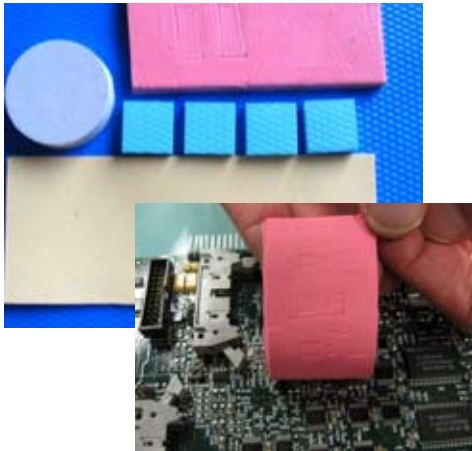


# THERM-A-GAP™ HCS10,569,570,579,580

## Thermally Conductive Gap Filler Pads



### DESCRIPTION

THERM-A-GAP™ gap-filler sheets and pads offer excellent thermal properties and highest conformability at low clamping forces.

### FEATURES / BENEFITS

- Ultra low deflection force
- High thermal conductivity
- High tack surface reduces contact resistance

- “A” version offers high strength acrylic PSA for permanent attachment
- UL recognized V-0 flammability
- RoHS compliant

All products are available on aluminum foil (A) or on “clean break” glass (G) fiber carrier. As with all previous Chomerics gap-fillers, the “A” versions have a high strength acrylic pressure sensitive adhesive (PSA) for permanent attachment to the cold surfaces.

THERM-A-GAP™ HCS10, 569, 570, 579, 580 Thermally Conductive Pads							
	Typical Properties	HCS10	569	570	579	580	Test Method
Physical	Color	Orange / Grey	Gray	Blue	Pink	Yellow	Visual
	Carrier G = Woven glass - no PSA A = Aluminum foil - with PSA	A or G	A or G	A or G	A or G	A or G	--
	Standard Thicknesses*, mm (inch)	0.25 – 5.0 (0.010 - 0.200)	0.25 – 5.0 (0.010 - 0.200)	0.5 – 5.0 (0.020 - 0.200)	0.25 – 5.0 (0.010 - 0.200)	0.5 – 5.0 (0.020 - 0.200)	ASTM D374
	Specific Gravity	2.0	2.2	2.2	2.9	2.9	ASTM D792
	Hardness, Shore 00	4	10	25	30	45	ASTM D2240
	Extractable Silicone, %	N/A	10	10	6	6	Chomerics
	Percent Deflection @ Various Pressures (0.125 in thick sample) @ 34 kPa (5 psi) @ 69 kPa (10 psi) @ 172 kPa (25 psi) @ 345 kPa (50 psi)	% Deflected 26 36 59 73	% Deflected 20 30 50 65	% Deflected 10 15 25 35	% Deflected 22 33 55 68	% Deflected 7 10 20 30	ASTM C165 MOD (0.125 in “G” Type, 0.50 in dia. probe, 0.025 in/min rate)
Operating Temperature Range, °C [°F]	-55 to 200 [-67 to 392]	-55 to 200 [-67 to 392]	-55 to 200 [-67 to 392]	-55 to 200 [-67 to 392]	-55 to 200 [-67 to 392]	--	
Thermal	Thermal Impedance, °C-cm²/W [°C-in²/W] @ 10 psi, @ 1mm thick, G version	9.7 (1.5)	9.1 (1.4)	9.1 (1.4)	4.5 (0.7)	4.5 (0.7)	ASTM D5470
	Thermal Conductivity, W/m-K @ 25 psi	1	1.5	1.5	3	3	ASTM D5470
	Heat Capacity, J/g-K	1	1	1	1	1	ASTM E1269
	Coefficient of Thermal Expansion, ppm/K	N/A	250	250	150	150	ASTM E831
Electrical	Dielectric Strength, KVac/mm (Vac/mil)	8 (200)	8 (200)	8 (200)	8 (200)	8 (200)	ASTM D149
	Volume Resistivity, ohm-cm	10 <sup>14</sup>	10 <sup>14</sup>	10 <sup>14</sup>	10 <sup>14</sup>	10 <sup>14</sup>	ASTM D257
	Dielectric Constant @1,000 kHz	5.3	6.5	6.5	8.0	8.0	ASTM D150
	Dissipation Factor @ 1,000 kHz	0.013	0.013	0.013	0.010	0.010	Chomerics Test
Regulatory	Flammability Rating (See UL File E140244 for Details)	V-0	V-0	V-0	V-0	V-0	UL 94
	RoHS Compliant	Yes	Yes	Yes	Yes	Yes	Chomerics Certification
	Outgassing, % TML (% CVCM)	0.44 (0.13)	0.42 (0.08)	0.35 (0.09)	0.19 (0.06)	0.18 (0.05)	ASTM E595
Shelf Life, months from date of shipment G (A)	24 (18)	24 (18)	24 (18)	24 (18)	24 (18)	Chomerics	

