

Avery Dennison Technical Bulletin 1.05

Procedures for Preparation of Acrylic & Polycarbonate (Lexan[®]) Panels

Acrylic Panels

Acrylic needs to be pre-conditioned in an air-circulating oven to ensure all gasses and or water vapor has been removed prior to pressure sensitive decal application. Decals applied over non-treated acrylic create a barrier for evaporating vapors and can result in bubbling and adhesion loss of such pressure sensitive decals.

| Acrylic Caliper | Duration of Exposure | Temperature Setting |
|-----------------|----------------------|---------------------|
| 0.23 cm | 2 hours | 90°C |
| 0.32 cm | 2 hours | 90°C |
| 0.38 cm | 2 hours | 90°C |
| 0.47 cm | 2 hours | 90°C |
| 0.64 cm | 2 hours | 90°C |

Place the sheeting vertically in an air-circulating oven at 90°C that provides a minimum separation between sheeting of 2.5cm.

After the conditioning, the sheeting can be applied with pressure sensitive film stock for up to 12 hours without re-conditioning in a 50 ±5% RH and 23 ±2°C environment.

Polycarbonate Sheeting

Polycarbonate (Lexan[®]) absorbs moisture, hence, needs to be thermally treated in an air circulating oven to ensure all gasses and or water vapor has been removed prior to pressure sensitive decal application. Decals applied over non-treated polycarbonate create a barrier for evaporating vapors and can result in bubbling and adhesion loss of such pressure sensitive decals.

| Polycarbonate Caliper | Duration of Exposure | Temperature Setting |
|-----------------------|----------------------|---------------------|
| 0.23 cm | 4 hours | 121°C |
| 0.32 cm | 4 hours | 121°C |
| 0.38 cm | 8 hours | 121°C |
| 0.47 cm | 12 hours | 121°C |
| 0.64 cm | 24 hours | 121°C |

Place the polycarbonate sheeting vertically in an air-circulating oven at 121°C that provides a minimum separation between sheeting of 2.5cm.

After the conditioning as stated above, the polycarbonate sheeting can be applied with pressure sensitive film stock for up to 12 hours without re-conditioning in a 50 ±5% RH and 23 ±2°C environment.

Note: Polyester films are not compatible with either of the above materials and application to these substrates should be avoided. Application could result in the material bubbling or blistering due to the inability of Polyester to allow transmission of gas generated by these substrates.

For further information, contact your local Avery Dennison representative.

