

NANOGRAFİ YÜKSEK TEKNOLOJİ VE İLERİ MALZEMELER A.Ş.**Technical Data Sheet****PRODUCT INFORMATION**

Product Name	Micronkote 207 Grey Dry Film Lubricant
Product No	NG10CMW0947
Type	Dry Film Lubricant

TECHNICAL PROPERTIES

Test	Specification	Standard
As supplied		
Viscosity (Ford Cup No. 4) (s)	20±5 @ 25±2 °C	Internal test
Density (g/mL)	0.9±0.1	
Curing Temperature (°C)	235	
Curing Time (min)	45	
As cured		
Color	Grey	ASTM D2244
L*	25,00 – 35,00	
a*	-0,10 – -0,02	
b*	-1,10 – -1,01	
Functional Lubrication Temperature Range (°C)	-60 to +250	Internal test
Salt Spray Resistance (h)	48 h – Rating No. 9 (0.25 mm mean creep)	Internal test

Thermal Stability	Pass – No Deformation	IEC 60068-2-12
Resistance to Humidity	Pass – No Deformation	EN ISO 6270-1
Resistance to Fluids	Pass – No Deformation	EN ISO 2812-1
Cross – Cut Test	Pass – No Deformation	ASTM D3359

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INTRODUCTION AND APPLICATIONS

Micronkote Dry 207 is a solvent-based dry-film lubricant coating formulated with **MoS₂-based solid lubricants, organic binders, and solvents**. It is designed to provide **permanent lubrication on metal-to-metal contact surfaces** operating at slow to moderate speeds and subjected to medium to high loads.

The coating is suitable for applications where the use of conventional **oil or grease lubrication is impractical or undesirable**. After curing, the coating forms a **grey, durable film** that provides high resistance to **pressure and wear**, contributing to reliable lubrication and protection of contacting surfaces under demanding operating conditions.

Features and Benefits:

- **High Lubrication Performance:** MoS₂-based solid lubrication for reliable friction reduction.
- **High Pressure and Wear Resistance:** Provides durable protection under high-contact-pressure and demanding wear conditions.
- **High Corrosion Protection:** Helps protect metal surfaces against corrosion.
- **Suitable for Heavy-Load Applications:** Designed for applications involving medium to high loads.
- **Long Service Life:** Provides durable dry-film lubrication for extended operating periods.
- **Spray Application for Series Production:** Suitable for spray application and integration into serial production processes.
- **Grey Film Appearance:** Forms a uniform grey-colored film after curing.

Typical Applications

Micronkote Dry 207 is suitable for the following applications and operating conditions:

- **Metal-to-metal contact surfaces**
- **Mechanical components operating at slow to moderate speeds**
- **Sliding surfaces subjected to medium to high loads**
- **Mechanisms operating under heavy-load conditions**
- **Friction pairs exposed to high contact pressures**
- **Applications involving low sliding speeds or oscillating motion**
- **Components requiring permanent dry-film lubrication**
- **Applications where the use of conventional oil or grease is impractical or undesirable**
- **Applications where contamination caused by oil or grease must be avoided**
- **Metal components requiring coating in series production processes**

The product is particularly suitable for friction pairs operating under **high contact pressure and low-speed conditions**, where reliable and durable dry-film lubrication is required.

Suitable Surfaces

- ❖ Micronkote Dry 207 is primarily designed for application on metal surfaces, particularly for metal-to-metal friction pairs.
- ❖ The product does not provide adequate adhesion on polymeric surfaces. Therefore, its use on plastic and other polymer-based surfaces is not recommended.

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- ❖ Prior to application, the compatibility of the coating with the surface should be evaluated and confirmed under the intended application and operating conditions.

Performance

Once fully cured, the coating:

- **Reduces friction** between metal surfaces.
- **Helps protect surfaces** under high contact pressure.
- **Helps reduce wear**, contributing to extended component service life.
- **Provides dry-film lubrication** at metal-to-metal contact points.
- **Maintains lubrication performance** under heavy-load conditions.
- **Forms a durable lubrication film** as an alternative to conventional oil or grease lubrication.
- **Helps protect metal surfaces against corrosion.**

HOW TO USE

1. Surface Preparation

- The sliding surfaces to be coated must be thoroughly cleaned and completely **free from oil and grease**.
- The surfaces must be free from;
 - ✓ oil,
 - ✓ grease,
 - ✓ dust,
 - ✓ dirt,
 - ✓ rust,
 - ✓ residues of previous coatings, and other surface contaminants.
- After cleaning, allow the surfaces to **dry completely** before coating application.
- Proper surface cleaning and degreasing are essential for achieving **adequate coating adhesion and reliable service performance**.

2. Product Preparation

- Before application, the product must be **thoroughly mixed** to ensure the homogeneous dispersion of any settled solid lubricant components.
- During application, the product should be **kept homogeneous** to ensure consistent coating performance.

3. Application

- The product must be applied by **spray application using a spray gun**.
- The coating should be applied uniformly to form a **continuous and homogeneous film** over the surface.
- During application, ensure that:
 - The **film distribution is uniform**.
 - **Runs, sags, and excessive build-up** are avoided.
 - The **entire functional surface** is adequately covered.
- The recommended **dry film thickness (DFT)** is **5–23 µm**.

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4. Curing

- After completion of the application, the coated parts must be **cured in an oven** under the specified curing conditions.

Curing Temperature: 235 °C

Curing Time: 45 minutes

- The specified curing conditions must be maintained to achieve the coating's **final lubrication, wear resistance, and corrosion protection performance**.
- The time required for the coated part to reach the target curing temperature must be taken into consideration, depending on the **part geometry and thermal mass**.

5. Recoating and Subsequent Processing

- **Recoating or additional surface treatment of the fully cured coating is not recommended.**
- The coating's **friction and lubrication performance** is provided directly by the final cured surface film. Therefore, additional surface treatments performed after curing may **adversely affect the coating's performance**.
- Coated surfaces should preferably be **left as the final functional surface** without further surface treatment.

SHEL LIFE AND STORAGE

Recommended shelf life: 12 months from the date of manufacture.

The product should be stored in its unopened original packaging under the recommended storage conditions.

After opening, the container should be tightly closed immediately after use to prevent solvent loss and possible changes in product properties.

Storage conditions:

- Store in the original container.
- Keep the container tightly closed.
- Store in a dry and well-ventilated area.
- Protect from direct sunlight.
- Keep away from heat, sparks, open flames, and other sources of ignition.

During prolonged storage, settling of the solid lubricants may occur. Therefore, the product should be thoroughly mixed before use until a homogeneous consistency is achieved.

Recommended storage temperature: +5 °C to +30 °C