is available in every test laboratory. The load of the balls is increased until there is a welding of the balls. However the determined value has little meaningfulness for the practical use.

The value of AUTOL TOP 2000 with a welding load (typical value) of 3000 N shows a very good performance in comparison with other EP greases with values of 2800 to 3000 N.

Timken-Test

DIN 51 434



With the Timken-Test the wear protection behaviour can be easily and reliably determined.

For the most EP greases results of 35 to 50 lbs are determined. Here the great advantage of AUTOL TOP 2000 with a typical value of 55 lbs is shown. The high base oil viscosity ($\nu_{40} = 850 \text{ mm}^2/\text{s}$) in connection with a specially balanced additive package is responsible for this very good test result.

Behaviour opposite elastomers DIN 53 521

Material	Test duration	Temperature	Change of volume Vol.%
POR 90+5	168 h	70°C	0
PBTB	168 h	100°C	+0,4
PETB	168 H	100°C	+1,7
POM	168 H	100°C	+2,5
TPE	168 h	100°C	+5,0
Viton 41 VI/576	100 h	100°C	+0,2
NBR 70	100 h	50°C	-1,1
Polyester	168 h	100°C	+0,24

This exemplary representation of some results of well known tests for greases shall underline the quality statements.

However the users of AUTOL TOP 2000 do special inhouse tests.

Partly special test equipments are developed for this. Partially the bearings lubricated with TOP 2000 run in a salt water bath where additional test dust is added to test the sealing behaviour.

Other users test the transport behaviour in pipes of central lubrication system at 30°C that are longer than 70 m.

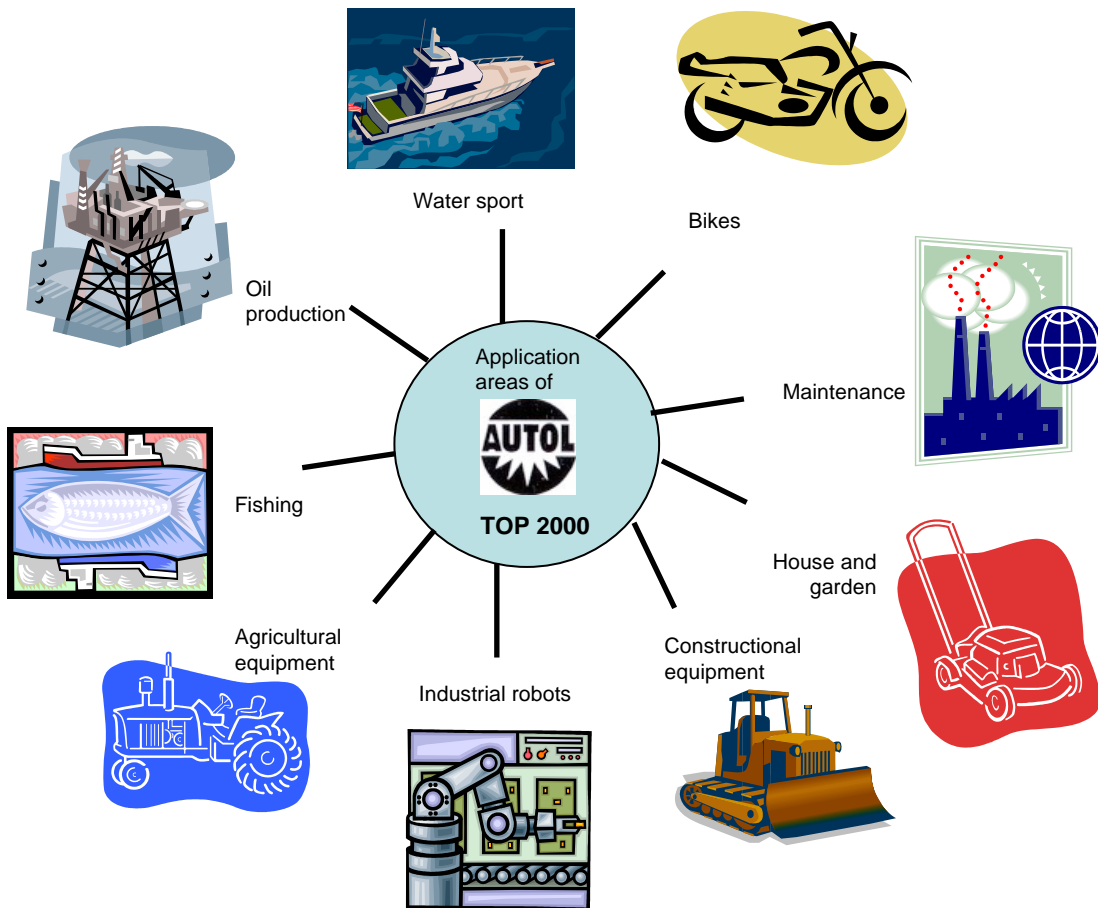
Also under these special requirements AUTOL TOP 2000 shows its superiority opposite competitor products.

The customers which successfully use AUTOL TOP 2000 are found in the most different areas.

Exemplarily for this are the areas

- round house and garden
- hobby areas, like a bicycle, motorcycle, water sports
- agricultural, forestry and construction industry
- chassis grease for vehicles (passenger cars and commercial vehicles)

- industrial applications
 - industrial robot
 - deep sea fishing
 - oil rigs
 - door closing device for trains
 - bicycle industry
 - manufacturers of ski bindings
 - application in central lubrication systems of industrial plants
 - lubrication of machine tools (tool holder)
 - in the area of general and preventive maintenance
 - for the lubrication of roller and sliding bearings
 - sewer ports and water engineering
 - for slideways, conveyer chains and roller paths



Short description: AUTOL TOP 2000 Longtime Grease is a special grease based on a bifunctional base oil and a special calcium soap with an application temperature range of -30°C to 110°C continuous application temperature.

- DIN 51 585 KP 2 K-30
- ISI 6743 ISI-L-XCCIB2