CLICK BOND, INC. 2151 LOCKHEED WAY CARSON CITY, NV 89706-0713
PHONE: 775-885-8000 CAGE CODE: 66530 FAX: 775-883-0191

ADHESIVE BONDING OF NUTPLATES, STUDS, STANDOFFS, CABLE TIE MOUNTS, BUSHINGS, AND OTHER FASTENERS.

2.2	**Equipment**	
2.2.1	**Scale**	**commercial**
2.2.2	**Spatula**	**commercial**
2.2.3	**Manual Dispensing Tool, CB100**	**Click Bond, Inc.**
2.2.4	**Pneumatic Powered Dispensing Tool, CB110**	**Click Bond, Inc.**
2.2.5	**Pneumatic Powered Dispensing Tool, CB112**	**Click Bond, Inc.**
2.2.6	**Static Mixer Dispensing Tip, CB106**	**Click Bond, Inc.**
2.2.7	**Manual Flaring Tool, CB750**	**Click Bond, Inc.**

2.3 Process Flowchart – Processing shall be as shown in Figure 1.

STANDARD PROCEDURE

1. **SOLVENT CLEAN**
2. **ABRADE (see section 2.4.2)**
3. **SOLVENT CLEAN**
4. **MIX AND APPLY ADHESIVE**
5. **ASSEMBLE PARTS**
6. **CURE**
7. **TOUCH UP FINISH**

WET ABRASION PROCEDURE

1. **WET AREA**
2. **ABRADE (see section 2.4.4.2)**
3. **RE-WET 4. MIX AND APPLY ADHESIVE**
5. **ASS6MBLE PARTS**
6. **CUR7**
7. **TOUCH UP FINISH**

2.5 Adhesive Mixing

2.5.1 Pre-proportioned Adhesive Foil Pack Kit – When using Click Bond CB91, CB92, or CB93 pre-proportioned adhesive kit, proceed as follows:

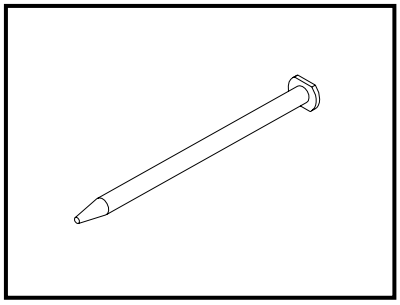
a. Using the CB903 mixing stick, flatten one end of the packet to move contents toward the opposite end.

b. Tear off a strip from the flattened end to open both compartments.

c. Fold packet in half lengthwise.

d. Lay the folded packet on the CB902 plastic mixing sheet and push out the entire contents using the edge of the mixing stick. Press down hard with the mixing stick to make sure all of both components are removed as shown in Figure 3.

e. Prior to mixing, visually inspect the component material condition by examining deposit on plastic mixing sheet and probing with the end of the mixing stick. Components should .xin
cheet shevnrl



2.6 Adhesive Application

2.6.1 Stud, Standoff, and Cable Tie Mount

2.6.1.1 Apply the mixed adhesive as a built up spot to the center of the stud, standoff, or cable tie mount baseplate bonding area as indicated in Figure 5. The quantity of adhesive applied should be just sufficient to provide the squeeze out of a small amount of excess adhesive completely around the circumference of the baseplate.

2.6.2 **<u>Nutplates</u> – Two types of nutplates are supplied by Click Bond, the standard surface mount type and the sleeved type.**

2.6.2.1 **Nutplate – Standard type. Figure 6 indicates the sequential steps required to install the standard surface mount type nutplate.**

2.6.2.1.1 **Apply the mixed adhesive as two linear beads along the long axis of the nutplate baseplate as shown in Figure 6(1). One bead should pass around each side of the installation fixture, and the amount of material in the beads should be controlled to give a small and uniform amount of material squeeze out when the nutplate is pulled into position against the substrate as shown in Figure 6(2).**

2.6.2.1.2 **Each nutplate is furnished with an integral, disposable, elastomthen installation fixture to align and hold the nutplate to the surface and keep adhesive out of the hole and threads. This fixture may be removed as soon as the adhesive cures as in Figure 6(3), or left in place as a paint mask until after painting the detail part.**

2.6.3 Bushings

2..1 Bushings – Disposable Plastic Pressure Application Fixture (PAF) type. Figure 8 the sequential steps required to attach the Click Bond fixture to the and to activate the fixture to put bonding pressure on the fastene r baseplate.

2..1.1 Solvent wipe the fastener baseplate. Remove the peel ply from foam tape on the . Apply the mixed adhesive to the fastener baseplate. circle the bushing nose.

2..1.2 Attach the fixture to the substrate by aligning the bushing nose with the hole and pushing down on the outer body of the fixture to adhere the foam tape the surface. (When installing fasteners with very short bushing noses, activate the prior to attaching the fixture to the substrate to allow sufficient nose protrusion to locate the hole in the substrate.)

2..1.3 Press down on the inner body of the fixture to actuate. Overcenter action squeezes hile the adhesive cures.

2..1.4 After the adhesive has cured, remove the fixture by grasping with pliers and pulling it off of the substrate. Discard the fixture.

FIGURE 8. PROCEDURE FOR ATTACHMENT OF CLICK BOND BUSHING

2.6.3 Bushings (CONTINUED)

2.6.3.2 Bushings – Elastic Pressure Application Fixture (PAF) type. Figure 9 indicates the sequential steps required to install this type bushing.

2.6.3.2.1 Remove the plastic fixture ring from the elastic fixture.

2.6.3.2.2 Apply the mixed adhesive to the bushing baseplate. The adhesive bead should completely circle the bushing nose.

2.6.3.2.3 Insert the fixture into the hole in the substrate.

2.6.3.2.4 Slide the fixture ring over the end of the fixture, apply tension to the fixture, and slide the fixture ring against the substrate.

2.6.3.2.5 Allow the adhesive to cure, then remove the fixture and the fixture ring and discard.

2.6.3 Bushings (CONTINUED)

2.6.3.3 Bushings – Spacer Insert Panel Bushing type. Figure 10 indicates the sequential steps required to install this type bushing.

2.6.3.3.1 Prepare the substrate surfaces for adhesive bonding. Remove the projecting core

2.6.3 Bushings (CONTINUED)

2.6.3.4 Bushings – Nutplate Spacer Insert Panel Bushing type. Figure 11 indicates the sequential steps required to install this type fastener.

2.6.3.4.1 Prepare the substrate surfaces for adhesive bonding. Remove the projecting core material from the hole so that it will not become trapped between the nutplate and the bushing cap. Remove the plastic retainer/bushing cap assembly from the elastic fixture and solvent wipe the bonding surfaces of the nutplate and the bushing cap.

2.7 **Adhesive Cure – The approximate cure times at 75∀F of the adhesives shall be as specified in Table IV. Since the curing rate of all the adhesives is very sensitive to the ambient temperature at the application site, it is recommended that the leftover adhesive in the mixing container or on the mixing sheet be monitored at the application site before removing and discarding the fastener holding fixture.**

TABLE IV. ADHESIVE CURE TIME TO HANDLING STRENGTH *

MATERIAL DESIGNATION	CURE TIME