

# **Discover the new dimension of anti-friction coatings**

## **Berucoat MC**

BECHEM LUBRICATION TECHNOLOGY



## The new dimension of anti-friction coating technology

#### A perfect solution

Anti-friction coatings are touch dry lubricant solutions which, in their formulation, resemble common industrial varnishes. They contain solid lubricants as pigments and resins as bonding agents. With the anti-friction coatings of the **Berucoat MC** product series a new era of anti-friction coatings has started.

For these new products an innovative microcapsule technology is used. Ball type containers, which are visible by microscope only, are filled with a special lubricant and embedded in a varnish layer.

#### Lubrication on demand

The microcapsules of this new type of anti-friction coating release the lubricant at the friction or lubrication point only when load is applied. From this moment an extremely powerful lubricating film between the friction partners is formed.

#### **Highest performance**

The new lubricant product excels above all by its outstanding product lifetime. Comparative examinations on the vibrational wear test rig (see graph "Performance – Berucoat MC") have shown that the BECHEM antifriction coating with microcapsule technology achieves a three times longer lifetime compared to conventional high performance anti-friction coatings.





Thanks to the innovative microcapsule technology the friction or lubrication points remain touch dry. Although a liquid lubricant is used, there will be no contamination of the lubrication point.

#### Easy handling, versatile use

Embedded in a water-based lacquer system the microcapsules can be applied at the point to be lubricated. As is the case for conventional anti-friction coatings application is also possible by dipping, spraying or in bulk. In view of the low drying temperature the product is well suitable as a coating agent for temperature-sensitive plastic materials. Another advantage: the anti-friction coating offers the possibility of colour adjustment.

#### Innovative technology for your application

Possible fields of application of **Berucoat MC** are e.g. users in the automotive industry, mechanical engineering and fitting manufacturers.





PHASE 1: Component coated with Berucoat MC anti-friction coating prior to contact with a friction partner



### PHASE 2: Component coated with Berucoat MC anti-friction coating during the contact [fig. 2a] and after the contact [fig. 2b] with a friction partner

# PERFORMANCE - Berucoat MC vs.

MoS<sub>2</sub> anti-friction coating

TEST: Comparative vibrational wear test with Berucoat MC and a conventional MoS<sub>2</sub> anti-friction coating

ТІМЕ	Berucoat MC / water-based MoS <sub>2</sub> anti-friction coating / solvent-based
	TIME

A comparative vibrational wear test run between a conventional, solvent-based MoS<sub>2</sub> coating and a water-based anti-friction coating of the Berucoat MC series clearly shows the differences in the course of the friction coefficient. The friction values of the new Berucoat MC remain constant whereas the course of the  $\mathrm{MoS}_{\mathrm{2}}$  coating is relatively inconsistent.

The application of innovative microcapsule technology allows a three times higher lifetime of the new anti-friction coating compared to conventional coatings. Only after a few hours the MoS<sub>2</sub> reference coating will break down, permitting metal-to-metal contact leading to scuffing wear. In practice this would mean that the lubricated parts can hardly be moved and there will be damages to the materials. In contrary, Berucoat MC offers a considerably extended lifetime.

## up to three times higher lifetime



- material protecting thanks to long lifetime
- lubricating points remain touch dry
- no contamination of the lubrication point
- low drying temperature
- colour adjustments possible

#### **Lubrication Solutions for Industry**

With 180 years of experience, BECHEM is one of the leading manufacturers of premium quality special lubricants and metal working fluids.

Close cooperation with research institutes, industry partners and product users as well as the knowledge, skills and major commitment by our staff are guarantees of new and innovative high performance lubricants, which contribute to the success of our customers at home and abroad.

A powerful network of distributors and several national and international production sites ensure our products are readily available worldwide.

#### Tomorrow's technologies. Today.





CARL BECHEM GMBH · Weststr. 120 · 58089 Hagen · Germany Phone +49 2331 935-0 · Fax +49 2331 935-1199 · bechem@bechem.de · www.bechem.com