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# Application Instructions for DFL-1 Dry Film Lubricant

DFL-1 is a high pressure lubricant and is recommend 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.

Designed to be applied to Rod and Main bearings. DFL-1 has excellent adhesion to soft substrates as well as harder surfaces.

**Preparation:**

- The parts must be absolutely free of all oils, grease, moisture, dust, scale or corrosion.
  - To do this, a thorough wash with acetone or similar solvent will take care of most impurities. Use gloves to protect your hands, and a respirator so as to not breath the vapors. Clean the parts in a well ventilated area away from sources of ignition such as fire, flame or sparks.
    - If you suspect the part may have oil in the metal you can pre-bake the parts at about 350° before cleaning with acetone, provided that the part would not be damaged by this temperature. This will burn off any oils from the machining process or from use. This should be done in a well ventilated area and ***do not use an oven you cook food in.***
- Next the parts need to be etched to create pores in the substrate for the coating to bond to.
  - For softer metals, such as aluminum or bearings, use 100-120 grit aluminum oxide or similar at 20-30 PSI using a suction type blaster.
  - For steel, use 100-120 grit aluminum oxide or similar, at a higher pressure.
- Before spraying the part must be thoroughly cleaned using air blast, hot water rinse, or a solvent based rinse like acetone, DO NOT USE mineral spirits type solvents, or any other method that leaves a film on the surface.
- Mask off any areas that should not be coated, be sure to wear gloves to keep the surface of the part clean.
  - Masking tape will sometimes leave a residue on the part, to avoid this use plain paper on the surface and tape the paper to itself.

**Applying the coating:**

- Stir and shake well. You will need to disperse all solids that may have settled to the bottom of the container.
  - Adding clean ball bearings or clean small nuts to the mix will help break up the settled materials.
  - Filter the coating as you put it into the sprayer.
- You can apply the coating using an airbrush or a detail touch-up spray gun with a 1mm or smaller nozzle size.
- Minimum part temperature should be 65° f, if below that warm up the part being coated. A warm part is easier to get an even coat onto.
- Apply the coating in light fog passes until you have color then stop.
- Spray at a right angle to the part.
  - Use sufficient air pressure for the correct operation of your spray equipment.
  - This will give you between .0005 and .001 inches of coating thickness.
- Check part for complete coverage. Part should be a gray/black color.
  - Do not apply a second coat after the coating dries.

**Curing the coating:**

- DFL-1 is cured in an oven at 300 degrees Fahrenheit for 1 hour.
  - **Do not cure the parts in an oven you cook food in.**
- After baking and the parts have cooled, burnish parts like bearings with green scotch-brite or a similar pad.

**Clean Up:**

- Clean tools with water.
- Read MSDS before using this product.