

# TECH TALK

**Product: Dibond®**

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**Subject: Adhesives**

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## Adhesives Used with Dibond® Material

One of the display features in great demand is the ability to attach Dibond® material to a substrate without having exposed fasteners. Although there are some techniques to accomplish this using conventional fasteners, the vast majority of this type connection is done using adhesives. To develop some general guidelines, Alcan Composites USA Inc. has reviewed some well-known adhesives and can present the following information.

The following General Guidelines have been established based on the research done into the use of adhesives on Dibond® material.

- 1. To achieve reliable bonding, it is imperative to follow the adhesive manufacturer's application instructions.**
- Although many adhesive materials work well on the coil coated paint finishes on Dibond® material, no product, either adhesive or tape, has been found that will adhere to the polyethylene core material. **All attachments should be made through contact with the aluminum facers of Dibond® material.**
- Care must be taken in the selection of an adhesive regarding the expansion of the materials to be joined. Where significant thermal expansion can occur (i.e. exterior applications) adhesives should be of medium or low modulus materials to allow for movement without shear or loss of bond. For interior applications where thermal expansion is not a consideration, high modulus adhesives can be used to join materials.
- Cure time is generally a consideration in the choice of adhesives. Silicones take a good deal of time to cure before a load can be applied whereas the

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faster curing adhesives do not have the movement capabilities to meet the project needs. In these instances, a combination of double sided foam tape and adhesive is often used.

Example: Two pieces of Dibond® material must be connected for a strong permanent bond in a short period of time. The adhesive area is 2" by 36".

Many times a strip of double sided foam tape (approx. 3/4" wide) will be applied next to a bead of silicone adhesive. For the near term, the tape holds the Dibond®. For the longer term, the silicone adhesive will cure and relieve the load applied to the tape.

## **Adhesive Research Results**

The following adhesives have been shown to adhere to Dibond® material. For specific questions about the adhesive, please refer to the adhesive manufacturer guidelines.

Isopropyl alcohol two-cloth cleaning method is a minimal surface preparation for all adhesive bonding.

### **1-part Silicones, Adhesives and Sealants:**

- Dow 995: 1-part silicone structural adhesive
- Pecora 864, 890, 895: 1-part silicone sealant
- Tremco Spectrem 1, Spectrem 2, Proglaze SG: 1-part silicone sealant
- Schnee Morehead SM5731, 1-part silicone sealant
- GE SCS2800, SCS9000, SCS2000, SCS2900, GE7000, 1-part silicone sealant

Isopropyl alcohol two-cloth cleaning method is a minimal surface preparation for all adhesive bonding.

### **1-part Silicones or Urethane Adhesives/Sealants Requiring a Primer:**

- Dow 790, Dow 795: 1-part silicone sealant  
surface preparation: solvent wipe and Dow Corning 1200 Prime Coat required.
- Tremco Dymonic: 1-part polyurethane sealant  
surface preparation: Isopropyl alcohol two-cloth cleaning method, primer #6



### **2-part Methacrylate, Urethane, and Epoxy Adhesives:**

- Lord 406/19 (methacrylate), 7542AB, 7545AB (urethane)
- Extreme Adhesives 300, 310, 350, 5315, 5375 methyl methacrylate
- IPS Weld-On 45, Weld-On SS515 (methacrylate)
- Scotch Weld 3M 2216 (epoxy with long working time): Scuffing required

Isopropyl alcohol two-cloth cleaning method is a minimal surface preparation for all adhesive bonding.

The adhesive manufacturers have reported that, Lord 406/19 and IPS Weld-On 45 may also be used on unprimed aluminum. Testing on this substrate was not included in this report.

### **Synthetic rubber and 1-part Urethane Adhesives:**

- Lord 7610 (1-part urethane): Scuffing required
- Schnee-Morehead SM7108 (1-part urethane)
- Liquid Nails LN-901 (synthetic rubber)

Isopropyl alcohol two-cloth cleaning method is a minimal surface preparation for all adhesive bonding.

### **Summary**

Many different types of adhesives and tapes have been found to work well with Dibond<sup>®</sup> material. It is important to follow the guidelines listed above and to experiment with any new adhesive or technique prior to generating the final product.

For adhesive manufacturer contact information, please see the next page.



## Contacts

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