

Structural glazing repair kit

Cartridge system preparation guide

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Introduction

DOWSIL™ 993 Structural Glazing Repair Kit is a two-part, neutral cure RTV silicone sealant for fast and efficient repair or new installation of structurally glazed units in shop or on site.

This guide provides step-by-step instructions on the correct system preparation of the DOWSIL™ 993 Structural Glazing Repair Kit when used in conjunction with the Powerpush 7000 Mixpack Dispenser battery application gun from Meritool.

Kit solution components

Cartridges

- Side-by-side cartridges containing standard DOWSIL™ 993 Structural Glazing Sealant two component base and catalyst
- Volume 675ml, base to catalyst volume ratio 8 to 1
- Weight of the filled cartridge: 1.05kg

Static mixer

- Sulzer MGQ high flow mixer with extended tube including 9 mixing elements



Approved gun solutions

Feature / Specification	Meritool 7000 Battery Gun	Cox Pneumatic Gun	VIPRO-G9 Pneumatic Gun
Type	Battery-operated	Pneumatic	Pneumatic
Cartridge compatibility	675ml, 8:1 ratio	675ml, 8:1 ratio	675ml, 8:1 ratio
Power source	20V Li-Ion battery	Air pressure	Air pressure
Max pressure / Force	Not specified	6.8 bar	8 bar
Weight	3.20 kg	3.30 kg	3.90 kg
Speed Settings	Programmable (recommended max speed level 3)	Pressure-based (recommended max pressure 6 bar)	Pressure-based (recommended max pressure 6 bar)
Performance notes	Easy to use; Requires battery management	Reliable extrusion; No manometer, compressor must be regulated	Reliable extrusion; with manometer, compressor must be regulated
Approval status	Approved	Approved	Approved
Availability	Innotech- Germany: https://www.innotech-rot.de/	Innotech- Germany: https://www.innotech-rot.de/	Proventuss- Poland: https://proventuss.eu/

System preparation in 8 easy steps

1. Visual inspection

Visually check that the DOWSIL™ 993 Structural Glazing Repair Kit cartridges are not damaged or cracked and that the product is within its stated shelf life.



2. Cartridge preparation

Remove the cap from the top of cartridge then remove the plugs from the dispensing end of the cartridge.



3. Gun preparation

To insert the cartridge, pull back the clutch lever on the battery application gun and pull the dual gun racks completely back.



Insert the DOWSIL™ 993 Structural Glazing Repair Kit cartridges into the cartridge retainer. The cartridges should snap into the gun so that the ends of the cartridges are aligned with the dual gun racks and pistons.

