

KEYCAP ADHESIVE TAPE APPLICATION TECHNIQUE

The keycap adhesive tape is a pressure-sensitive double-coated film tape to permanently bond the keycap and the keypad. A keycap adhesive sheet, part number 15249, consists of sixteen keycap adhesive tapes. For the majority of the keypads, 1X1, 1X2, 1X3, 1X4 and 4X4 that has square keytop (push-button), a keycap adhesive tape is required to bond a square keycap and a square keytop. For the 1X4 DW keypad that has a rectangular keytop, two keycap adhesive tapes are required to bond a rectangular keycap and the rectangular keytop.

Beside adhesive, each keycap adhesive tape also has a score line, two rectangular liners and a square liner as shown in Figure 1. Ideal tape application temperature is 70 °F to 100 °F (21 °C to 38 °C). The adhesive should be stored in a sealed bag at 70 °F (21 °C) and 50 % relative humidity to maximize the shelf life.

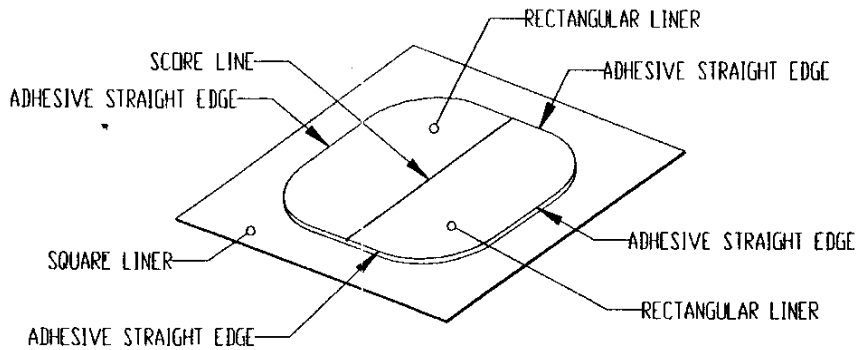


Figure 1

Keycap Adhesive Tape Components

The following steps are recommended to bond the keycap and the keypad.

1. To obtain sixteen keycap adhesive tapes, tear the keycap adhesive tape sheet along the perforated lines.
2. To obtain optimum adhesion, the keycap interior and keytop surfaces shown in Figure 2 must be clean and dry. Typical surface cleaning solvent is isopropyl alcohol/water mixture (rubbing alcohol). Be sure to follow solvent manufacturer's direction for using the solvent.

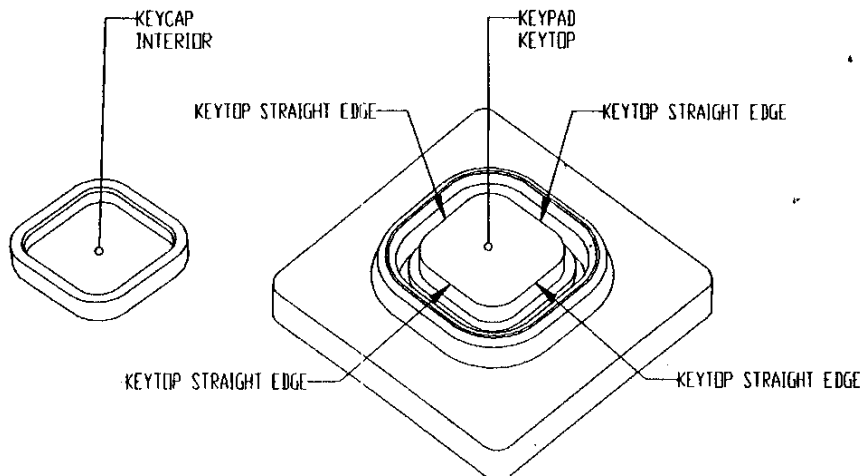


Figure 2

Surfaces to be Cleaned and Dried

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Sheet	of
1	2

3. To reveal the keypad adhesive, fold an adhesive tape along the score line, and peel off the two rectangular liners without touching the adhesive.
4. To apply the adhesive on a square keytop, align two adhesive straight edges shown in Figure 1 with two square keytop straight edges shown in Figure 2. Since the rectangular keytop requires two adhesives, apply the first adhesive on one side of the rectangular keytop by aligning two straight adhesive edges with a short and a long rectangular keytop edges.
5. To bond the adhesive and the keytop, apply a firm pressure on the square liner.
6. To reveal the keycap adhesive, peel off the square liner slowly and make sure that the adhesive stays on the keytop. Repeat step 3, 4, 5 and 6 when bonding a rectangular keycap, and assure that the second adhesive straight edge is aligned with the opposite side of the rectangular keytop edge that was used by the first adhesive.
7. To bond the keycap, place the keycap on the adhesive, and apply a firm application pressure as shown in Figure 3 for a minimum of 20 minutes. Bond strength is dependent upon the amount of adhesive-to-surface contact developed. Firm application pressure develops better adhesive contact and thus improves bond strength. Firm pressure must be applied to increase the cold flow and contact of the adhesive with the keycap and keypad.

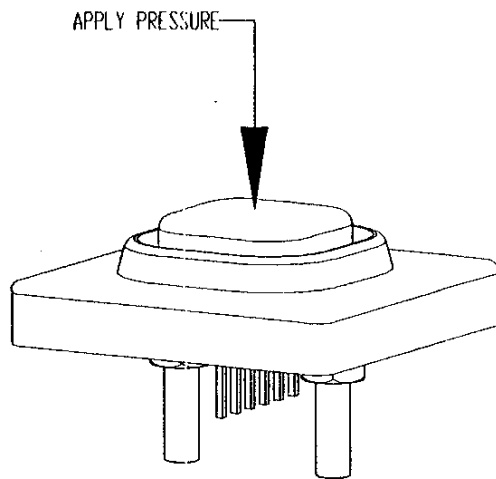


Figure 3
Apply Pressure on the Keycap

8. To obtain maximum bond strength, allow 72 hours to dwell at room temperature. After application, the bond strength will increase as the adhesive flows onto the surface. At room temperature, approximately 50% of the ultimate strength will be achieved after 20 minutes, 90% after 24 hours, and 100% after 72 hours.

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