

618AB-18 Product Manual

I. Application Description:

The 618AB-18 series is a two-component, room-temperature and heat-curable polyurethane resin system. After curing, it forms a transparent and glossy protective coating, suitable for various applications such as stickers, wall decals, signs, nameplates, and decorative items. The product is packaged as a main agent (618A-18) and a hardener (618B-18), which must be mixed in the correct ratio to form a transparent and flexible resin. Once cured, it exhibits excellent weather resistance and UV resistance, making it suitable for long-term indoor use.

II. Composition:

- **618A-18:** Polyol component
 - **618B-18:** Isocyanate component
- The product is suitable for both manual and mechanical drip coating.
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III. Product Characteristics:

1. Long pot life, fast curing with heat, improving production efficiency.
 2. Low viscosity, excellent bubble elimination, smooth and glossy surface after curing, with good flatness and no ripples.
 3. High transparency, good gloss, and strong adhesion.
 4. Excellent weather resistance and UV resistance after curing, with stable performance under high and low temperatures (0°C to 80°C).
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IV. Properties Before Curing:

Test Item	Test Method/Condition	618A-18	618B-18
Appearance	Visual Inspection	Colorless to pale yellow liquid	Colorless transparent liquid
Viscosity	25°C, mPa·s	200±50	250±50
Mixing Ratio (by weight)	A:B = 1:1		
Pot Life (25°C)	15 minutes		
Curing Time	65°C × 3.5H or 25°C × 24H		

Test Item	Test Method/Condition	618A-18	618B-18
Shelf Life	25°C, sealed	6 months	3 months

V. Process Flow:

618AB-18 is available in manual drip and mechanical drip types. Manual drip has a longer pot life and slower curing, while mechanical drip has a shorter pot life and faster curing.

1. Manual Drip:

- Control the ambient temperature at 15-25°C and relative humidity <70%. Store 618AB-18 under these conditions for 24 hours before use.
- Preheat substrates (e.g., PVC, plastic labels, metal labels) in an oven at 60°C to remove surface moisture. Place the labels on a flat surface and secure them with adhesive tape.
- Clean the surface of the labels to remove dust and oil.
- Accurately weigh 618A-18 and 618B-18 in a 1:1 ratio and mix thoroughly.
- Degas the mixture under vacuum (-0.1MPa) to remove bubbles.
- Use a clean syringe to draw the degassed mixture and drip it evenly onto the prepared substrate. The typical thickness is 2mm, allowing it to self-level.
- Within 5 minutes of dripping, inspect the surface for bubbles or dust. Use a needle to pop any small bubbles or guide the adhesive to uncovered areas.
- Place the coated labels in an oven at 60-80°C for 2-3.5 hours or let them cure at room temperature for 24 hours until the surface is non-tacky.

2. Mechanical Drip:

- Store 618A-18 and 618B-18 at 15-25°C and relative humidity <70% in a dust-free environment for >96 hours to eliminate bubbles from transportation.
- Install the material pumps and seal them, then let them sit for 24 hours.
- Place the labels on a flat surface and secure them with adhesive tape.
- Clean the surface of the labels to remove dust and oil.
- Clean the pipeline mixer and dispensing head with dichloromethane or ethyl acetate.
- Prime the system to remove air bubbles from the pipeline, mixer, and dispensing head.
- Dispense the adhesive onto the label surface.
- Use a needle to spread the adhesive evenly and remove any remaining bubbles.
- Place the coated labels in an oven at 60°C.
- Cure for 2-4 hours, then collect and pack the finished products.

VI. Properties After Curing:

Item	Unit/Condition	618AB-18
Appearance	Visual Inspection	Colorless, transparent, smooth, and ripple-free surface
Hardness	Shore-A	70±5
Surface Dry Time (25°C)	h	5
Curing Time (50g sample)	h	1-2

VII. Packaging Specifications:

- 5 kg plastic PE pail
 - 20 kg iron drum
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VIII. Storage, Transportation, and Precautions:

1. This product is non-hazardous and can be transported as general chemicals.
2. Store in a cool, dry place at 15-25°C and relative humidity <70%, away from light. Refer to the packaging for shelf life.
3. Component B (618B-18) is unstable when exposed to air, so it must be sealed immediately after use. Both Components A and B are highly moisture-sensitive and must be protected from water.
4. For manual drip coating, accurately weigh and mix the components in the correct ratio. Pot life will shorten for mixes >100g.

Note: The above performance data are typical values tested at 65% humidity and 25°C. They are for reference only and may not represent all conditions. Customers should conduct their own tests for specific applications. For better results, vacuum-degas Component A (618A-18) to remove moisture before use.