

UNIMOLY C 220, C 220 Spray

High-pressure resistant, hygrosetting bonded coating



Benefits for your application

- **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**

Description

UNIMOLY C 220 is a hygrosetting grey bonded coating with an MoS₂ 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 lacquer spray gun.

Other application conditions:

- Feed pressure: 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 4 and 10 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

Material safety data sheets can be requested via our website www.klueber.com. You may also obtain them through your contact person at Klüber Lubrication.

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Pack sizes	UNIMOLY C 220	UNIMOLY C 220 Spray
Can 1 l	+	-
Bucket 20 l	+	-
Aerosol can 400 ml	-	+

Product data	UNIMOLY C 220	UNIMOLY C 220 Spray
Article number	011062	081053
Upper service temperature	450 °C / 842 °F	
Lower service temperature	-180 °C / -292 °F	
Colour space	grey	
Density, DIN EN ISO 2811, at 20 °C	approx. 1.08 g/cm ³	
Yield with a tribo-film thickness of 10 micrometer	approx. 8 m ² /l	
Mandrel bending test, DIN EN ISO 1519, material steel, layer thickness 7 µm, test temperature 25°C, mandrel diameter 2 mm, result	passed	
Cross-cut adhesion (test plate), PA-063 based on DIN EN ISO 2409, value	0 Gt	
Mandrel bending test, DIN EN ISO 1519, material steel, layer thickness 7 µm, test temperature -40 °C, mandrel diameter 10 mm, result	passed	
Mandrel bending test, DIN EN ISO 1519, material steel, layer thickness 7 µm, test temperature -10°C,mandrel diameter 5 mm, result	passed	
Mandrel bending test, DIN EN ISO 1519, material steel, layer thickness 7 µm, test temperature -20°C,mandrel diameter 10mm, result	passed	
Klüber pin-disc rig for testing the service life of bonded coatings, temperature: 25 °C, load: 10 N, speed: 10 m/min, sliding contact: point, sliding distance	approx. 3 600 m	
Klüber pin-disc rig for testing the service life of bonded coatings, temperature: 25 °C, load: 10 N, speed: 10 m/min, sliding contact: point, friction coefficient (µ)	approx. 0.05	
Stick-slip, Tannert sliding indicator, room temperature, v _{max} = 0.243 mm/s, F = 300 N, evaluation	no stick slip	
KL wear resistance (modified Reichert method), temperature: 25 °C, load: 100 N, speed: 1.8 m/s, sliding distance	18 m	
Friction coefficient, Tannert sliding indicator, room temperature, v _{max} = 0.243 mm/s, F = 300 N	approx. 0.1	
Corrosion test based on DIN EN 3026, layer thickness 15 µm, test temperature 35 °C, test medium distilled water, material aluminium, corrosion after	<= 30 h	
Corrosion test based on DIN EN 3026, layer thickness 15 µm, test temperature 35 °C, test medium distilled water, material steel hot galvanized, corrosion after	<= 30 h	
Corrosion test based on DIN EN 3026, layer thickness 15 µm, test temperature 35 °C, test medium distilled water, material steel ST 1303, corrosion after	<= 30 h	
Media resistance of coatings, based on DIN EN ISO 2812-1, tested at room temperature, layer thickness approx. 15 µm,substrate steel, medium soda lye, result: film resistant, tested up to	24 h	



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Media resistance of coatings, based on DIN EN ISO 2812-1, tested at room temperature, layer thickness approx. 15 µm, substrate steel, medium 0.1n hydrochloric acid, result: film resistant, tested up to	24 h	
Media resistance of coatings, DIN EN ISO 2812-1, tested at room temperature, layer thickness approx. 15 µm, material steel ST 1303, medium diester oil, result: film resistant, tested up to	500 h	
Media resistance of coatings, based on DIN EN ISO 2812-1, tested at room temperature, layer thickness approx. 15 µm, material steel ST 1303, medium doped mineral oil, result: film resistant, tested up to	500 h	
Media resistance of coatings, based on DIN EN ISO 2812-1, tested at room temperature, layer thickness approx. 15 µm, material steel zinc-phosphatized, medium soda lye, result: film resistant, tested up to	150 h	
Media resistance of coatings, based on DIN EN ISO 2812-1, tested at room temperature, layer thickness approx. 15 µm, material steel zinc-phosphatized, medium 0.1n hydrochloric acid, result: film resistant, tested up to	150 h	
Media resistance of coatings, based on DIN EN ISO 2812-1, tested at room temperature, layer thickness approx. 15 µm, material steel zinc-phosphatized, medium diester oil, result: film resistant, tested up to	500 h	
Media resistance of coatings, based on DIN EN ISO 2812-1, tested at room temperature, layer thickness approx. 15 µm, material steel zinc-phosphatized, doped mineral oil, result: film resistant, tested up to	500 h	
Salt spray test, DIN EN ISO 9227, 5% NaCl, temperature 35°C, material steel ST 1405, layer thickness 15 µm, corrosion after	<= 12 h	
Salt spray test, DIN EN ISO 9227, linked with DIN EN ISO 7253, 5% NaCl, temperature 35°C, material steel zinc-phosphatized, layer thickness 15 µm, corrosion after	<= 12 h	
Salt spray test, DIN EN ISO 9227, 5% NaCl, linked with DIN EN ISO 7253, temperature 35°C, material steel sand blasted, layer thickness 15 µm, corrosion after	<= 12 h	
Minimum shelf life from the date of manufacture - in a dry, frost-free place and in the unopened original container, approx.	12 months	24 months



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Klüber Lubrication – your global specialist

Innovative tribological solutions are our passion. Through personal contact and consultation, we help our customers to be successful worldwide, in all industries and markets. With our ambitious technical concepts and experienced, competent staff we have been fulfilling increasingly demanding requirements by manufacturing efficient high-performance lubricants for more than 80 years.

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