Tputty™ 607 Application Notes

Date: 22/07/2025

This application note provides general instructions for use for Tputty™ 607.

Shipping and Storage

Shelf Life: Shelf life for Tputty™ 607 is 6 months from date of manufacture.

Storage Conditions: Tputty™ 607 should be stored in original product packaging until ready for use. Recommended storage conditions are 0°C to +35°C, with no special requirement on relative humidity when stored in original packaging. For cartridges, the direction to store the material is referred to the arrow from carton or sticker as in vertical tip-down dispense orientation). Tputty™ 607 is designed so it will not settle during shipping or storage and therefore should not be remixed. A slight sheen of silicone oil is possible to develop on the surface of the material when supplied in pails and will be incorporated and dispersed in the Tputty™ 607 material during the pumping/dispensing process.

Storage under High Pressure: Tputty™ 607 should not be stored under high pressure dispensing conditions. If stored for long periods under pressure some separation may be noticed.

Use

Recommended Use: Tputty™ 607 is a single part dispensable material designed with automation and vertical stability in mind. Laird has leveraged its knowledge of thermally conductive fillers and resin systems to develop a single part dispensable that demonstrates reliability in a variety of application orientations.

Tputty™ 607 is ideal for applications that can benefit from automation and allows minimization of SKUs in applications with gap variability. In addition to providing application flexibility and variable gap adaptation, Tputty™ 607 will exert minimum stress on your component while maintaining interface contact to maximize thermal transfer.

Preparation and Clean-up

Preparation for Use: Tputty™ 607 is ready to use out of the container and no post-cure is needed. Make sure surfaces to be covered are clean and dry. Mixing before use is not recommended; however, the flow rate may be lower than specified on the datasheet if dispensed at temperatures below 23°C.

Clean-up: Excess material can be cleaned up using a dry rag. Residual silicone oil can be removed using a clean rag and acetone solvent.

Exposure to solvents: Tputty™ 607 is a silicone material filled with thermally conductive fillers. Exposure to organic solvents and strong bases can result in swelling or removal of the silicone carrier material resulting in degradation or loss of performance. For specific chemical resistance consult Chemical Resistance Tables for silicone materials such as the one listed at the following URL:
https://www.engineeringtoolbox.com/silicone-chemical-resistance-d_1879.html

First Aid

First Aid: Safe handling, disposal, and first aid measures are included in the SDS. Please read the SDS before using or handling this product. For further questions, please contact Laird.

Tputty™ 607 Dispensing

Tputty™ 607 can be dispensed with a variety of dispensing systems. The following is a partial list of example equipment for low and high-volume dispensing and typical results that can be expected.

PACKAGING SIZE	FILL VOLUME AND WEIGHT			
	EFD		SEMCO	
30cc	30 cc	103 g	30 cc	103 g
75cc (2.5 oz)	56 cc	194 g	62 cc	214 g
180cc (6 oz)	159 cc	548 g	161 cc	555 g
310cc (1/10 gallon)			314 cc	1079 g
360cc (12 oz)	326 cc	1123 g		
600cc (20 oz)	601 cc	2068 g	594 cc	2043 g

300cc Aluminum cartridge	300cc	1035g
1 gallon	4060 cc	14 kg
5 gallon	5800 cc	20 kg

Dispensing Recommendations & Equipment

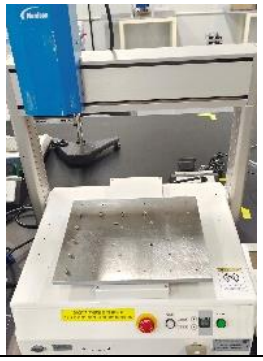
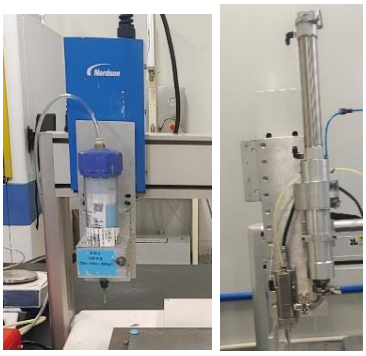
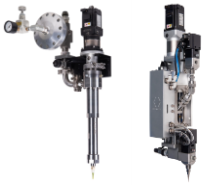
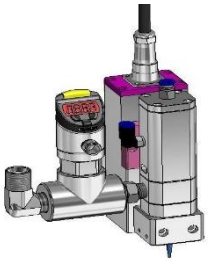
- **Prototype & Low Volume Dispensing Method**
  The manual dispensing gun or EFD Performus II Dispenser is recommended for the prototype and low volume dispensing.

