

THERM-A-GAP™ Gels

Dispensable, Very Low Compression Force, Thermal Gap Fillers



DESCRIPTION

THERM-A-GAP™ Gels are highly conformable, pre-cured, single-component compounds. The cross-linked gel structure provides superior long term thermal stability and reliable performance. These unique materials result in much

lower mechanical stress on delicate components than even the softest gap-filling sheets. They are ideal for filling variable gaps between multiple components and a common heat sink.

FEATURES / BENEFITS

- Dispensable
- Fully cured
- Highly conformable at low pressures
- No refrigeration, mixing or filler settling issues in storage
- Single dispensable TIM can eliminate multiple pad part sizes/numbers
- Reworkable

TYPICAL APPLICATIONS

- **Automotive electronic control units (ECUs)**
 - Engine control
 - Transmission control
 - Braking/traction control
- Power conversion equipment
- Power supplies and uninterruptible power supplies
- Power semiconductors
- MOSFET arrays with common heat sinks
- Televisions and consumer electronics

THERM-A-GAP™ Dispensed Thermal Gels					
	Typical Properties	T630/T630G	T635	T636	Test Method
Physical	Color	White	White	Yellow	Visual
	Flow Rate, cc/min - 30cc taper tip, 0.130" orifice, 90psi (621 kPa)	10	8	8	Chomerics
	Specific Gravity	2.25	1.50	1.20	ASTM D792
	Percent Deflection @ Various Force Levels	% Deflection	% Deflection	% Deflection	Modified ASTM C165 Dispensed 1.0 cc of material Brought 1" x 1" probe down to 0.100" Test rate 0.025 in/min
	@ .20 kg (0.5 lb)	--	--	--	
	@ .45 kg (1 lb)	36	13	6	
@ 1.0 kg (2 lbs)	47	33	23		
@ 1.4 kg (3 lbs)	54	43	35		
@ 1.8 kg (4 lbs)	59	50	43		
@ 2.3 kg (5 lbs)	63	56	48		
Typical minimum bondline thickness, mm (in)	0.10 (0.004)/ 0.25 (0.010)	0.38 (0.015)	0.38 (0.015)	--	
Thermal	Thermal Conductivity, W/m-K	0.7	1.7	2.4	ASTM D5470
	Heat Capacity, J/g-K	1.1	0.9	0.9	ASTM E1269
	Coefficient of Thermal Expansion, ppm/K	350	400	400	ASTM E831
	Operating Temperature Range, °C(°F)	-55 to 200 (-67 to 392)	-55 to 200 (-67 to 392)	-55 to 200 (-67 to 392)	--
Electrical	Dielectric Strength, KVac/mm (Vac / mil)	5.0 (200)	5.0 (200)	5.0 (200)	ASTM D149
	Volume Resistivity, ohm-cm	10 ¹⁴	10 ¹⁴	10 ¹⁴	ASTM D257
	Dielectric Constant @1,000 kHz	5.5	4.0	4.0	ASTM D150
	Dissipation Factor @ 1,000 kHz	0.010	0.003	0.003	Chomerics
Regulatory	Flammability Rating (See UL File E140244 for Details)	V-0	Not Tested	V-0	UL 94
	RoHS Compliant	Yes	Yes	Yes	Chomerics Certification
	Outgassing, % TML	0.55	0.5	0.4	ASTM E595
	Shelf Life, months from date of manufacture	18	18	18	Chomerics

THERM-A-GAP™ Dispensed Thermal Gels

PRODUCT ATTRIBUTES

T630 / T630G

- Years of proven reliability in high-volume automotive applications
- General use material
- Good thermal performance
- Lowest deflection force required
- Minimal stress on components
- “G” version has 0.010” glass beads as compression stops for electrical isolation

T635

- Excellent thermal performance
- Low deflection force required
- Minimal stress on components

T636

- Superior thermal performance
- Solves the toughest heat transfer problems
- Low deflection force required
- Minimal stress on components

Ordering Information

These materials are available in the following formats. Contact Chomerics for custom widths, part sizes, etc.

PART NUMBERS

65-00-T6XX - 0010	10 CC SAMPLE
65-00-T6XX - 0030	30 CC CARTRIDGE
65-00-T6XX - 0180	180 CC CARTRIDGE
65-00-T6XX - 0300	300 CC CARTRIDGE
69-11-24419-T630	25 KG KIT
69-11-25177-T630	1 GAL PAIL (5 KG)

Dispensing Equipment Options	Optional Supplier	Description
Hand-Gun Pneumatic Dispensing 300cc cartridges	Bergdahl Associates	Semco Model 550
Hand-Gun Pneumatic Dispensing 180cc (6oz) cartridges	Bergdahl Associates	Model 250A-6oz Sealant Gun
http://www.bergdahl.com		
Pneumatic Shot Size Controllers 30cc, 180cc and 300cc Shot Size Dispensing Equipment	EFD	Ultra 2400 Series
		Ultra 1400 Series
		Ultra 870 Series
30cc/55cc Adapter Assembly	EFD	10000D5152
Dispensing Sleeve to support 6oz (180cc) Semco Tubes	EFD	5192-6
http://www.efd-inc.com		

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Except from Therm Cat 1001 Rev D September 2008