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## PRODUCT DATA SHEET: **PowerKote™ DFL-1 Dry Film Lubricant**

**Part#: DFL-1**

### SELECTION DATA

#### PRODUCT DESCRIPTION:

DFL-1 is a thermally cured Dry Film Lubricant. DFL-1 makes use of a unique binding system to retain high temperature stability while reducing friction. The film thickness of DFL-1, as applied, ranges from .0005" to .001". DFL-1 achieves full cure at 300°F, after 1 hour at temperature. When cured, DFL-1 is not affected by most chemicals.

DFL-1 is not designed to provide corrosion resistance as it is normally used as a “wet” lubricant in conjunction with oil or other liquid lubricants. The lubricating ingredients in DFL-1 can lubricate at pressures above 350,000 PSI. Parts coated with DFL-1 will experience extended life compared to uncoated parts.

DFL-1 makes use of a unique water based binding system that is non-flammable. DFL-1 can be modified to provide enhanced features. Versions that can lubricate at temperatures over 2000°F are also available.

#### RECOMMENDED USES:

DFL-1 is primarily a high pressure lubricant and is recommended for use on any part subject to sliding or rotational friction. Gears, machinery slides, camshaft assemblies, piston skirts and bearings all benefit from an application of DFL-1. DFL-1 was initially designed to be applied to rod and main bearings. DFL-1 has excellent adhesion to soft substrates as well as harder surfaces. Excellent for high temperature lubrication in steel mills.

**NOT RECOMMENDED FOR:** Substrates that cannot handle the cure temperature.

**APPLIED FILM THICKNESS:** .0005” to .00015”  
(Burnishes upon use)

**HRC (Equivalent Rockwell C Scale):** N/A

**ADHESION (Tape Test ASTM D 3359):** 5B

**PENCIL HARDNESS TEST:** N/A

**IMPACT TEST (ASTM D 2794 2 lb. Weight):** N/A

**FLEXIBILITY/ BENDING ADHESION:** Excellent

**THERMAL TEMPERATURE RESISTANCE:** Over 1000°F constant and over 2000°F intermittent environmental.

**SALT SPRAY RESISTANCE:** N/A

**CORROSION TEST DATA:** Good

**ACCEPTABLE SUBSTRATES FOR APPLICATION:** Ferrous and non-ferrous substrates, plastics and composites that can handle the cure temperature.

**ELECTRICAL PROPERTIES:** N/A

**CHEMICAL RESISTANCE:** Good

**FILM TYPE:** DFL-1 is a soft lubricious material that is designed to burnish to a near zero film buildup while still providing full properties, allowing normal clearances to be maintained. DFL-1 is a conformal coating and can burnish in use to achieve the running clearances that are optimal. DFL-1 is impregnated into a properly prepared surface

Note: N/A refers to characteristics that are not applicable to this type of coating.