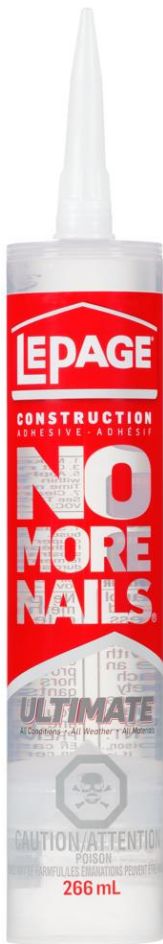




TECHNICAL DATA SHEET

Revision: 06/23/2023
Supersedes: 05/05/2019
Ref. #: 638831, 638835

No More Nails® Ultimate Crystal-Clear Construction Adhesive



DESCRIPTION

LePage® No More Nails® Ultimate Crystal Clear is a high-quality interior/exterior construction adhesive that delivers crystal clear results in most applications. This formula works in all conditions, all weather and on most materials. It can be applied in wet conditions as well as bond two non-porous surfaces.

Available as:

Item #	Package	Size
2441521	Plastic Cartridge	266 mL
2441520	Squeeze tube	80 mL

FEATURES & BENEFITS

- Solvent Free – VOC Compliant
- High Solids – No Shrinkage
- Easy Application
- Works on a wide variety of surfaces, both porous and non-porous, and damp surfaces
- Excellent temperature resistant up to 70°C (158°F)
- Weatherproof & Water Resistant
- Can be used indoors and outdoors

RECOMMENDED FOR

Bonds to most common construction materials such as wood, plywood, OSB, MDF, concrete, glass, marble, granite, tile, porcelain, stone, masonry, brick, foam insulation of all sorts including EPS (expanded polystyrene foam), XPS (extruded polystyrene foam), metal, ceramic, drywall, rigid and cellular vinyl/PVC trim and molding, and some plastics.

LIMITATIONS

- Marine Applications
- Water submersion applications or constantly damp environments. Wet surface application is possible if surfaces have the possibility to dry.
- Polyethylene, polypropylene, polytetrafluoroethylene (PTFE), and flexible / plasticized PVC, acrylic glass, copper, and brass
- Polyethylene (PE) films that cover certain XPS or EPS foam insulation boards
- Bitumen coated surfaces
- Certain materials such as rubbers and plastics may have bonding difficulties. Test before use.
- Adhesive may degrade if exposed to direct sunlight (i.e., glass tabletop repairs)
- Flexible sheet goods
- Not suitable for Mirror applications
- Do Not use building materials that are warped or show evidence of warping. These materials will experience bonding difficulties.

* Cure times may be significantly extended when bonding non-porous materials





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COVERAGE

For a 266 mL (9 fl. oz.) cartridge:	
• A 6 mm (1/4") bead extrudes approx. 8.4 m (27.6 ft)	• A 9.5 mm (3/8") bead extrudes approximately 3.7 m (12.2 ft)
For a 80 mL (2.7-fl. oz.) Squeeze Tube:	
• A 6 mm (1/4") bead extrudes approx. 2.5 m (8.3 ft.)	• A 9.5 mm (3/8") bead extrudes approximately 1.1 m (3.7 ft.)

TECHNICAL DATA

Typical Uncured Physical Properties:		Typical Application Properties	
<u>Color:</u>	Clear / Transparent	<u>Application Temperature:</u>	The adhesive should be above 41°F (5°C) and below 104°F (40°C) for optimum curing
<u>Appearance:</u>	Thick paste	<u>Open Time:</u>	10 minutes*
<u>Base:</u>	Silane Modified Polymer	<u>Repositioning Time:</u>	5-10 minutes*
<u>Viscosity:</u>	1,200,000 cps	<u>Clamping Time:</u>	24 hours
<u>Specific Gravity:</u>	1.65	<u>Extrusion Force:</u>	92 lb. @ 73°F
<u>VOC Content:</u>	3.49% by weight (CARB) 58.2 g/L (SCAQMD rule 1168)	<u>Cure Time:</u>	24 to 48 hours* at 78°F (25°C) and 50% RH *Time is dependent upon temperature, humidity, porosity of substrate and amount of adhesive used *Cure time is greatly increased in cold temperatures
<u>Odor:</u>	Alcohol	<u>Clean Up:</u>	Clean up uncured adhesive residue with mineral spirits. Scrape away cured adhesive using a sharp-edged tool. Follow solvent manufacturer's precautions for using solvents.
<u>Shelf Life:</u> Stored at standard conditions	10 months from date of manufacture (unopened)		