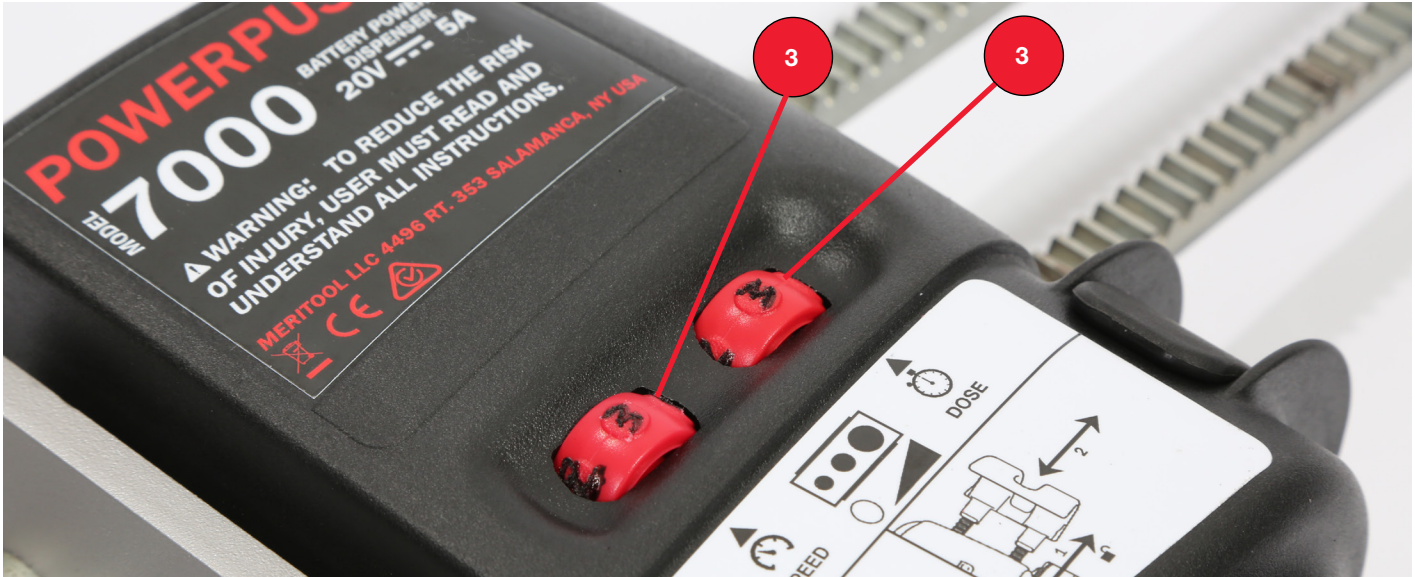


Once the cartridge is inserted, gently push the dual gun racks until the pistons touch the cartridge plungers, then close the clutch lever.



4. Speed and dosing

Adjust “SPEED” to level 3 and “DOSE” to level 3.



5. Pre-extrude without nozzle

The two-component sealants must be extruded prior to attaching the static mixer for **15 seconds**. This action will verify that materials are equally dispensed and also help eliminate any catalyst separation that can occur during long term storage of cartridges. This step is very important to ensure a proper application.



6. Attach nozzle

How to attach properly the static mixer to the 993-repair kit?

The special thread system of the 993 cartridges, is suitable and fit for the thread type of the customized static mixer. Although there is a slight lag in the cartridge threading design, the connection with the static mixer has been tested and approved. Properly attaching a static mixer to the sealant cartridge is crucial for effective application and preventing issues like detachment or poor flow. Let's break down the steps.

Thread the Mixer into the Cartridge: Gently screw the static mixer onto the cartridge's special thread. Apply a bit more pressure to ensure a snug fit. This step is crucial for preventing issues like detachment during application.

Check Alignment: Verify that the mixer is aligned correctly with the cartridge. Proper alignment ensures consistent flow and prevents leaks.

Securely Attach the Mixer: Tighten the mixer until it is firmly in place. Avoid overtightening, as it may damage the thread or cause leakage.

Test the Connection: Before dispensing the sealant, perform a test run to ensure that the mixer is securely attached and functioning as expected.



Important: Do not remove extension tube of the mixer or mixing elements. Do not reuse static mixers after application with a second cartridge.



