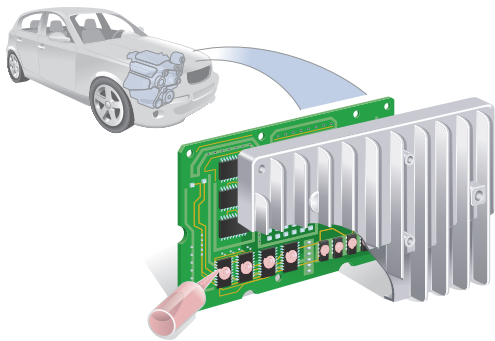


# THERM-A-GAP™ GEL 8010 & GEL 30

## High Performance Fully Cured Dispensable GELS



### Description

Parker Chomerics fully cured dispensable GELS eliminate time-consuming hand assembly, decreasing installation costs and reducing customer manufacturing and purchasing (logistical) complexity. These products require no mixing or curing, providing superior design flexibility.

- Provides low thermal impedance at thin and thick gaps, allowing use of common heat spreaders
- Proven reliability in extreme temperature cycling and shock & vibration
- Deflects easily under very low compressive forces, decreasing stress on components thus decreasing component failures.

### Typical Applications

- Automotive Electronic Control Units (ECU's)
- Power Supplies & Semiconductors
- Memory & Power Modules
- Microprocessors / Graphics Processors
- Flat Panel Displays & Consumer Electronics

### Features/Benefits

- Easily dispensable
- Fully-cured / No pump out
- High bulk thermal conductivity
- Low thermal impedance
- Ultra low compression force
- High tack surface & reworkable
- Proven long-term reliability

| Typical Properties |   | GEL 8010                   | GEL 30                     | Test Method   |
|--------------------|---|----------------------------|----------------------------|---|
| Physical           | Color   | White                      | Pink                       | Visual  |
|                    | Flow Rate, grams/min - 30cc syringe with no tip attachment<br>0.100" orifice, 90psi (621 kPa) | 60                         | 20                         | Chomerics   |
|                    | Specific Gravity  | 2.70                       | 3.20                       | ASTM D792   |
|                    | Percent Deflection @ Various Force Levels<br>(See graph on following page)                    | % Deflection               | % Deflection               | Modified ASTM C165<br>Dispensed 1.0 cc of material<br>Brought 1" x 1" probe<br>down to 0.100"<br>Test rate 0.025 in/min |
|                    | Typical minimum bondline thickness, in (mm)   | 0.002 (0.05)               | 0.004 (0.10)               | Chomerics   |
| Thermal            | Thermal Conductivity, W/m-K   | 3.0                        | 3.5                        | ASTM D5470  |
|                    | Heat Capacity, J/g-K  | 1                          | 1                          | ASTM E1269  |
|                    | Coefficient of Thermal Expansion, ppm/K   | 150                        | 150                        | ASTM E831   |
|                    | Operating Temperature Range, °F (°C)  | -67 to 392<br>(-55 to 200) | -67 to 392<br>(-55 to 200) | Chomerics   |
| Electrical         | Dielectric Strength, Vac / mil (KVac/mm)  | 200 (8.0)                  | 200 (8.0)                  | ASTM D149   |
|                    | Volume Resistivity, ohm-cm  | 10 <sup>14</sup>           | 10 <sup>14</sup>           | ASTM D257   |
|                    | Dielectric Constant @100 kHz  | 6.3                        | 7.0                        | ASTM D150   |
|                    | Dissipation Factor @ 100 kHz  | 0.002                      | 0.002                      | Chomerics   |
| Regulatory         | Flammability Rating   | V-0                        | V-0                        | UL 94   |
|                    | RoHS Compliant  | Yes                        | Yes                        | Chomerics Certification   |
|                    | Outgassing, % TML (CVCM)  | 1.33 (0.34)                | 0.15 (0.05)                | ASTM E595   |
|                    | Shelf Life, months from date of manufacture   | 18                         | 18                         | Chomerics   |

**Product Attributes**

**GEL 8010**

- Thin bondline gel (approximately 2-10 mils)
- Low thermal impedance gel
- Stencil printable with no pump out
- Ideal for high-volume dispensing
- Proven long-term reliability

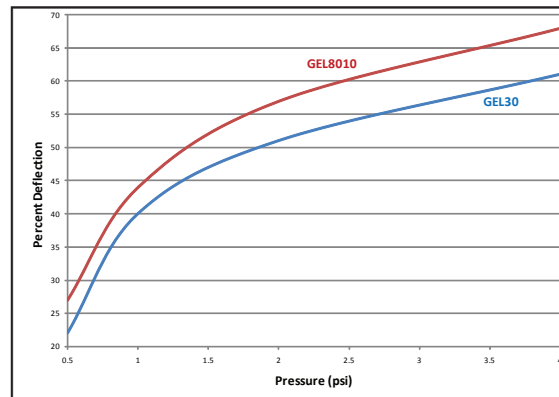
**GEL 30**

- Accommodates a variety of bond line thicknesses for application to multiple devices
- Gel 30 has been successfully used to fill a variety of different gap thickness. Please reference the Gel 30 Reliability test report for additional details and surface recommendations.
- High Bulk Thermal Conductivity
- Excellent performance-to-price
- Compatible with high volume, automated dispense processes
- Meets Telcordia (Bellcore) silicone specifications

**Installation Guidelines**

Thermal gels are supplied in plastic syringes and aluminum cartridges. Apply pressure to the rear of the cartridge, simply dispense the desired amount onto components or cooling plates. The gel is reworkable and excess material can be easily wiped off.

Since GEL 8010 gel is conformable, the gel can be stencil printed onto the plates. The thickness of the printed gel can be adjusted depending on the component type and size, but about 6mil thickness is recommended.



Percent Deflection vs. Pressure

**Ordering Information**

|             |                          |   |           |                    |                                  |  |  |
|-------------|--------------------------|---|-----------|--------------------|----------------------------------|--|--|
|             | <b>6W</b>                | — | <b>XX</b> | —                  | <b>YYYYY</b>                     | —  | <b>ZZZZ</b>  |
|             | <b>W</b>                 |   | <b>XX</b> |                    | <b>YYYYY</b>                     |  | <b>ZZZZ</b>  |
| <b>GELS</b> | 5 = Standard Packaging   |   | 00        |                    | THERM-A-GAP<br>GEL 8010 & GEL 30 |  | 0030 = 30cc Taper Tip Tube<br>0300 = 300cc Aluminum Cartridge (Caulking Style) |
|             | 9 = Custom Configuration |   | 11        |                    | 33579                            |  | GEL 8010 = 1 Gallon Pail (2800cc, 7.6Kg)*                                      |
|             |                          |   |           | 28020              |                                  | GEL 30 = 1 Gallon Pail (2800cc, 9Kg)*              |  |
|             |                          |   |           | Custom Part Number |                                  | THERM-A-GAP GEL Material Code<br>GEL 8010 & GEL 30 |  |

\*High volume dispensing equipment required. Please contact Applications Engineering for additional support. Other custom container sizes may be available upon request

| Dispensing Equipment Options  | Optional Supplier   | Description       |
|---|---------------------|-------------------|
| Hand-Gun Pneumatic Dispensing 300cc cartridges  | Bergdahl Associates | Semco Model 550   |
| <a href="http://www.bergdahl.com">http://www.bergdahl.com</a>                           |                     |                   |
| Pneumatic Shot Size Controllers<br>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            |
| <a href="http://www.efd-inc.com">http://www.efd-inc.com</a>                             |                     |                   |

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