CREATIVEMATERIALS

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ISO 9001 CERTIFIED

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Thermoplastic Adhesive Bonding Guidelines

BONDING WITH LIQUID ADHESIVE WITH REFLOW PROCESS:

1. As with all adhesive bonds, surface preparation is a vital part of the process. Carefully clean both surfaces to be bonded with Acetone, IPA, or MEK to remove any oils or contaminants.

2. Allow cleaned surfaces to dry for approximately 2-3 minutes.

3. Apply liquid adhesive to both surfaces to be bonded by means of a suitable technique (i.e. screen-printing, syringe dispensing, brushing, spraying, etc.). The thickness range for good bonding is typically 0.6 mils to 1.3 mils for most surfaces, but is influenced by the geometry of the surfaces. The end user is encouraged to experimentally determine the best thickness for each individual application. If process flow or size of one substrates cause application to both sides to be impractical applying to one side only can be performed.

4. Allow liquid adhesive to dry at room temperature or lower elevated temperature (such as 100°C or below) until it is tack-free to the touch. The time will vary depending on the thickness and adhesive chemistry.

5. Place the two surfaces together and cure in a heat-sealing press, thermode bonder, or with mechanically applied pressure in a convection oven. Reflow conductions should be for 5-7 seconds at 125 - 175°C using enough pressure (30 - 100 psi) to hold the surfaces tightly together. End user is advised to experimentally determine pressure, temperature and time best suited for individual applications.

6. Cool part down to room temperature under the same pressure.

7. Remove pressure. Part is ready for use.

BONDING WITH LIQUID ADHESIVE WITH WET MOUNT PROCESS:

1. As with all adhesive bonds, surface preparation is a vital part of the process. Carefully clean both surfaces to be bonded with Acetone, IPA, or MEK to remove any oils or contaminants..

2. Allow cleaned surfaces to dry for approximately 2-3 minutes.

3. Apply liquid adhesive by means of a suitable technique (i.e. screen-printing, syringe dispensing, brushing, spraying, etc.). The thickness range for good bonding is typically 1.0 mils to 2.0 mils. The end user is encouraged to experimentally determine the best thickness for each individual application.

4. Application of pressure can vary based on practicality of process flow and equipment availability. Depending on the type of adhesive pressure may or may not be required. Anisotropic conductivity typically requires pressure and for best isotropic conductivity pressure is recommended. As reduced bond line thicknesses have higher tensile forces pressure during cure is always beneficial.

5. Curing times will vary based on product and individual product data sheets should be referenced.

BONDING WITH A FILM ADHESIVE PROCESS:

1. As with all adhesive bonds, surface preparation is a vital part of the process. Carefully clean both surfaces to be bonded with Acetone, IPA, or MEK to remove any oils or contaminants.

2. Allow cleaned surfaces to dry for approximately 2-3 minutes.

3. Die cut film to the of the size of interface area, remove one of the protective liners, position onto one of the surfaces to be bonded, and warm the substrate/adhesive to or more 125°C.

4. By applying pressure, laminate the film adhesive to the substrate smoothing out any trapped air. Allow to cool to room temperature and peel off the other release liner.

5. Position the other substrate and apply a clamp to provide constant pressure.

8. Reflow conductions should be for 5-7 seconds at 125 - 175°C using enough pressure (30 - 100 psi) to hold the surfaces tightly together. End user is advised to experimentally determine pressure, temperature and time best suited for individual applications.

6. Remove pressure. Part is ready for use.

PRODUCT SUPPORT:

- For question related to ordering, delivery, processing, handling, defects, or quality assurance please contact us at +1-978-391-4800 or by email at info@creativematerials.com