30cc Manual Dispenser

Nordson EFD Performus II Dispenser

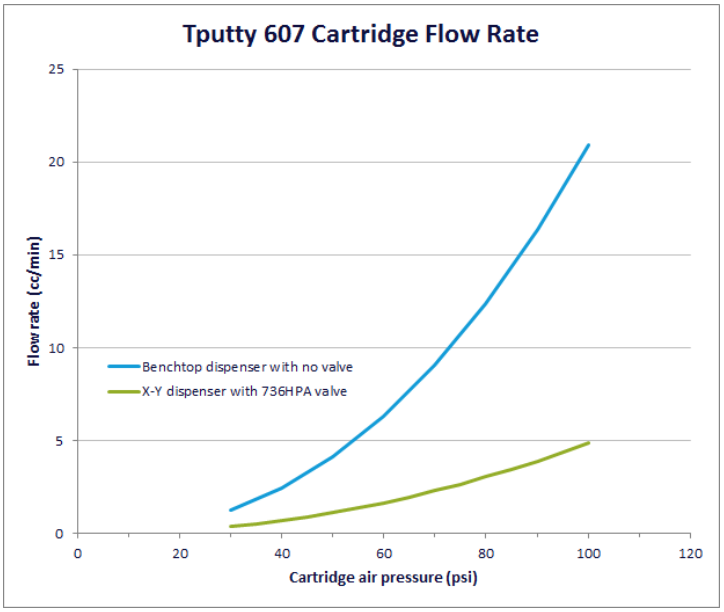
➢ **High Volume Dispensing Methods**

Normally the dispensing system include the raw material supply system, dispensing platform and dispensing valves:

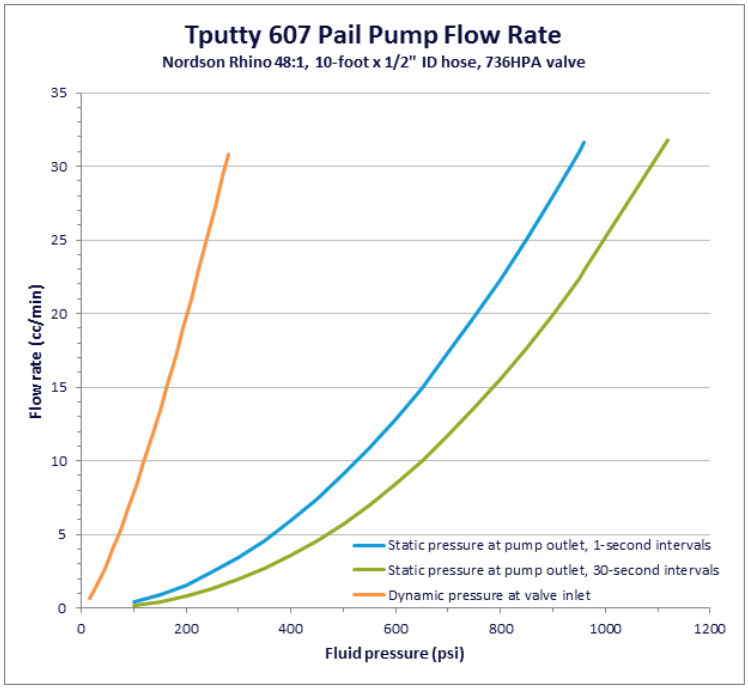
	Material Supply System	Dispensing Platform	Dispensing Valve
Simple Solution	Cartridge dispensing by air cylinder 30cc/75cc/180cc cartridge dispensing direct by air or cylinder	3-axis X-Y table such as Nordson Desktop Robot 	No valve or time-pressure valve 
High-Precision Solution	Scheugenpflug A90 C for 300/600cc cartridges, PF(A)803 for 5 gallon pails 	Scheugenpflug Dispensing Cell 	Scheugenpflug Dos P016 TCA 
	Graco DynaMite for 1/5-gallon pails, DynaMite 22 for 300cc/600cc cartridges 	Graco UniXact C300/C500 System, Multiple axis robot 	Graco Dispensit Positive Displacement shot meter or Pcp pump 
Low Cost Solution	Local Screw supply Pump for 180cc/300cc cartridge 	3-axis X-Y Desktop Robot 	High pressure Valve 

Note: If above application solution can't include your application condition, pls contact us, we will give you suggest base your condition and recommendation your best dispensing application solution.

