

# AFX & DFX MOLDING AND BONDING GUIDELINES

AFX and DFX materials can be overmolded, injection molded, or adhesively bonded. These guidelines are suggestions for a starting point. Each application may vary, and it is recommended to test prior to production.

- ADHESIVE BONDING:

- Both surfaces should be clean and dry; a light wipe with isopropyl alcohol (IPA) is effective. Avoid aggressive scrubbing and/or more aggressive cleaning agents as they can damage the material. If necessary, a mild abrasive, such as a Scotch-Brite pad, can be used to lightly scratch the surface to improve bonding.

- INJECTION / OVERMOLDING:

- Temperature and time under pressure can affect material characteristics. Maximum continuous processing temperature of 180°C is recommended; however, this can be exceeded for short periods of time. (For example, at 180°C and 5 PSI, processing time should be 25-30 seconds max. If PSI was higher, the processing time would need to be significantly shorter.)
- Because time, temperature, and pressure can vary during the process it is recommended to run trials with specific processing settings. Several conditions are noted below that have been used successfully.

- ▶ EVA COMPRESSION MOLDING

- Foaming agent: Azodicarbonamide
- Pressure inside mold: ~ 500 KPa
- Molding temperature: 140° – 160°C
- Part temperature after cooling: 30° – 40°C
- Cycle time: 13 – 15 Minutes (Heating & Cooling)
- Primers and Adhesives: Mix of Ethyl Acetate, Methyl Ethyl Ketone, Acetone (MEK and Acetone are the volatile, organic solvents.)

- ▶ TPU INJECTION MOLDING

- Injection pressure: ~ 80 MPa
- Holding pressure: ~ 100 MPa
- Molding temperature: 180° – 220°C
- Part temperature after cooling: 50° – 90°C
- Cycle time: 1 minute

NOTE: The conditions stated are a starting point. Actual conditions will vary based on materials, adhesives used and other factors. We strongly recommend the process be tested before production is started.