



Instructions for Dispensing and Troubleshooting 3M™ Scotch-Weld™ Structural Adhesives

Technical Bulletin

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General Instructions for Use of 3M™ EPX™ Applicators

Almost invariably, *the cause of incomplete curing of a structural adhesive is highly off-ratio dispensing*. The following steps should be practiced to minimize occurrence of this off-ratio dispensing.

To ensure proper mix ratio with 3M™ Scotch-Weld™ Duo-Pak adhesives and 3M™ EPX™ applicators, the following steps are recommended:

- 1) Store cartridges cap end up and feat end down —do not leave them lying on their sides. This will allow any air bubbles to work up to the tip of the cartridge.
- 2) Remove and discard cap from cartridge.
- 3) Place cartridge in applicator and begin dispensing; visually ensure that adhesive is flowing from both sides of the cartridge. This will remove any air bubbles that may be present in the cartridge, and also equalize the pistons if they were not precisely level.
- 4) Once material is flowing from both sides of the cartridge, attach mix nozzle.
- 5) Dispense and discard approximately one mL of adhesive.
- 6) Begin applying adhesive to part to be bonded.

When done using adhesive, do not remove nozzle. Store material with the nozzle attached. When ready to use more adhesive, remove and discard nozzle with gelled adhesive and begin following steps above with step 3.

If the exit orifice of the mix nozzle is larger than desired for dispensing, Luer lock adapters and a large variety of dispensing needle tips can be purchased from sources such as Ashby Cross or Nordson EFD.

NOTE: *Use of a dispensing tip can provide significant additional backpressure and, in some cases, lead to off-ratio dispensing. Validate all tips by comparing to material dispensed without a tip.*

Additional Notes

Mix nozzles are designed to work with adhesive at room temperature. Adhesive that is very cold (below 60°F/15°C) may be hard to dispense. Adhesive that is very warm (above 90°F/32°C) may flow very easily. Care should be taken to visually ensure that material exiting the mix nozzle is uniform in color (no streaks).

To dispense material more rapidly, mix nozzles may have the tips cut back, or adhesive may be gently warmed (to as high as 120°F/50°C) using an oven, warming pad or lamp. DO NOT place adhesive cartridges in a microwave oven.

If the adhesive is difficult to dispense, remove and replace mix nozzle. DO NOT try to force gelled material through the mix nozzle, or the cartridge and/or applicator may become damaged.



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Mix nozzles are intended for one-time use. DO NOT attempt to flush a mix nozzle with solvent and reuse it later.

Do not attempt to express material with a pneumatic applicator at pressures higher than recommended (50 PSI for the 50 mL dispenser; 58 PSI for 200 mL dispenser, 70 PSI for 400 mL dispenser) or cartridge damage may occur.

Storing the used cartridges tip up will encourage any entrapped air bubbles to float to the tip of the cartridge, where they can be expelled prior to attaching a nozzle.

Acrylic adhesives are prone to cure at the tip and the cured material may bond quite strongly to the cartridge. Storing these adhesives tip down may reduce mixing accelerator and base at the tip and reduce the incidence of cartridge clogging at the tip *unless using the new split dispensing tip style (45 mL and 490 mL) acrylic cartridges.*

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