

# THERM-A-GAP™ Gels

Dispensable, Very Low Compression Force, Thermal Gap Fillers

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.



## 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

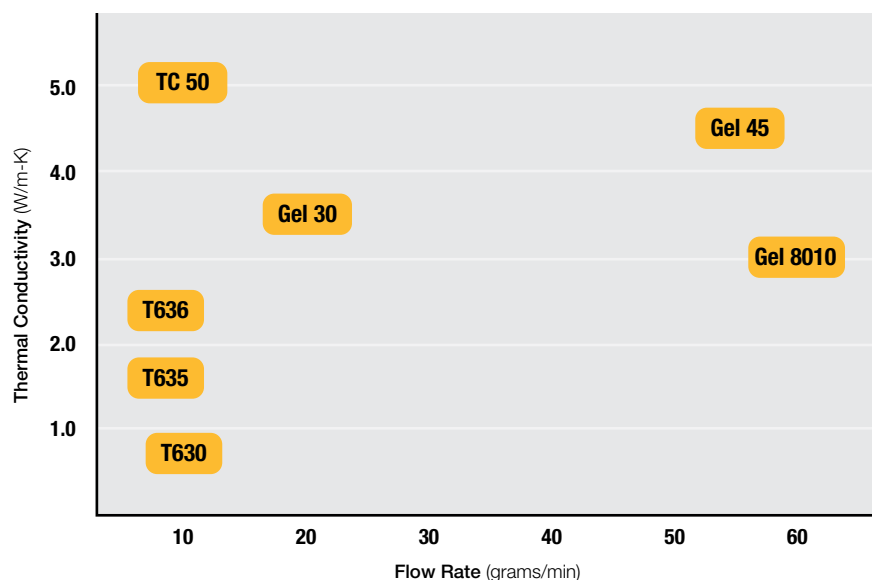
## TYPICAL APPLICATIONS

- 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



Consult Applications Engineering for automated dispensing equipment recommendations.

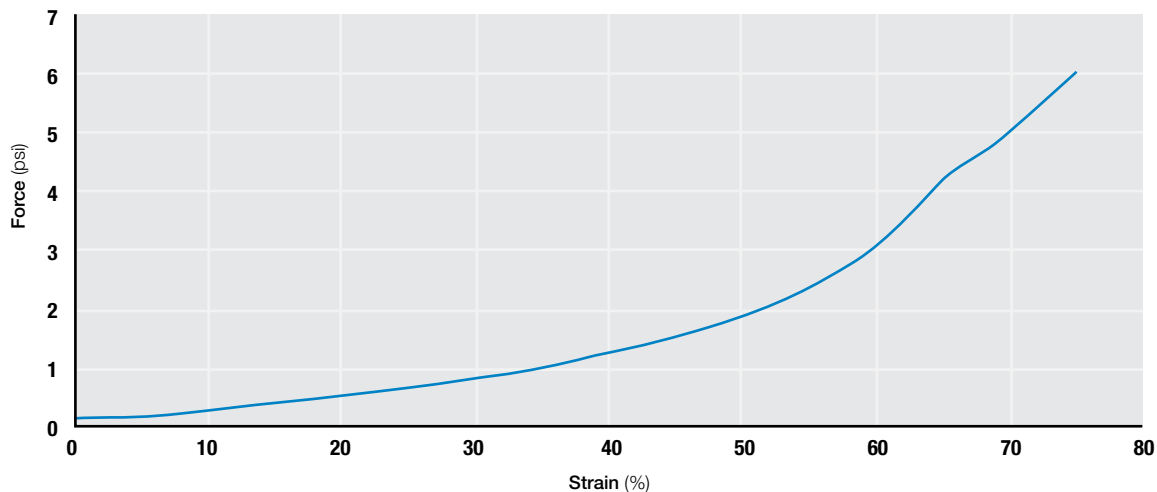
## PERFORMANCE GUIDE



## THERM-A-GAP™ Thermally Conductive Gels

Typical Properties		T630	T635	T636	Test Method
Physical	Color	White	White	Yellow	Visual
	Flow Rate, grams/min - 30 cc taper tip, 0.130" orifice, 90 psi (621 kPa)	10	8	8	Chomerics
	Specific Gravity	2.0	1.5	1.2	ASTM D792
	Typical Minimum Bondline Thickness, in (mm)	0.004 (0.10)	0.015 (0.38)	0.015 (0.38)	--
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, °F (°C)	-67 to 392 (-55 to 200)	-67 to 392 (-55 to 200)	-67 to 392 (-55 to 200)	--
Electrical	Dielectric Strength, Vac/mil (kVac/mm)	200 (8)	200 (8)	200 (8)	ASTM D149
	Volume Resistivity, ohm-cm	10 <sup>14</sup>	10 <sup>14</sup>	10 <sup>14</sup>	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 (% CVCM)	0.55 (0.14)	Not Tested	0.49 (0.18)	ASTM E595
	Shelf Life, months from date of manufacture	18	18	18	Chomerics

