



LIQ. 1211

MOISTURE CURING SOLVENT-BASED ADHESIVE

KEY FEATURES

- Excellent for vacuum forming applications for foam bonding
- Antifogging
- Formulated without the use of toluene or xylene

DESCRIPTION

LIQ. 1211 is a one-component solvent-borne rubber-based moisture curing adhesive designed for the assembly of interior trim components of automobiles. The product is a blue, medium-viscosity liquid adhesive designed to be spray applied to a variety of substrates, particularly unprimed polypropylene. The product is well suited for vacuum forming and pressure bonding applications with unprimed polyolefin foam, typically as a contact adhesive.

LIQ. 1211 offers good adhesion to a variety of substrates at a broad temperature range. The blue color offers easy visualization during application. This product also offers excellent processing and application consistency along with good shelf-life stability. LIQ. 1211 is formulated without the use of toluene or xylene.

PACKAGING

LIQ. 1211 is packaged in pails and drums. Please contact your Bostik representative for additional packaging options.

SHELF LIFE

The shelf life of LIQ. 1211 is approximately 120 days when stored in the sealed, original container at temperatures of 5 to 32°C (41-90°F).



VACUUM FORMING

AUTOMOTIVE INTERIOR TRIM

TYPICAL PHYSICAL PROPERTIES

Description	Results
Appearance	Blue Liquid
Specific Gravity	0.816
Flash Point	50°F (10°C)
Total Solids	22%
Thermoset Viscosity (RVT #2, 20RPM, 25°C)	220 cP

DRY FILM PROPERTIES

Properties	Values
Appearance	Blue film with good tack
Water & Heat Resistance	Excellent

STORAGE & HANDLING

LIQ. 1211 is flammable, so proper safety measures should be taken to avoid ignition of the solvents. Nearby electrical equipment must be rated for use in hazardous environments. Exposure to colder temperatures can sometimes be reversed by warming the adhesive slowly to room temperature and agitating the material well. Exposure to higher temperatures for a prolonged time can cause premature aging, shortening the shelf life of the product. Viscosity increase caused by heat exposure is irreversible.

During transit, freezing and prolonged elevated temperatures should be avoided.

DILUTION

MEK or cyclohexane

APPLICATION TECHNIQUES

1. Adhesive should be gently agitated prior to use. Gentle agitation consists of mixing the adhesive with a speed that allows a small vortex to be produced around the prop shaft that does not pull air into the adhesive. Vigorous mixing of the adhesive will draw air into the product, which will introduce moisture and cause solvent evaporation. Adhesive should be mixed for a minimum of 10 minutes, not to exceed 30 minutes, to ensure the material is homogeneous. LIQ. 1211 is a moisture reactive material. It is important to minimize exposure to moisture when handling the liquid product. Exposure to ambient moisture will cause the material to begin to react. Reaction prior to the application of the adhesive will yield lower performing bonds. This adhesive will begin to gel if exposed to ambient moisture for more than 3 days. Care must be taken not to leave adhesive in spray equipment for extended lengths of time as adhesive will gel. Use of dry make-up air can decrease this affect by limiting the exposure to ambient moisture. Agitation may be done by drum roller. The container should be rolled for at least 30 minutes and no more than 3 hours.

2. Substrates to be bonded should be clean and free from moisture, dirt, oil and other contaminants. Exposure to oils and plasticizers at the bondline can cause degradation of the bond over time. LIQ. 1211 is styrene based, making it susceptible to plasticizer migration.

3. The adhesive should be applied by conventional spray equipment. An orifice of at least 1.4 mm should be used for the fluid tip / needle. The air cap should have a minimum number of holes, to prevent clogging and make easier clean-up.

4. For contact bonds, target a coat weight around 150 g/m² wet weight. The adhesive should be applied to both substrates. For vacuum forming bonds, a target coat weight of 150 g/m² wet weight should be applied to the rigid side only.

5. Allow the material to dry properly prior to bonding. Forced drying with circulating air oven is recommended to eliminate the variability seen with drying at plant ambient conditions. Recommended drying is 80°C for 1 - 3 minutes.

The optimum condition varies depending on oven choice, the amount of air flow over the part and the amount of air exchange within the unit itself.

6. Bonds can be made once the adhesive is dried. Open time (from the point that the adhesive is dry until it is bonded) should be minimized for optimum bonding. Open times of less than 15 minutes are recommended. Prolonged open time will allow the adhesive to begin reacting, making bonding difficult.

7. Position pieces carefully. Strong bond is made upon contact, limiting repositioning of the part.

8. For contact bonds, press parts together for 10-15 seconds at 5-7 psi (0.3 - 0.5 kg/cm²). Press and dwell time are critical to contact bonding. Individual users may determine conditions appropriate to their specific application. For vacuum forming, a bondline temperature of 110-130°F (43-54°C) should be achieved. The bondline temperature refers to the amount of heat transferred from the flexible substrates to the adhesive surface. Vacuum pressure should be 600 mm Hg for at least 10 seconds.

9. Adhesive should have adequate green strength for handling immediately. Full bond strength will develop over 96 hours at room temperature. Approximately 90% of the cure is achieved within the first 24 hours.

CLEAN-UP

If small areas require clean-up, ethyl acetate, MEK or methylcyclohexane may be used when the material is wet. If the adhesive is dried, MEK or methylcyclohexane is a better choice for cleaning.

HEALTH & SAFETY PRECAUTIONS

The Safety Data Sheet should be consulted for proper handling, clean up and spill containment before use. Keep containers covered to minimize contamination.

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BOSTIK HOTLINE

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