UNIMOLY C 220, C 220 Spray

High-pressure resistant, hygrosetting bonded coating

Your benefits at a glance

- Hygrosetting at room temperature
- Suitable for high pressures
- Resistant to low and high temperatures
- Suitable for vacuum applications
- Excellent adhesion on metals
- Suitable for materials susceptible to cold welding, e.g. special steel nuts and bolts
- Well-proven as an assembly aid
- Improves the running-in process
- Prevents stick-slip

Your requirements - our solution

UNIMOLY C 220 is a hygrosetting grey bonded coating with an MoS_2 base (molybdenum disulfide) and an inorganic binding agent.

UNIMOLY C 220 is a fluid, ready-to-use product containing a mixture of flammable solvents. Once applied and hardened, the bonded coating is very resistant to pressure and has a wide temperature range. Owing to its structure, UNIMOLY C 220 is particularly suitable for high-vacuum applications. Adhesion is very good on special steel, metal and electroplated surfaces.

Application

UNIMOLY C 220 reduces friction and wear in metal/metal sliding contacts. It prevents nuts and bolts from seizing, and ensures a uniform tightening moment and low friction. UNIMOLY C 220 is also used as a running-in agent, e.g. for gears. Other fields of application are clinch bolts, hinge and lock components, slideways, spindles and other slowly sliding components subject to high loads. Components operating under very high or low temperatures and not subject to humidity are imparted an especially long service life. As a spray UNIMOLY C 220 is particularly suitable as an assembly aid and for maintenance and repair purposes.

Application notes

Stir or shake well before use. This also applies to the spray version. UNIMOLY C 220 can be applied by immersion, spraying or by brush. Other types of application are indicated upon request. The surfaces to be coated must be cleaned/ degreased and be completely free from oil, grease, water, corrosion and scale. When applying UNIMOLY C 220 by spraying, use a paint spray gun.

Other application conditions:

- Feed pressure: approx. 2 bar
- Spraying distance: approx. 20 cm
- Nozzle diameter: 0.8 mm

Ensure that only pressurized air is used which is free from oil and water.

In the case of spraying by hand, it is recommended to apply the product in a zig-zag pattern. When spraying systems are used, an agitator should be installed in the container to prevent the solid particles from settling.

When applying the product by immersion, use containers which are resistant to solvents. In addition, make sure that the immersion bath is not exposed to an increased degree of humidity. Therefore, if you have an open bath system, only use a small amount of UNIMOLY C 220.

The recommended film thickness for tribological loads is between 3 and 5 µm.

For cleaning the spray gun and, if required, diluting UNIMOLY C 220, the SOLUTIN C 9 diluting and cleaning agent can be used.

UNIMOLY C 220 is ready to handle after approx. 5 min at 20 °C. The hardening process is completed after 30 min. at 20 °C.

Material safety data sheets

You can download the current safety data sheets via the Contact form on our website www.SurTec.com or by email request to info@SurTec.com.

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Hint

Except for the article number and the minimum shelf life, the spray data below refer to the bonded coating.

Characteristics	UNIMOLY C 220	UNIMOLY C 220 Spray
Article number	011062	081053
Colour space	grey	
Service temperature, lower limit	-180 °C	
Service temperature, upper limit	450 °C	
Density, DIN EN ISO 2811-3, 20°C	approx. 1.08 g/cm³	
Corrosion test, DIN EN 3026, based on standard, equipment: layer thickness 15 µm / distilled water / aluminum, 35°C, corrosion after	≤ 30 h	
Corrosion test, DIN EN 3026, based on standard, equipment: layer thickness 15 µm / distilled water / hot galvanized steel, 35°C, corrosion after	≤ 30 h	
Corrosion test, DIN EN 3026, based on standard, equipment: layer thickness 15 µm / distilled water/ steel (ST 1303), 35°C, corrosion after	≤ 30 h	
Salt spray test, DIN EN ISO 9227 / ASTM B117, based on standard, equipment: layer thickness 15 µm / 5 % NaCl solution / steel (ST 1405), corrosion after	≤ 12 h	
Salt spray test, DIN EN ISO 9227 / ASTM B117, based on standard, equipment: layer thickness 15 µm / 5 % NaCl solution / steel Zn phosphated, corrosion after	≤ 12 h	
Salt spray test, DIN EN ISO 9227 / ASTM B117, based on standard, equipment: layer thickness 15 µm / 5 % NaCl solution / steel sand blasted, corrosion after	≤ 12 h	
Tannert sliding indicator, Klüber method: 300 N / 0.243 mm/s / room temperature, evaluation	no stick slip	
Tannert sliding indicator, Klüber method: 300 N / 0.243 mm/s / room temperature, friction coefficient	0.1	
Yield with a tribo-film thickness, 10 µm	approx. 10 m²/l	
Cross-cut adhesion, DIN EN ISO 2409, based on standard, Klüber method: PA 063 / material: test plate	0 Gt	
KL-pin-disc test, friction coefficient µ, Klüber method: 25°C / 10 N / 10 m/min / sliding contact: point, service life test	approx. 0.05 m	
KL-pin-disc test, sliding distance, Klüber method: 25°C / 10 N / 10 m/min / sliding contact: point, service life test	approx. 3600 m	
KL wear resistance, Klüber method (modified Reichert Method): 25°C / 100 N / 1.8 m/s, service life test, sliding distance	18 m	
Mandrel bending test, DIN EN ISO 1519, equipment: mandrel (Ø 10 mm) / steel / layer thickness 7 µm, -20°C	passed	
Mandrel bending test, DIN EN ISO 1519, equipment: mandrel (Ø 10 mm) / steel / layer thickness 7 µm, -40°C	passed	

