

Aim

SMS is a sliding material that is specially designed for use with sliding bearings of all kinds, and specifically with pot bearings or spherical bearings.

Description

SMS is a polymer of the modified polytetrafluorethylene (PTFE) type. Like PTFE, SMS has not only remarkable sliding qualities (with a very low coefficient of friction) but has markedly superior loading capacities. SMS thus reduces the running costs of bearings, particularly spherical bearings.

SMS is a thermoplastic that retains its exceptional qualities even at extremely high or extremely low temperatures. Thanks to its capacities, bearings using SMS are perceptibly more compact than bearings using standard PTFE.



Performance

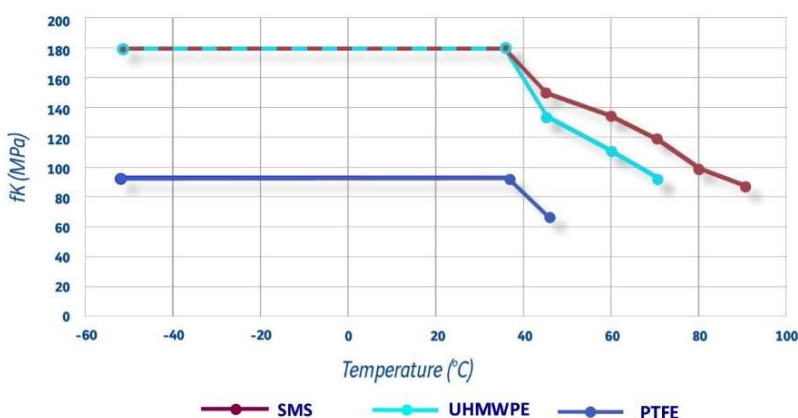
Compared to PTFE and the alternative material UHMWPE, SMS was developed to achieve the following performance features:

- 1. Compressive strength:** SMS tolerates a contact pressure that is double that of PTFE.
- 2. Extended service life:** SMS has long-term resistance to friction that is five times higher than that of PTFE, resulting in a much longer service life.
- 3. Wide range of temperatures:** SMS is effective between -50°C and $+90^{\circ}\text{C}$, whereas PTFE is ineffective above 48°C and UHMWPE above 70°C .
- 4. Low resistance to friction:** SMS has lower coefficients of friction than PTFE and UHMWPE at moderate temperatures.

Behaviour of SMS during tests

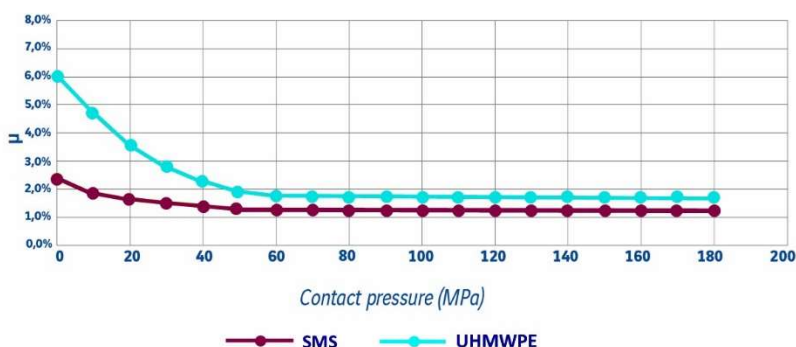
The bearing capacity of sliding products depends on their characteristic stress level. That of **SMS** is twice that of PTFE and remains higher than that of UHMWPE at higher temperatures. Thanks to this characteristic, bearings using **SMS** can be used in structures built in regions with a high ambient temperature such as the Middle East.

Characteristic compressive stress



The coefficient of friction of sliding surfaces depends on the contact pressure and temperature. This coefficient is an important factor in the sizing of bearings (the lower the coefficient, the more compact the bearing), and also in the force transmitted to the supports.

Friction μ at moderate temperature $-5^{\circ} < T$



Benefits

The use of **SMS** as a sliding material makes it possible to:

- Design smaller-sized bearings than with PTFE.
- Design more economical spherical bearings.
- Optimise and simplify the methods of installation for spherical bearings, due to their smaller size.
- Obtain a longer service life for the bearings.



Certifications

Spherical bearings using **SMS** have been the subject of a European Technical Assessment (ETA) under reference no. ETA-17/0808, on the basis of a European Assessment Document (EAD) with reference EAD 15-05-0009-03.01.

Spherical bearings using **SMS** benefit from a CE marking on the basis of ETA-17/0808 and on EAD 15-05-0009-03.01. This certification was obtained after the conducting of various conclusive tests in accordance with standard EN1337, and specifically a long-term durability test during which the material is tested over a total displacement of 50,000 metres.

Manufacturer-related Product Qualification

NPB in accordance with EN ISO 9105:2018 (EN 12185)

Article and date of last update: 12.04.2024, 12.04.2024

DB

The manufacturer
has to ensure
that the manufacturer
has to ensure

Schreiber Brücken-Dehntech GmbH
Am Moosbach 18, D-74515 Marbach
Schreiber Brücken-Dehntech GmbH
Am Moosbach 18 - D-74515 Marbach

DB

are qualified for individual fabrication of the following steel structures and accessories:

- ☐ 1.1 Steel superstructures including precasted bridges
- ☐ 1.2 Components for steel-concrete composite bridges
- ☐ 1.3 Bridge bearings including
- ☐ 1.4 Reinforcing steel
- ☐ 1.5 Bridge deck slabs
- ☐ 1.6 Bridge deck slabs
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