Materials

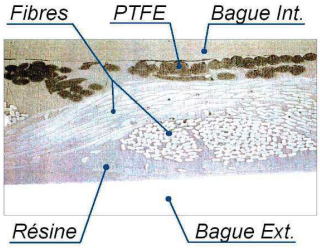
Uniflon® Type E

Uniflon® is the registered trademark of the self-lubricating fabric fitted exclusively to Unibal® self-lubricating spherical bearings.
Uniflon® E self-lubricating fabric comes from a development for aerospace applications and complies with the SAE-AS81820 standard.

Uniflon® E can be used in combination with different materials such as toughened steel, aluminium and titanium, in various environments and extreme temperatures from –30°C to +175°C.

Because of its composition, Uniflon® E is unique in the PTFE (Polytetrafluoroethylene) fibre friction materials range

Composition

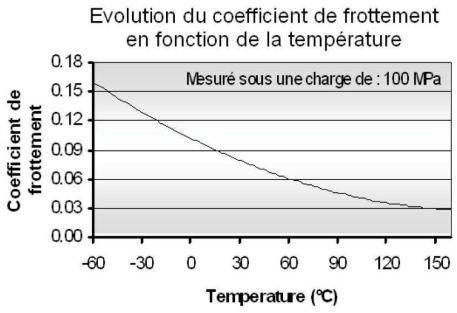


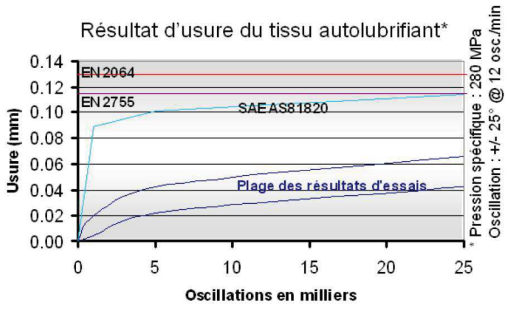
The perfect composite, Uniflon® E brings you the following benefits:

- A fabric (fibres) that is highly resistant to heat, abrasion, breaking and compression.
- A high proportion of PTFE fibres, which have superb slip properties.
- A matrix chemically linked by a resin with a low coefficient of friction.

Features

Spherical bearings with self-lubricating linings do not have a constant coefficient of friction for all applications. If the applied loading increases, the coefficient of friction decreases. Similarly, if the temperature decreases, the coefficient of friction increases.
The following figure shows how the in the coefficient of friction reduces as the temperature rises.





Alternatives

For applications at low loadings, high temperature and/or higher velocity, we suggest a self-lubricating lining with more suitable characteristics:

- Uniflon® type VV

On request, we make other maintenance-free formulas such as:

- Plastic materials
- Self-lubricating bronzes

Lubrication

Lubrication and maintenance

Lubrication and the maintenance apply to products not fitted with self-lubricating fabric (Uniflon®), i.e. spherical bearings and rod-end bearings of **SMG/SFG**, **SS/SSA** type - whose the slip contact is of the following type:

- Steel / bronze
- Steel / steel

These products are built so that an internal groove carries the lubricating liquid to the slip surface.

Regular lubrication is necessary for two reasons:

- To provide the application with optimal running conditions to extend its life.
- To prevent corrosion, mainly due to steel/steel friction

Our rod-end bearings, from size 8, are fitted with a small lubricator, in order to minimise weakening mounts – symbol **G** (SMG.., SFG..)
The lubrication tip to use is the one designed for type D concave head lubricators.

Standard lubrication

The Mobil **Greaserex 47** grease (ISO 3498 XM2) is used for assembling all types of product where grease is necessary.
This universal grease is an ideal lubricant.
Features:

- Base: calcium complex
- Drop point: 260℃
- Working temperature: -25℃ to +125℃
- Excellent wear protection properties
- Withstands shearing. Binding of the bearing possible, partial lining given when substantial vibration.

Special lubrication

We offer different types of lubrication and surface treatment, on request. For example:

1) **Molykote BR2 plus**, very haute quality grease:
   - Base: lithium soap, mineral oil
   - Drop point: 185℃
   - Working temperature: -30℃ to +130℃
   - Multifunction grease containing solid lubricants
   - Excellent properties under extreme pressure and ideally suited to high velocities
   - A permanent film of grease ensures safety and extends lubrication intervals

   This grease is recommended for very high stress levels (loading or velocity).

2) **Moly-PAUL PBC**, synthetic grease, organo-metallic complex:
   - Excellent anti-corrosive.
   - Excellent resistance to salt, acid and bases.
   - Excellent seizure prevention.
   - Does not carbonise or run at temperature
   - Provides long-lasting lubrication
   - Working temperatures: -10℃ to 1,100℃ for static (300℃ for dynamic, slow movement)

3) **Molykote 106,** slip coating:
   - Before assembly, the sphere is treated to ensure lasting lubrication. Once created, the film reduces wear and optimises operating safety even after long stationary periods.