Frequently Asked Questions

What thermal conductivity test method was used to achieve the values given on the data sheets?

A test fixture is utilized that meets the specifications outlined in ASTM D5470.

What are the upper processing temperature limits for GAP PAD and for how long can GAP PAD be exposed to them?

GAP PAD in general can be exposed to temporary processing temperatures of 250°C for five minutes and 300°C for one minute.

Is GAP PAD electrically isolating?

Yes, all GAP PAD materials are electrically isolating. However, keep in mind that GAP PAD is designed to fill gaps and it is not recommended for applications where high mounting pressure is exerted on the GAP PAD.

Why are “wet out,” “compliance” or “conformability” characteristics of GAP PAD important?

The better a GAP PAD lays smooth, “wets out” or conforms to a rough or stepped surface, the less interfacial resistance caused by air voids and air gaps. GAP PAD materials are conformable or compliant, as they adhere very well to the surface. The GAP PAD materials can act similarly to a suction cup on the surface. This leads to a lower overall thermal resistance of the pad between the two interfaces.

Is anything given off by the material (e.g., extractables, outgassing)?

Silicone GAP PAD and Gap Fillers, like all soft silicone materials, can extract low molecular weight silicone. Also note that GAP PAD and Gap Filler have some of the lowest extraction values for silicone-based gap filling products on the market, and if your application requires minimal silicone, see our line of silicone-free material. Primarily for aerospace applications, outgassing data is tested per ASTM E595.

Why does the Technical Data Sheet (on the website) describe the Shore hardness rating as a bulk rubber hardness?

A reinforcement carrier is generally used in BERGQUIST® GAP PAD materials for ease of handling. When testing hardness, the reinforcement carrier can alter the test results and incorrectly depict thinner materials as being harder. To eliminate this error, a 250-mil rubber puck is molded with no reinforcement carrier. The puck is then tested for hardness. The Shore hardness is recorded after a 30-second delay.

Is GAP PAD offered with an adhesive?

Currently, BERGQUIST® GAP PAD TGP 800VO, BERGQUIST® GAP PAD TGP 800VOS, and BERGQUIST® GAP PAD TGP 1000VOUS are offered with or without an adhesive and on the carrier-side of BERGQUIST® SIL PAD TSP 1600 and BERGQUIST® SIL PAD TSP 900. The remaining surface has natural inherent tack. All other GAP PAD materials have inherent tack.

What is meant by “natural tack”?

The characteristic of the rubber itself has a natural inherent tack, with the addition of an adhesive. As with adhesivebacked products, the surfaces with natural tack may help in the assembly process to temporarily hold the pad in place while the application is being assembled. Unlike adhesivebacked products, inherent tack does not have a thermal penalty since the rubber itself has the tack. Tack strength varies from one GAP PAD product to the next.

Is the adhesive repositionable?

Depending on the surface being applied to, if care is taken, the pad may be repositioned. Special care should be taken when removing the pad from aluminum or anodized surfaces to avoid tearing or delamination.

Can GAP PAD with natural tack be repositioned?

Depending on the material that the pad is applied to, in most cases they are repositionable. Care should be taken when removing the pad from aluminum or anodized surfaces to avoid tearing or delaminating the pad. The side with the natural tack is always easier to reposition than an adhesive side.

Is GAP PAD reworkable?

Depending on the application and the pad being used, GAP PAD has been reworked in the past. Some of our customers are currently using the same pad for reassembling their applications after burn-in processes and after fieldwork repairs. However, this is left up to the design engineer’s judgment as to whether or not the GAP PAD will withstand reuse.

What is the shelf life of GAP PAD?

Shelf life for most GAP PAD materials is one (1) year after the date of manufacture. For GAP PAD with adhesive, the shelf life is six (6) months from the date of manufacture. After these dates, inherent tack and adhesive properties should be recharacterized. The GAP PAD material's long-term stability is not the limiter on the shelf life; it is related to the adhesion or "age up" of the GAP PAD to the liner. Or in the case of a GAP PAD with adhesive, the shelf life is determined by how the adhesive ages up to the removable liner.

Will heat make the material softer?

From -60°C to 200°C, there is no significant variance in hardness for silicone GAP PAD materials and Gap Fillers.

What is the thickness tolerance of your pads?

The thickness tolerance is ±10% on materials greater than 10 mils and ±1 mil on materials less than 10 mils thick