\*Thickness tolerance, mm(in.) ±10% nominal thickness @ 2.5mm (100 mil) or less;  
± 0.25mm (10mil) @ nominal thickness greater than 2.5mm (100 mil). Custom thicknesses may be available upon request.

# THERM-A-GAP™ HCS10,569, 570, 579, 580 Thermally Conductive Pads

## TYPICAL APPLICATIONS

- Telecommunications equipment
- Consumer electronics
- Automotive electronics (ECUs)
- LEDs, Lighting
- Power conversion
- Desktop computers, laptops, servers
- Handheld devices
- Memory modules
- Vibration dampening

In addition:

- There is no known or anticipated exposure to hazardous materials/substances during routine and anticipated use of the product.
- The product's shape, surface, and design is more relevant than its chemical composition.

These materials are not deemed by Chomerics to require an MSDS. For further questions, please contact Chomerics at 781-935-4850.



## HANDLING INFORMATION

These products are defined by Chomerics as "articles" according to the following generally recognized regulatory definition for articles:

An article is a manufactured item "formed to a specific shape or design during manufacturing," which has "end use functions" dependent upon its size and shape during end use and which has generally "no change of chemical composition during its end use."

## PRODUCT ATTRIBUTES

### HCS10

- Economical solution
- Highest conformability gap filler sheet

### 569

- Economical combination of thermal performance and conformability

### 570

- Best for molding complex parts and vibration dampening

### 579

- Best combination of thermal performance and conformability
- Lowest outgassing

### 580

- Best for molding complex parts and vibration dampening
- Lowest outgassing

## Ordering Information

Thermally conductive pads are available in the following formats. Contact Chomerics for custom widths, part sizes, etc.

### Distributor Part Numbers - 18" X 18" Sheets

0.010 in = 69-XX-27082-ZZZZ	0.070 in = 69-XX-20685-ZZZZ
0.015 in = 69-XX-27083-ZZZZ	0.080 in = 69-XX-21259-ZZZZ
0.020 in = 69-XX-20698-ZZZZ	0.100 in = 69-XX-20672-ZZZZ
0.030 in = 69-XX-27070-ZZZZ	0.130 in = 69-XX-20675-ZZZZ
0.040 in = 69-XX-20684-ZZZZ	0.160 in = 69-XX-20686-ZZZZ
0.050 in = 69-XX-27072-ZZZZ	0.200 in = 69-XX-20687-ZZZZ
0.060 in = 69-XX-20991-ZZZZ	

XX = 11 for "G" Version

XX = 12 for "A" Version

ZZZZ = THERM-A-GAP™ Material Code

Custom die-cut parts on sheets, or as individual parts "A" version offered die-cut (up to 70 mil) on continuous rolls (higher volumes)  
Custom thicknesses available upon request (up to 1" thick)  
Custom molded designs and ribbed sheets

### OEM Part Number Examples - 9" X 9" Sheets

Standard OEM Sheet, 0.070 Thick, "G" carrier, no PSA, 570 material: 61 - 07 - 0909 - G570  
Standard OEM Sheet, 0.200 Thick, "A" carrier, with PSA, 579 material: 62 - 20 - 0909 - A579

### Custom Part Number Examples

Custom configuration, (69 Prefix) "A" carrier, with PSA, 569 material: 69 - 12 - XXXXXX - A569  
(Where "XXXXX" is assigned by Chomerics at time of quotation)

XX = 11 for "G" Version

XX = 12 for "A" Version

ZZZZ = THERM-A-GAP™ Material Code