

Plas-Pak Spray Systems

Low-Cost Spray Systems for Silicone Rubber & Polyurethane Rubber & Plastic

DESCRIPTION: Certain Polytek liquid mold rubbers and plastics can be inexpensively meter mixed and sprayed using sprayer assemblies and accessories from Plas-Pak Industries. Two gun assemblies are available - a 1:1 mix system for polyurethane rubbers and plastics and a 1:10 sprayer for TinSil® Spray 25. Both sprayers are available from Polytek and come equipped with a pressure regulator kit. Empty cartridge assemblies (one tube for Part A and one for Part B are molded into one piece for convenience) and static mixers are sold separately. Cartridge assemblies may be reused when handled carefully or disposed if cleanup is impractical. Static mixers are disposable and should not be reused.

METHODS OF USE: Read and understand this Technical Bulletin and the Technical Bulletin for the product to be sprayed prior to beginning spray operation. Wear proper personal protective equipment (i.e., respirator, gloves, apron, goggles, etc.). Work in a well-ventilated area or a spray booth. Do not attempt to spray unless these conditions can be met.

Since the sprayer is driven pneumatically, an external air compressor with a quick disconnect is required. A maximum of 145 psi air can be supplied to the gun itself. Air pressure supplied to the cartridge (which determines feed rate of liquids to static mixer) is ultimately adjusted by a knob at the rear of the pneumatic tube. Adjust the knob to zero or near zero pressure before actuating the trigger to prevent over-pressuring the static mixer. (Zero pressure is achieved with the knob turned completely counter clockwise). A separate air regulator controls airflow to the spray tip. Adjust this pressure to a low value (~5 psi) to start spraying. Refer to the manufacturer's manual, supplied with each gun, for other operation and maintenance directions.

Before loading a cartridge, ensure that the object to be sprayed is properly prepared (i.e., sealed and coated with release agent). See the "Model Preparation" section of the Technical Bulletin for the product being sprayed.

To load the cartridge, hold it upright to keep liquid from escaping and remove the nut and end-cap from the cartridge. While keeping the cartridge upright, screw the static mixer firmly to the end of the cartridge. (If needed, for low viscosity products, an optional orifice restrictor can be placed over the cartridge openings before installing the static mixer.) To install the cartridge into the gun, simultaneously depress the trigger on the handle and the black plastic pressure-reversal switch located on the top/rear of the pneumatic tube. This withdraws the plungers to accept the cartridge. It may be necessary to pull back on the metal thumb-tab located between the plungers to create more room to accept the cartridge. Insert the cartridge by placing against the plunger first then pushing down to seat securely into the gun. With the cartridge still upright, connect the black spray tip at the end of the static mixer to the flexible line coming from the pressure regula-

FEATURES

- Easily & inexpensively spray 1:1 or 1:10 mix-ratio liquid rubbers & plastics.
- Spray polyurethanes or silicones.
- Self-contained, portable mixer/spray gun assembly. Only need an air compressor.
- Complete a mold in one application.
- Spray patented Polygel® Rubbers & Plastics, Poly 1512XX Plastic, EasyFlo Spray FR & TinSil® Spray 25.

tor. Do not attach the line too tightly to the black spray tip, since this will make removal very difficult. Set the pressure to a low setting (~5 psi) to avoid a surge of high-pressure air, and slowly open the air supply to the tip. Actuate the finger trigger and simultaneously increase the pressure via the rear knob to drive the plungers into the cartridges. At this point, liquids will enter the static mixer. Point the static mixer into a waste pail and adjust the pressure knob at the rear of the gun to control output of liquid; then make adjustments to the air pressure at the base of the gun handle to modify the spray pattern. Continue making adjustments until the spray pattern and flow rate are acceptable. Additionally, the black spray tip can be moved inward and outward to adjust the spray pattern. Start with the black spray tip flush with the end of the static mixer, as this is often the optimum configuration. Do not over-pressurize the static mixer. Start low and make small adjustments. For each liquid being sprayed, there is a pressure beyond which no additional flow can be achieved. Do not over-pressurize the spray tip as too much air pushes the liquid around on the surface in an undesirable manner.