### DEFLECTION - T630



**Test method:**

- ASTM C165 Modified
- Dispensed material and brought 0.50" diameter probe down to 0.100" height
- Strain rate 0.025 in/min

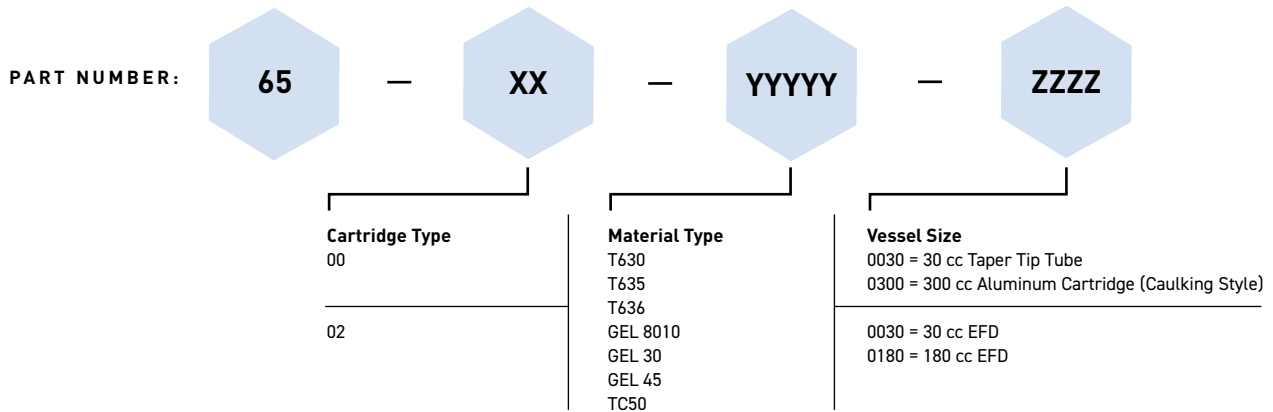
## THERM-A-GAP™ Thermally Conductive Gels

Typical Properties		GEL 8010	GEL 30	GEL 45	TC50	Test Method
Physical	Color	White	Pink	Black	Gray	Visual
	Flow Rate, grams/min - 30 cc syringe with no tip attachment, 0.100" orifice, 90 psi (621 kPa)	60	20	55	10	Chomerics
	Specific Gravity	2.70	3.10	1	3.25	ASTM D792
	Typical Minimum Bondline Thickness, in (mm)	0.002 (0.05)	0.004 (0.10)	0.0035 (0.0889)	0.006 (0.15)	Chomerics
Thermal	Thermal Conductivity, W/m-K	3.0	3.5	4.5	5.0	ASTM D5470
	Heat Capacity, J/g-K	1	1	1	1	ASTM E1269
	Coefficient of Thermal Expansion, ppm/K	150	150	150	150	ASTM E831
	Operating Temperature Range, °F (°C)	-67 to 392 (-55 to 200)	-67 to 392 (-55 to 200)	-67 to 392 (-55 to 200)	-67 to 392 (-55 to 200)	Chomerics
Electrical	Dielectric Strength, Vac/mil (kVac/mm)	200 (8)	200 (8)	200 (8)	200 (8)	ASTM D149
	Volume Resistivity, ohm-cm	10 <sup>14</sup>	10 <sup>14</sup>	10 <sup>14</sup>	10 <sup>14</sup>	ASTM D257
	Dielectric Constant @ 1000 kHz	6.3	7.0	7.0	6.8	ASTM D150
	Dissipation Factor @ 1000 kHz	0.002	0.002	0.002	0.022	Chomerics
Regulatory	Flammability Rating	V-0	V-0	V-0	V-0	UL 94
	RoHS Compliant	Yes	Yes	Yes	Yes	Chomerics Certification
	Outgassing, % TML (% CVCM)	1.33 (0.34)	0.15 (0.05)	0.15 (0.05)	0.07 (0.01)	ASTM E595
	Shelf Life, months from date of manufacture	18	18	18	18	Chomerics

# Ordering Information

## THERM-A-GAP™ Thermally Conductive Gels

These materials are available in the following formats.



### Ordering Information: Custom Configurations

Larger custom cartridges and pails available. Please contact Parker Chomerics for a pre-assigned part number for custom part sizes.

Dispensing Equipment Options	Optional Supplier	Description
Hand-Gun Pneumatic Dispensing 300 cc cartridges	Bergdahl Associates	SEMCO® Model 550
Hand-Gun Pneumatic Dispensing 180 cc (6 oz) cartridges	Bergdahl Associates	Model 250A-6 oz Sealant Gun
<a href="http://www.bergdahl.com">www.bergdahl.com</a>		
Pneumatic Shot Size Controllers 30 cc, 180 cc and 300 cc shot size dispensing equipment	EFD	Ultra 2400 Series
		Ultra 1400 Series
		Ultra 870 Series
30 cc/55 cc Adapter Assembly	EFD	10000D5152
Dispensing Sleeve to support 6 oz (180 cc) SEMCO® tubes	EFD	5192-6
<a href="http://www.efd-inc.com">www.efd-inc.com</a>		

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