Typical Cartridge Dispensing Results (Low Volume Applications)



Typical Pail Dispensing Results (High Volume Applications)



Dispensing Pattern Design:

➢ Dispensing Part Considerations

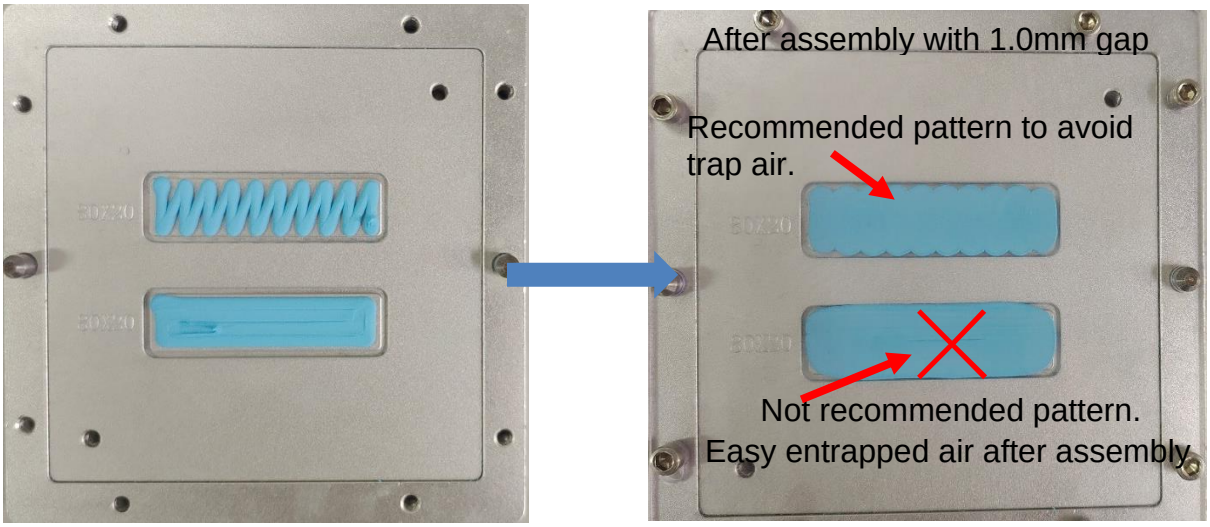
Once a material has been selected, the next step is to analyze the part to ensure that the volume of dispensed material is correct, with the correct shape and in the correct locations.

Before selecting a dispensing system, the part's largest dimension and the dispensing weight tolerance requirements should be identified. These are critical inputs leading to dispensing platform size and dispensing valve selection. The dispensing valve minimum shot volume can meet smallest dispensing volume.

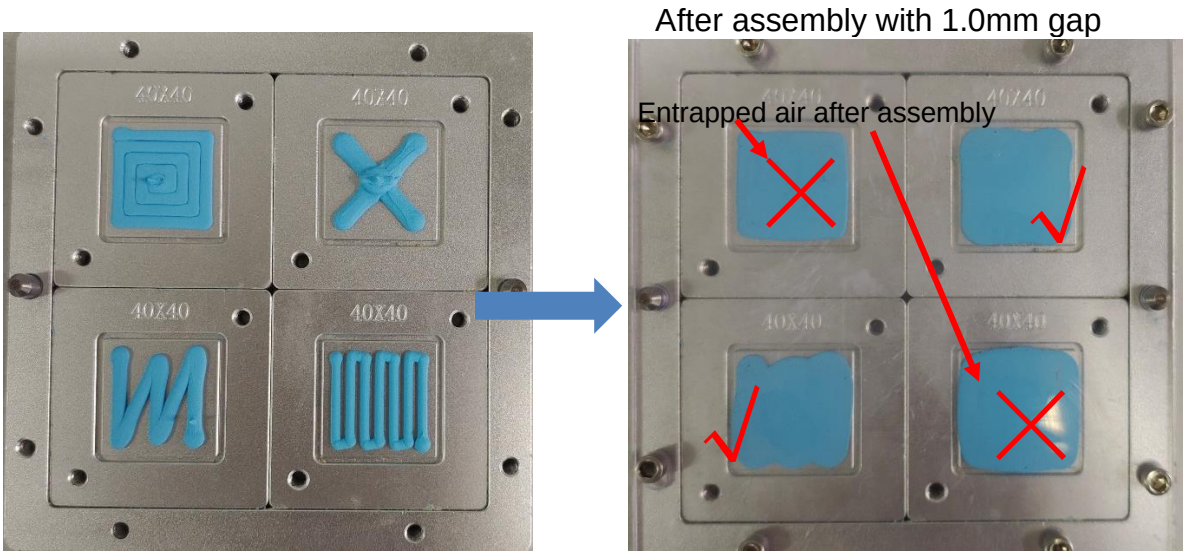
➢ Dispensing Patterns and Process Considerations

Patterns should be designed to achieve adequate coverage with fast cycle time and minimum air entrapment.

