

PRODUCT DATA SHEET

PT-24M MICROFINE TECHLUBE PTI TECHLUBE SERIES

DESCRIPTION

PT-24M is a Molybdenum Disulphide in a multi-polymer bake cure resin binder. This product contains laminar solids and soft metals. The soft metals are employed to improve wear characteristics under certain conditions that are largely determined by electrical and thermal conductivity. PT-24M has been proven to be the product for high temperature and high speed dry film lubrication. This dry film lubricant is intended to be applied to equipment such as but not limited to steel, aluminum, magnesium, clutches, gears, shafts and other mechanical parts which function under extreme weathering and/or operating conditions.

SPECIAL USES

- In extreme temperature environments.
- In case where dust harms the operation of equipment.
- Under exposure to liquids which leach out oils or grease.
- In the processing of materials that may be contaminated.
- In cases where retention of liquid lubrication is difficult.
- In cases requiring operation following long storage periods.

DESIGN APPLICATIONS

- Bearings subjected to wide temperature ranges. Examples: airborne mechanisms and moving parts of ovens furnaces and kilns.
- Equipment exposed to an environment reactive to conventional lubricants. Examples: bearings operating in contact with plating solutions, steam, water, detergents or gasoline.
- Bearings and other mechanisms adjacent to surfaces or materials which must not be contaminated. Examples: electronic devices, textile machinery, door hinges, catches and locks and window sliding surfaces.
- Mechanisms operations infrequently or kept in storage for emergency use. Examples: automatic switching devices in communication equipment, bomb triggering mechanisms, liquid rocket systems, emergency service devices and a variety of guidance and control devices for missiles.
- Bearings, clutches and other parts that are exposed to friction and are located in inaccessible areas that make lubrication retention difficult.
- Where dust collection is objectionable. Examples: textile machines and precision machinery.
- As a supplement to fluid lubricants. Examples: alleviation of sticking valves, clutches gears and reduction of piston and cylinder wall wear
- As a separating agent and a high pressure lubricant in metal working and molding applications

COLORS

This grease comes in a dark gray, black color.

MOLY SPRAY PROPERTIES & CHARACTERISTICS

Flash Point	24°F
Boiling Point	175°F to 395°F
Thinner	PT-1002
Coefficient of Friction	0.035 at 200,000 PSI and 0.070 at 0 PSI
Max Load Bearing Prop.	20,000 PSI
Operating Temperatures	-100°F to 1000°F
Recommended Primer	PT-402 (Acid Etching Primer)
Weight (pounds per gallon)	10.87
VOC	496 g/L
Load Bearing vs. Speed	The lubrication characteristics of the PT-24M are excellent at high load and low speed as well as low load and high speed. They are not recommended for high load high speed unless supplementary lubrication is applied.

SHELF LIFE

Shelf life is only applicable for materials stored in unopened and undamaged original factory filled containers. 1 year when stored between 50°-85° Fahrenheit.

APPLICATION

Surface Preparation: Surface to be coated must be chemically cleaned. It must be free of oxides, soils, greases and other contaminants. Cleaning and surface preparation prior to the application of any *Techlube* is extremely important to form a proper bond and maximize the corrosion resistant properties of the *Techlubes*.

- **Metal Surfaces:** The following metal surfaces (with the exceptions noted) may be cleaned using an industry-approved vapor degreasing method, preferably a method using Perchloroethylene. Other methods include: A solvent wash with IPA or Acetone, water based cleaner/degreaser wash with PTC-2001, PTC-2002, Acetone or IPA. Followed by a heavy Alkali bath or phosphate conversion coatings such as PTI Acid Etching Primer. The use of any acids for cleaner of carbon steel should be avoided.

Application Method: This coating may be applied by spraying or dipping. Spraying should be done in a suitable area having adequate ventilation. Care should be taken that no other materials be sprayed in the immediate area at the time of application to avoid contamination.

- **Spray Application:** Concentrate shall be mixed with the PT-1002 at a ratio of approximately 1 to 2 parts of solvent to 1 part concentrate. The amount of solvent depends on the type of application and/or equipment. The mixture should be such that the spray goes on the part thin and wet. A hairy or granular spray usually signifies too little solvent. Each coat should be sprayed at 1 millimeter thick. No less than two coats should be applied to the parts, more coats can be applied if necessary.

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- **Dip Application:** Concentrate shall be mixed with the PT-1002 at a ratio of 2 to 4 parts solvent to 1 part concentrate. Under thinning for dip applications can cause excessive build up.

Primer to Promote Bonding: If the parts being sprayed will be under unusually harsh conditions and an extra strong bond is required, apply the PT-402 Wash Primer prior to applying the lubricant. Please refer to PT-402 technical data for application instructions

CURING

- After applying the Microfine Techlube let parts air dry for 20 minutes
- For all alloys or types of steel, aluminum, titanium, copper and cast iron bake for 1 hour at 450°F
- The minimum temperature to cure this material is 350°F for 2 – 3 hours
- Baking temperatures are below those temperatures which would affect any prior heat treatment

After removal from the oven, cooled, parts should be visually inspected for blistering, discoloration and full coverage. Parts that require close tolerances shall be inspected for mil thickness of the coating. Coatings should be dark gray to black in color. A sufficient number of parts shall be checked for adhesion by firmly applying pressure sensitive masking tape to the surface and removing it abruptly. No flakes or large particles of the coating shall adhere to the tape. A faint uniform covering of powdery materials which occasionally may adhere to the tape is not to be considered cause for rejection.

NOTE: Application of PTI products requires the use of all OSHA approved safety equipment, including proper ventilation. Additionally, PTI products require the recommended temperature/humidity conditions and film thickness ranges for optimal performance. The material, hangar, and aircraft skin temperatures should be no lower than 75° F / 25° C before, during and after application.

HEALTH, SAFETY, & STORAGE REQUIREMENTS

Refer to each individual material SDS (Safety Data Sheet) for specific requirements on the health, safety, storage and handling requirements. Follow all local, state, and national regulations during surface preparation, material application and cleanup.

PRODUCT INFORMATION & DISCLAIMER

Product Data Sheets are periodically updated to reflect new information. It is important to use the latest and most recent revision for the product being used. The foregoing information is accurate to the best of our knowledge. However, due to differences in customer handling, use and method of application which are not known and are beyond our control, Products Techniques, Inc. makes no warranties as to the end result.