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Mandrel bending test, DIN EN ISO 1519, equipment: mandrel (Ø 2 mm) / steel / layer thickness 7 µm, 25°C	passed	
Mandrel bending test, DIN EN ISO 1519, equipment: mandrel (Ø 5 mm) / steel / layer thickness 7 µm, -10°C	passed	
Media resistance of coatings, DIN EN ISO 2812-1, based on standard, equipment: medium blended mineral oil / material steel ST 1303 / layer thickness 15 µm / room temperature, result: resistant film, checked till	500 h	
Media resistance of coatings, DIN EN ISO 2812-1, based on standard, equipment: medium blended mineral oil / material steel, Zn phosphated / layer thickness 15 µm / room temperature, result: resistant film, checked till	500 h	
Media resistance of coatings, DIN EN ISO 2812-1, based on standard, equipment: medium diester oil / material steel ST 1303 / layer thickness 15 µm / room temperature, result: resistant film, checked till	500 h	
Media resistance of coatings, DIN EN ISO 2812-1, based on standard, equipment: medium diester oil / material steel, Zn phosphated / layer thickness 15 µm / room temperature	500 h	
Media resistance of coatings, DIN EN ISO 2812-1, based on standard, equipment: medium hydrochloric acid (0.1 N) / material steel ST 1303 / layer thickness 15 µm / room temperature, result: resistant film, checked till	24 h	
Media resistance of coatings, DIN EN ISO 2812-1, based on standard, equipment: medium hydrochloric acid (0.1 N) / material steel, Zn phosphated / layer thickness 15 µm / room temperature, result: resistant film, checked till	150 h	
Media resistance of coatings, DIN EN ISO 2812-1, based on standard, equipment: medium soda lye (0.1 N) / material steel / layer thickness 15 µm / room temperature, result: resistant film, checked till	24 h	
Media resistance of coatings, DIN EN ISO 2812-1, based on standard, equipment: medium sodium hydroxide solution (0.1 N) / material steel, Zn phosphated / layer thickness 15 µm / room temperature, result: resistant film, checked till	150 h	
Minimum shelf life from the date of manufacture - in a dry, frost-free place and in the unopened original container, approx.	24 months	24 months

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SurTec

Chemical Specialities for Surface Treatment. SurTec develops, manufactures and supplies chemical specialities for surface finishing. With its five fields of application Industrial Parts Cleaning, Metal Pre-treatment, Functional and Decorative Electroplating as well as Functional Coatings, SurTec covers the full portfolio in this sector. SurTec is a supplier for almost all segments dealing with surface treatment, including Automotive, Transportation, Construction, Electronics & Electrical and Healthcare & Lifestyle.

SurTec International GmbH /
Neuhofstraße 9 / 64625 Bensheim / Deutschland /
Telefon +49 6251 8622200

Classifications and designations are noted in the Material Safety Data Sheets (according to the European legislation). The safety instructions and the instructions for environmental protection have to be followed in order to avoid hazards for people and environment. Please pay attention to the explicit details in our Material Safety Data Sheets which you can obtain by contacting us via e-mail: info@SurTec.com. We are responsible for our products in the context of the valid legal regulations. The warranty exclusively accesses for the delivered state of a product. Warranties and claims for damages after further processing of our products do not exist. For details, please find our country-specific General Terms and Conditions for downloading on our homepage or ask your regional SurTec representative.