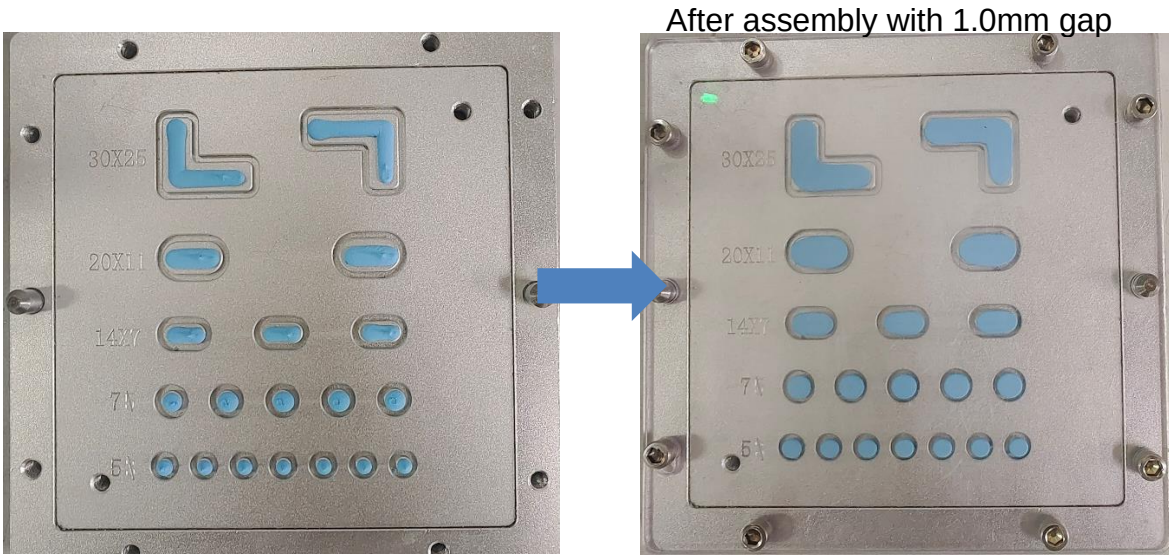
• Generally, small squares should be covered with individual dots and large squares with line, "X" or "N".



• The most accurate rectangular coverage will be achieved with a spiral or meander; however, spirals and meanders are not recommended as they may trap air during assembly. A simple dot and the single line, provide an adequate coverage, the shortest cycle time, and least chance of introducing air into the TIM. T**he "N" and "X" is the best pattern for large squares to avoid trap air**.



• **Nozzle size or tips should be selected based on the smallest area on the part. A larger nozzle will provide faster cycle times but may cause adhesion issues when trying to dispense too small dot.**
• The 5mm circle below is covered easily with a single dot, and the same nozzle can achieve good coverage over the 20mm*11mm oval and the 30mm*25mm L-shape using sets of lines.



Troubleshooting Guideline

Problems	Recommendations
Material not coming out fast enough	1.A kind of higher-pressure material supply pump will be very helpful to improve it. 2. Try to reduce the resistance force of the material supply pipe, for example, reduce the length of the material pipe or increase the diameter of the material supply pipe or avoiding a rectangle of the material supply pipe. 3.Heating the material to 60 ℃ ~80 ℃ when dispensing by a kind of heating control dispensing valve.
A small dot cannot sticky on the surface, but it is taken off with the dispensing nozzle	1. Try to reduce the inner diameter of the dispensing nozzle. 2. Optimize the distance from the surface to the dispensing nozzle, not too far and not too close. 3. Try to add about 0.3s~0.5s waiting time before the dispensing nozzle moving to another position. 4. Not moving the dispensing nozzle up directly but moving it to left and right before up. 5. Using a kind of heating control dispensing valve to heat the material 60℃~80℃ when dispensing
The dispensing weight Cpk not very good	1. A kind of metering dispensing valve will be needed. 2. Selected a proper metering valve model, not too big but can meet the capacity, for example a cylinder piston metering valve with bigger diameter will decrease the dispensing precision. 3. Increase the dispensing pressure for screw metering dispensing valve or reduce the rotational speed of the screw. 4. Using a kind of heating control dispensing valve to heat the material 60℃~80℃ when dispensing, it will be positive for Cpk.
Cartridge broken during dispensing	1. Maybe the dispensing pressure is too high, try to reduce the dispensing pressure or reduce the diameter of the air cylinder. 2. Try to use a metal protection fixture outside the cartridge, contact Laird for technical supporting of these fixture if needed.