

Flushing Procedure for Polyurethane Foam (PUF) and Polyurea/Polyurethane Coatings:

This paper has been written to give the Applicator sufficient knowledge to flush Graco/Gusmer/Glascraft equipment of polyurethane foam materials and polyurea/polyurethane/hybrid materials prior to changing material systems or storage of equipment.

Disclaimer:

Every effort has been made to make the information provided accurate to the best of its knowledge, however, due to the variety of uses and applications for Graco/Glascraft equipment, and changes that may have been made to the equipment subsequent to the publishing of this procedure, there may well be information that is missing or not applicable to particular circumstances.

General Safety Information:

Extreme care must be taken. Polyurethane and polyurea materials, especially the Isocyanate materials are reactive with water in any form. It is necessary to understand and follow the instructions in this paper to insure proper and safe operation of the equipment.

Sufficient guidelines cannot be developed to eliminate the need for good common sense in the use and flushing of the equipment, and in the use and application of the products, this equipment is designed to process. Users of this equipment must therefore, make their own determination as to the suitability of the information contained herein. There should be no assumption made that the instructions and safety measures herein are all inclusive, and that other measures may not be required for the specific use or application.

Solvents and Chemicals:

It is the user's responsibility to insure that adequate personal protection measures are taken so as not to exceed the

Threshold Limit Value (TLV) of the products being used, as established by the Occupational Safety and Health Administration (OSHA) or other qualified agency. The user must be aware of the exposure limits specified for the products being used, and must use them in accordance with the recommendations specified by their manufacturer.

Personal Protection:

The use of solvents will be required when servicing or cleaning Graco equipment. To prevent excessive exposure to the solvents, appropriate personal protective gear such as eye and face protection, respiratory protection and protective gloves and clothing may be required.

Required Solvents:

- DPM Acetate or equivalent
- DINP or DOP Pump lube or equivalent

Important: Before doing this procedure or any other chemical change, insure compatibility between the old and new Iso and Polyol and required solvents.

Procedure:

1. Remove Spray Gun and Coupling Block from hose ends and secure ends into a single trash bag.
2. Lower material dispensing pressure by decreasing air pressure to 30 psi (air operated) or decreasing hydraulic pressure to 300 psi.
3. If using the same Transfer Pumps and Supply Hoses, remove them from the material drums, and if possible lift the inlet balls to drain material from inside the Transfer Pump. Wipe the exterior of the pump with a clean rag. Insert each Pump in a separate bucket and secure to insure tipping is not possible.
4. Using the DPM Acetate, Actuate the proportioner to move slowly and purge both A & B chemicals into a pail.

Caution: Do not actuate the Primary Heaters or Heated Hoses.

The subsequent reacted material can be disposed of in accordance with applicable federal, state, and local regulations. Stop the proportioner as soon as the chemical is voided and the DPM Acetate follows.

5. Collect the first gallon of DPM Acetate from the material hose ends and safely dispose of the solutions in accordance with applicable federal, state, and local regulations.

6. Securely fasten the material hose ends into their respective buckets of DPM Acetate and begin to recycle the DPM Acetate. Recycle at the fastest proportioner cycle rate possible without creating a safety hazard. Effective flushing is a function of velocity (rate at which the DPM Acetate travels) not gallon age (amount of DPM Acetate).

7. Allow DPM Acetate to re-circulate for at least one (1) hour.

8. Turn off proportioner and remove the Transfer Pumps from the DPM Acetate. If possible, lift the inlet balls to drain material from inside the Transfer Pump. Wipe the exterior of the pump with a clean rag. Insert each pump in a separate buckets filled with DINP or DOP and secure to insure tipping is not possible.

9. Actuate the proportioner to move slowly and purge all remaining DPM Acetate out into the two buckets, filling the proportioner with only DINP or DOP. Safely dispose of the DPM Acetate in both buckets in accordance with applicable federal, state, and local regulations. Stop the proportioner and insure all pressure is removed from the proportioning unit and material hoses.

10. Choose one of the following steps based on what you are doing with the machine:

Changing Over To A New Material: Reinstall the coupling block. Actuate the proportioner to move slowly and purge all remaining DINP or DOP out into a bucket, filling the proportioner with the new material. Safely dispose of the

DINP or DOP in accordance with any applicable federal, state, and local regulations.

Storing Your Equipment: With DINP or DOP in the system reinstall the coupling block/blocks and Spray Gun. Activate the park/retract switch then add pressure to the air motor/hydraulic cylinder to develop 1,000 psi. Trigger spray gun until pump is in the retract position and pressure falls to 500 psi. Secure machine with all valves closed and power off. Remove spray gun and ensure coupling block/blocks are clean.