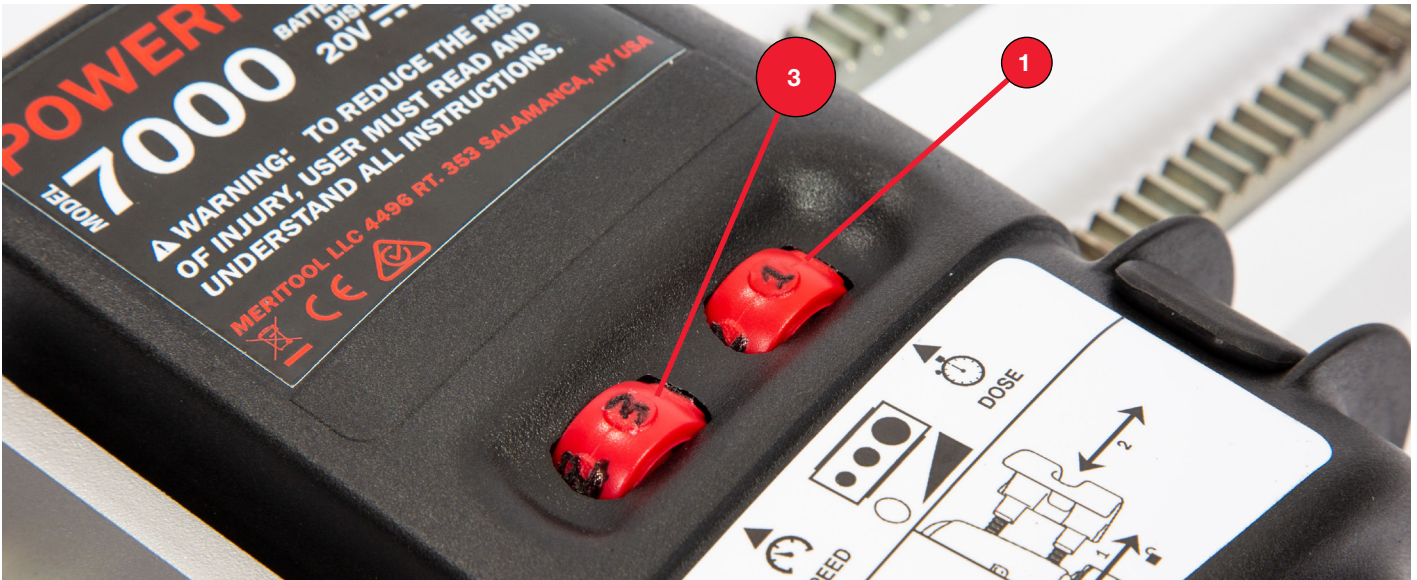
7. Speed and dosing for application

Select gun “SPEED” level 3 for the application.

Select “DOSE” level 1 for continuous application.

Select the speed setting to level 3 for optimal control and a smoother, continuous application. This output force setting is compatible with all dosing levels, ensuring flexibility in application techniques. For a continuous flow of sealant, adjust the dose setting to level 1. This setting is ideal for tasks requiring a consistent application rate without interruptions.

It is crucial to avoid selecting a high gun speed level. Utilizing a high speed can exert excessive pressure on the sealant cartridge, potentially leading to its deformation. This deformation can compromise the integrity of the cartridge, resulting in damage and ultimately, an incorrect sealant application. By adhering to these guidelines and utilizing the PowerPush 7000’s features responsibly, users can achieve a precise and reliable sealant application, avoiding the risks associated with high-speed settings.



Important: Do not exceed level 3 for speed.

"Off" position	Recommended output force	Recommended output force	NOT ALLOWED	NOT ALLOWED
1	2	3	4	5
SPEED				

Continuous flow	7 Seconds flow	15 Seconds flow	21 Seconds flow	30 Seconds flow
1	2	3	4	5
DOSE				

8. Extrude material

Check mixing quality with butterfly test.

When applying the DOWSIL™ 993 Repair-kit , it is essential to think about the tooling time of the applied mixed material. The tooling time is influenced by several factors which including: the ambient temperature and moisture levels during application, the applicator's handling speed, and the design and accessibility of the joint to be filled. Applicators must adjust the tooling time based on the specific units to be bonded, ensuring that the sealant is tooled before a skin forms on its surface. Typically, this should be done within 5 to 10 minutes of application.

It is also crucial to avoid extended breaks during the application process. Long breaks can cause the sealant to start curing inside the mixer, leading to extrusion issues and potential cartridge damage due to the increased internal pressure caused by the cured blocked sealant in the mixer. The maximum allowable break time with a used mixer is 5 minutes. If the break exceeds this duration, it is recommended to start with a new mixer to prevent any complications.



Proper mixing



Insufficient mixing

The DOWSIL™ 993 Structural Glazing Repair Kit is now ready to use.



Battery-operated gun vs. Pneumatic gun

When comparing the application steps and usage of the DOWSIL™ 993 repair kit with the battery-operated PowerPush 7000 gun and a pneumatic gun, the procedures are very similar. The primary difference lies in the programming aspect: the pneumatic gun requires setting the pressure in bars, here the maximum allowed pressure for the application is 6 bar. This is to ensure the integrity of the cartridge is maintained and to avoid any issues that could arise from excessive pressure, such as cartridge deformation or plunger rotation.

Quality control

For detailed quality control procedures, please refer to the Dow Silicone structural glazing manual EMEAI.

Frequency of quality control tests


Frequency of test				
Sealant production quality control test	After each change of cartridge	After each change of cartridge box	After each cartridge batch number	After each substrate batch number
Snap time test	Not required	Not required	1 test per batch and per day	Not required
Butterfly test	Not required	1 test per box	1 test per batch and per	Not required
Peel test	Not required	Not required	1 test per sealant batch	1 test per substrate batch
Deglaze test	Deglazing should be project related, depending on element numbers, size, and complexity, to be defined before production start. During site application and reparation, deglazing is not possible, so it's very important to ensure that the peel testing is carried out correctly.			

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