Generally, it is best to begin spraying at the bottom of the object and work upward. Each liquid will spray differently so experiment before embarking on a critical project to get a feel for the various parameters. Some liquids (i.e., Polygel rubbers and TinSil Spray 25) can be applied thicker with each pass of the sprayer than materials like Poly 1512XX or EasyFlo Spray FR Plastic Hardcoat. If spraying is stopped by releasing the trigger, it should be resumed into a waste container to eliminate lead and lag of individual A and B components in the mixer. Once you are confident uniform mixing has been achieved point the sprayer toward the surface to be coated.

Note: Fast gelling products, such as accelerated 1512X and EasyFlo Spray FR, will gel rapidly in the static mixer if spraying is interrupted for more than a few seconds. Have a waste container nearby to divert the spray if needed.

When finished, turn off the air supply to the spray tip and disconnect the line to the static mixer by pushing down the inner ring on the end of the line assembly while simultaneously pulling gently on the spray tip. With the gun pointed upward, unscrew the static mixer and discard. (If swapping in a new cartridge, it may be possible to use the same static mixer with longer gel-time products such as Polygel rubbers and TinSil Spray 25.) If the cartridge is not completely empty and material is to be stored for later use, pull the trigger momentarily to push fresh A and B through the cartridge openings; wipe thoroughly ensuring no cross mixing and plug the opening with the end cap and screw the nut firmly into place. Depress the pressure reversal switch at the end of the pneumatic tube while pulling the trigger on the handle to withdraw the plungers from the cartridge. Do not apply forward pressure to the closed cartridge! Remove the empty cartridge. If the cartridge is to be reused, clean immediately. To remove the inner seals, which were driven into the tubes, apply low air pressure through the small end openings and push the seals out carefully. Clean parts to be reused with denatured ethanol or another suitable solvent taking care to not damage seals or cartridges in the process.

FILLING & RE-FILLING CARTRIDGES: Plug the holes at the end of each cartridge with an end cap and screw nut. Turn securely upright and carefully pour liquid A and B into each of the two tubes. If you plan to reuse the 1:1 cartridge, mark the tubes to indicate which contains parts A and B. When spraying TinSil Spray 25 (1A:10B mix ratio), make sure Part A goes into the smaller tube. Do not overfill. Leave enough room at the top to completely accept the width of the seals, which will plug the tube openings. When filling 1:1 cartridges or the 1:10 cartridges, insert the seals to each tube carefully with the white button (covering the air vent) facing up and slowly push the seal until it contacts the liquid and forces out unvented air. Push the white tab fully inward to close the seal tightly. It is important to remove as much air as possible since (1) air left in the A-side of a polyurethane liquid will react over time with the liquid inside and (2) air pockets in the tube can be pushed out if the gun is held in a way to allow the air bubble to escape through the cartridge opening, which would create off-ratio mixed material leaving the static mixer.

It is especially important to keep the gun clean when spraying polyurethane systems as they are adhesive and can impede proper mechanical operation. It is a good idea to clean the plungers and their attached rods that extend into the pneumatic assembly to prevent build up of cured material. These assemblies are quite simple and intuitive, but, as with all mechanical devices, they must be properly maintained and operated for consistent, long-term performance.

CLEAN UP: Wipe tools clean before the rubber or plastic cures. Denatured ethanol is a good cleaning solvent, but it must be handled with extreme caution owing to its flammability and health hazards. Work surfaces can be waxed or coated with Pol-Ease 2300 Release Agent so cured rubber can be removed.

SAFETY: Before use, read product labels and Material Safety Data Sheets. Follow safety precautions and directions. Use only with adequate ventilation. Contact with uncured polyurethane products may cause eye, skin and respiratory irritation and dermal and/or respiratory sensitization. Avoid contact with skin and eyes. If skin contact occurs, remove with waterless hand cleaner then soap and water. In case of eye contact, flush with water for 15 minutes and call physician.

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SPRAYER ACCESSORIES

Static Mixer with Nut

¼-inch x 24 element

Plas-Pak Cartridge Assemblies

1:1 Mix Ratio Cartridge

1:10 Mix Ratio Cartridge

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