PUR Hot Melt Adhesives Process Guide

This document provides general processing guidelines for PUR hot melt adhesives used in industrial lamination and bonding applications. It is intended for engineers and technical professionals.

1. Gravure Roll Coating

Gravure roll coating is widely used for textile, foam, and leather lamination where controlled coating weight and patterned application are required.

- Precise coating weight control
- Suitable for low to medium viscosity PUR systems
- Enables patterned or full-surface coating
- Key considerations: adhesive temperature, coating uniformity, and pattern selection

2. Extrusion Coating

Extrusion coating applies PUR adhesive as a continuous molten film and is suitable for structural and high-strength laminations.

- Uniform adhesive layer formation
- High bonding strength
- Suitable for continuous production lines
- Key considerations: viscosity stability, temperature control, and line speed synchronization

3. Slot Die Coating

Slot die coating is used for precision-controlled adhesive application, particularly in electronics and functional laminates.

- High coating uniformity
- Narrow process tolerance
- Suitable for thin adhesive layers
- Key considerations: melt stability, clean flow, and thickness control

4. Roller & Press Lamination

Roller and press lamination combines adhesive coating with controlled pressure and dwell time to ensure effective bonding.

- Adjustable pressure and dwell time
- Compatible with various substrate thicknesses

- Suitable for batch and continuous processes
- Key considerations: pressure setting, cooling behavior, and open time alignment

5. General Processing Guidelines

General recommendations for stable and consistent PUR hot melt adhesive processing.

- Maintain stable application temperatures
- Avoid moisture exposure during storage and processing
- Match open time and green strength with line speed
- Ensure equipment cleanliness to prevent gel formation