

# CASE AND CARTON

## HOT MELT AND LIQUID ADHESIVE SOLUTIONS



Packaging glue plays a critical role in protecting products, maintaining brand presentation, and ensuring packages survive storage and transportation. Whether sealing cardboard boxes, labeling bottles, or assembling retail-ready packaging, choosing the right adhesive directly affects efficiency, durability, and cost.

This guide explores the main types of packaging adhesives, with special emphasis on hot melt packaging adhesives, and provides guidance on how to select and use the best glue for your specific application.

### 1. What Is Packaging Glue?

Packaging glue (or packaging adhesive) is a bonding agent used to assemble, seal, or label packaging materials.

Designed to work with substrates such as:

- Corrugated cardboard
- Paperboard and cartons
- Plastics
- Foils
- Glass and metal (primarily for labels)

Key performance goals include:

- Strong, reliable bonding
- Fast setting times
- Resistance to temperature and humidity
- Compatibility with automated packaging lines

### 2. Main Types of Packaging Adhesives

#### A. Hot Melt Packaging Adhesives (Most Common)

What they are: Thermoplastic adhesives applied in a molten state and solidify as they cool.

Key advantages:

- Extremely fast setting times
- High productivity for automated lines
- Strong bonds on cardboard and paperboard
- Solvent-free and low odor

Common uses:

- Case and carton sealing
- Tray forming
- End-of-line packaging
- High-speed manufacturing

Limitations:

- Can soften under high heat
- Requires heated equipment

#### B. Water-Based (Cold) Adhesives

What they are: Adhesives dispersed in water that bond as the water evaporates or is absorbed.

Key advantages:

- Cost-effective
- Good for porous materials
- Environmentally friendly options available

Common uses:

- Carton sealing
- Paperboard lamination
- Labeling applications

Limitations:

- Slower drying times
- Less effective on non-porous surfaces

### C. Solvent-Based Adhesives

What they are: Adhesives that use solvents to dissolve bonding agents, which evaporate after application.

Key advantages:

- Strong bonds on difficult surfaces
- Good resistance to moisture and heat

Common uses:

- Flexible packaging
- Plastic films and foils

Limitations:

- Environmental and safety concerns
- Increasingly replaced by safer alternatives

### D. Pressure-Sensitive Adhesives (PSAs)

What they are: Adhesives that bond when light pressure is applied—no heat or curing required.

Key advantages:

- Easy to apply
- Clean and removable options available

Common uses:

- Labels
- Tapes
- Resealable packaging

### E. Reactive Adhesives (e.g., PUR Hot Melt)

What they are: Hot melt adhesives that chemically react with moisture for enhanced bonding.

Key advantages:

- Extremely strong and durable bonds
- Excellent temperature and moisture resistance

Common uses:

- High-performance packaging
- Specialty cartons and coated materials

## 3. Why Hot Melt Adhesives Dominate Packaging

Hot melt packaging adhesives are the industry standard because they offer:

- **Speed:** Immediate bonding supports high-throughput operations
- **Versatility:** Compatible with many packaging substrates
- **Efficiency:** Minimal waste and clean application
- **Sustainability:** Solvent-free and recyclable-friendly formulations

They are especially well-suited for automated packaging lines where consistency and uptime matter.

## 4. How to Choose the Right Packaging Glue

When selecting a packaging adhesive, consider the following factors:

Material Compatibility

- Porous vs. non-porous surfaces
- Coated or uncoated substrates

Packaging Environment

- Temperature extremes
- Humidity exposure
- Cold storage or shipping conditions

Production Speed

- Manual vs. automated application
- Open time and set speed requirements

Strength & Durability

- Load-bearing needs
- Shipping stress and handling

Sustainability Goals

- Recyclability
- Low-VOC or eco-certified adhesives

## 5. Best Practices for Using Packaging Adhesives

- **Apply the correct amount:** Too much glue can cause mess and weak bonds.
- **Maintain equipment:** Clean applicators ensure consistent performance.
- **Test before scaling:** Always run trials with your packaging materials.
- **Monitor temperature (hot melt):** Overheating can degrade adhesive quality.

## 6. Future Trends in Packaging Adhesives

- Bio-based and compostable adhesives
- Improved recyclability compatibility
- Lower-temperature hot melt formulations
- Enhanced performance for lightweight packaging

## Conclusion

Packaging glue is far more than a simple bonding agent—it's a vital component that ensures product safety, efficiency, and brand integrity. While many adhesive options exist, hot melt packaging adhesives remain the preferred choice for most packaging applications due to their speed, strength, and versatility.

By understanding adhesive types and matching them to your materials, environment, and production needs, you can significantly improve packaging performance and reliability.