Application Guide

INTRODUCTION:

Chomerics THERM-A-GAP™ T630 and T630-G is the latest development in thermal gap filler technology, developed to conduct heat between a hot component and a heat sink or enclosure. T630 is a highly conformable material requiring no cure cycle or mixing yet dispenses like a liquid compound to fill highly variable tolerances in electronics assemblies. T630 is form stable and viscoelastic when dispensed yet takes virtually no compressive force to deform under assembly pressure leaving solder joints and leads stress free. Simply dispense the cured compound onto your component, assemble the heat sink or chassis over the material, and ship your product. The ease of application of this material is also ideal for rework and field repair situations.

MATERIAL DESCRIPTION:

THERM-A-GAP T630;

- Precured gap filler requiring no cure cycle
- Requires no refrigeration
- Stores at room temperature
- Has no filler settling issues.
- One component pre packaged material requires no mixing
- Easy to dispense
- Long shelf life (18 months DOS)
- Form stable and pre-cured as it stands in the cartridge
- Requires no additional adhesive systems.
- Extremely soft and compliant texture conforms well to irregular surfaces
- Allows for easier rework
- Silicone extractables are low @ 6.0%
- Passes Bellcore
- No Slump or Sag in material, when tested at a temperature of 125degrees C for 200 hrs

TYPICAL APPLICATIONS:

The material requires very low closure force, and is ideal for circuit boards where multiple packages of variable heights require a thermal path to a heat sink or enclosure. T-630 is manufacturing friendly, being suitable for manual or automated dispensing and produces no waste in production. It can also accommodate “Last Step” applications due to the no cure requirement. The material is also suitable for use as an encapsulent where large areas require areas require a thermal media. Ideally suited for filling gaps between .020” - .120”. T-630 can be applied to either metal or plastic surface

North America• 77 Dragon Court, Woburn, MA 01888-4014 **TEL** +(1) 781-935-4850 **FAX** +(1) 781-933-4318
Europe• Marlow, Bucks, UK **TEL** +(44) 1628 404000 **FAX** +(44) 1628 404090
Asia Pacific • Hong Kong **TEL** +(852) 2 428 8008 **FAX** +(852) 2 423 8253
South America• São Paulo, Brazil **TEL** +(55) 11 3917 1099 **FAX** +(55) 11 3917 0817

PACKAGING:

T-630 is a single component gap filler packaged in ready to use cartridges and syringes.

Cartridge Systems:

32 oz. Aluminum cartridge which Includes removable dispense nozzle end cap and plunger.

These cartridges can be used for dispensing product or charging the available 30cc syringes.

Syringe systems:

Preloaded 30cc taper tip syringes are offered with preinstalled smooth flow wiper piston.

APPLICATION INSTRUCTIONS:

Surface Preparation:

Surface should be clean and dry.

Equipment:

Listed below are recommended pneumatic dispense systems.

32 oz. cartridge
Semco model 550 Sealant Gun Semco Part# 231551

30cc syringe
Semco Semmatic Series 1800, 1900, or 2000 air dispense systems.
Series 1800 Semco Part# 233356
Series 1900 Semco Part# 233359
Series 2000 Semco Part# 233100

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INSTALLATION INSTRUCTIONS:

Step#1) Select either 32 oz cartridge or 30cc taper tip syringe for use in application. The smaller size of the 30cc syringes makes them desirable for rework and/or field installation. The larger 32 oz. cartridges are desirable for, but not restricted to shop floor manufacturing, where reloading of cartridges can be kept to a minimum.

Step#2) Select a pneumatic air system to use with either the cartridge or syringe. Suitable equipment is listed above.

Step#3) Remove end cap from selected container of T630. "Do not remove pistons."

Step#4) Install the selected T630 container into the air system following the air system manufacturers operating manual for the installation of cartridge/syringe.

Important Note: Do not connect the air system to an air supply until the cartridge has been properly installed and the operator is prepared to dispense the product.

Step #5) Cut dispense tip to the desired diameter. Diameter should be sized to deliver the required flow rate. Some flow rate values are listed below to help in determining what diameter tip is needed.

Note: To deliver the highest output of material during dispensing, plastic nozzle should be cut to allow for the shortest length and largest orifice.

Step #6) Connect air dispense system to air supply. Set air supply to 100 psi.

Step #7) Set dispense tip onto the surface where the T630 will be applied. Hold syringe at a slight angle to the surface, (approx. 30 degrees).

Step #8) Apply air pressure by depressing foot pedal to allow the material to flow onto the surface. Release foot pedal to stop the flow of compressed air and subsequently the flow of material.

Step #9) Swipe tip against the surface using light hand pressure after the material has been applied. This allows the bead of material to "break off" from the dispense tip.

Step #10) Move to the next surface where T630 is to be applied.

*****NOTE:***
The following example can be used to gauge where to cut back your dispense tip, a 0.150" diameter orifice will deliver 10cc/min flow rate.

REWORK:

Rework of assemblies using T-630 material is greatly simplified by its texture and consistency. It never changes consistency; therefore, it is never hard or fluid and requires very little force to separate components from heat dissipating surfaces. Refer to the strain curve below to for removal force.
The surface does not need to be clean of existing material to reapply after rework.
Excess material can be wiped clean from package leads or other areas with a lint free rag.

PART NUMBERS:

Cartridges:

32 oz Cartridge w/ nozzle ---------- Chomerics Part # 65-00-T630-XXXX

Syringes:

30cc taper tip syringe ---------- Chomerics Part # 65-00-T630-0030

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