TechTip G9 – Short and Long-Term Rig Shutdown

Purpose

The purpose of this TechTip is to provide contractors with simple procedure to shut down spray rigs that are not to be used for several weeks. The importance of maintaining the equipment is the most important feature of this TechTip.

NOTE: Check with your equipment manufacturer or material supplier for long term shut down procedures. These procedures should not be used in lieu of specific instructions from SPF equipment manufacturers or material suppliers. It is mainly designed for contractors that are unfamiliar with and/or do not have specific instructions for rig shutdown.

Rig Shut-Down (Flushing) Procedure

If a spray foam machine will not be needed for a short or long term, the appropriate shut down procedures below should be followed. This TechTip uses the following definitions:

Short term: Less than six (6) weeks;
Long term: Six (6) weeks or longer.

Regardless if the rig is shut down for short or long term, two steps should be considered.

- Install fresh desiccant on any open A-component (ISO) drums or containers on the rig to prevent moisture from crystalizing the ISO.
- Ensure the transfer pump and pump collar are properly installed and seated/sealed to the collar.
- Fill generator fuel tank to avoid condensation inside the tank.

Short term rig shut down (less than 6 weeks) **

- Disassemble, clean and grease spray guns.
- Clean and inspect Y-strainers.
- Connect hose to re-circulation block on hose.
- Re-circulate machine for 30 minutes - make sure you are set to run material from drums to machine through the hose and back to the drums.
- Re-circulate the machine for 30 minutes once every week.**

Long term rig shut down (6 or more weeks)

- Remove A-side filter, clean and replace.
- Flush A-side with iso neutralizer (about 5 gal per machine depending on hose length to clear proportioner and hoses). NOTE: Check A-side filter before machine is brought back into service.
- Flush and then refill A and B with an appropriate fluid. Appropriate fluids may include

- propylene carbonate (PC),
- mineral oil

The following fluids may be used but may not be suitable for extended shutdown periods more than 3-4 months.

- dioctyl phthalate (DOP)
- tricresyl phosphate (TCP),
- throat seal liquid (TSL)/dibutyl phthalate
- hydraulic oil - sealed just prior to use to avoid adding moisture

Check with your equipment manufacturer to select the appropriate fluid. (about 5 gallon per machine depending on hose length to fill proportioner and hoses). In the case of the A-side, It is highly recommended that fresh fluid in used in order to minimize the potential for residual moisture or other possible contaminants in the fluid.

- A slight pressure may be left in these lines.
- Remove, disassemble, clean and lubricate spray guns.

***During a short term shut down, the system weekly re-circulation procedure must be followed. There is no need for re-circulation if the long-term procedure is used.*

Shelf life of spray foam chemicals should be considered. Before bringing system back into service, check the expiration dates of the foam chemicals being used.

Re-Circulation Procedure (for Short Term Shutdowns)

Some rigs incorporate a manifold and heated hose recirculation kits*. Check with your rig manufacturer if you are not sure what this is. These kits are configured to save material during pressure bleed off, to heat up the hose quicker or to re-circulate material weekly (in the event a rig sits unused).

There are two methods to recirculate material:

A. Through the fluid manifold (from the machine pressure relief valves, red & blue) or
B. Through the gun manifold (mounted on the spray hose rack).

For a rig that shutdown short term, use either method A or B below, executing the steps in the order indicated:

A. To recirculate through the fluid manifold:

1. Turn Pressure Relief/Spray valves to pressure relief direction.
2. Run material with the feed pumps and proportioner pumps. Some proportioners may

need to be set in jog mode or have the hydraulic pump pressure set to as low as possible.
3. Recirculate about ½ gallon of A-side and about ½ gallon of B-side material back into drums.

B. To recirculate through the gun manifold:
Procedure is the same as that for re-circulating through a fluid manifold, though the valves on the heated hose recirculation manifold must be opened.

1. Turn pressure relief/spray valves to 'spray' direction.
2. Primary and hose heat zones may be set to 75F max to help flow of material (cold weather)
3. Run material with the feed pumps and the proportioner pumps.
4. Recirculate about 2 gallons of A-side and about 2 gallons of B-side material back into drums through the hose block.
5. Apply grease to any exposed sealing surfaces.
6. Replace manifold block when complete.

*If you do not have a rig circulation kit installed, you will need to flush chemicals through the system on a weekly basis. Instead of re-circulating material through the gun manifold, you can flush chemicals through the coupling block manifold into separate buckets for A-side and B-side components. Dispose of these waste chemicals properly.

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DOCUMENT HISTORY

Date	Sections Modified	Description of Changes
April 2020	New Document	
September 2020	Updates	Flushing steps and preservative fluid list
January 2021	All	New Document Format