<u>Lot Code Explanation:</u>	Format for 266 mL cartridge YYDDD YY = Last Two Digits of Year of Manufacture DDD = Day of Manufacture based on 365 days per year For example: 18060 = March 1, 2018	Format for 80 mL squeeze tube LLDDMYFFFF LL = Production Plant DD – Day of Month M= Month 1-9, Oct = X, Nov = Y, and Dec = Z Y = last number of Year of Manufacture FFFF = free space for internal use only For example: 2312Y91910 = November 12, 2019
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Typical Cured Performance Properties

<u>Color:</u>	Clear / Transparent	<u>Sandable:</u>	No
<u>Cured form:</u>	Non-flammable, hard solid	<u>Paintable:</u>	Yes, when fully cured
<u>Service Temperature:</u>	30°C (-22°F) to 70°C (158°F)		
<u>Water Resistance:</u>	Yes		

Typical Cured Performance Properties

Tensile Strength (1-inch Overlap) Bond Strength Development			Tensile Strength (1-inch Overlap)		
4 Hours:	18.5 psi	Maple to Maple	Aluminum to Maple:	128.3 psi	Lap shears: Bonds cured 7 days & tested @ 23°C (73°F)
8 Hours:	65.8 psi	Aged tested @	Aluminum to Aluminum:	83.1 psi	
24 Hours:	125.2 psi	@23°C (73°F)	Maple to Maple:	161.2 psi	
7 days:	161.2 psi				



DIRECTIONS

Tools Typically Required:

Utility knife, caulking gun, tool to puncture cartridge seal, plant mister bottle containing water (if bonding two non-porous surfaces).

Safety Precautions:

Wear gloves to avoid skin contact and wash hands after use.

Preparation:

For best results use above 5°C (41°F). For easier application, ensure the product temperature is 15°C (60°F) or higher but below 32°C (90°F). Surfaces must be clean and free of frost, standing water, grease, oil, dust, release agents, and other contaminants. Wet surfaces are possible if they have the possibility to dry. Pre-fit all materials and protect finished surfaces.

Cartridge: Remove nozzle and cut tip of nub on cartridge. Screw on nozzle and cut at a 45° angle to required opening, at least ¼ inch or wider.

Squeeze Tube: Remove cap and puncture inner seal.

General Application Guidelines:

Apply adhesive to one surface of the materials being bonded then press surfaces firmly together within 10 minutes of application. Materials may be repositioned within 5-10 minutes after applying the adhesive. If bonding two non-porous surfaces (such as foam, metal, or fiberglass) or under very dry conditions (less than 30% relative humidity), add water in the form of a very light or atomized spray from a plant mister bottle to the extruded adhesive. The repositioning time will then be reduced to less than 5 minutes. Cure times may be significantly extended when bonding non-porous materials. Use mechanical support or temporary bracing for 24-48 hours depending upon project requirements while the adhesive cures. Cure time is dependent upon temperature, humidity, porosity of substrate and amount of adhesive used. Low temperature and humidity will slow cure time. When bonding EPS and XPS foam insulation, avoid cure and surface temperatures above 32°C (90°F).

Be very careful not to allow LePage No More Nails Ultimate Crystal Clear to cure on a finished surface (removal may not be possible without surface damage).

Do not use building materials that are warped or show evidence of warping. These materials will experience bonding difficulties.

Application Tips:

1. For small, relatively smooth and level surfaces, use straight, parallel beads of adhesive (Fig.1).
2. For large areas, parallel serpentine beads work best when placed 6 - 8" O.C. (Fig.2).
Important: In case of two non-porous surfaces, adhesive beads must not merge or form a continuous area as adhesive requires air/moisture to cure.
3. When using in exterior or outdoor applications, it is best to apply adhesive in vertical beads from top to bottom to help support vertical load conditions.
4. For rough and uneven surfaces using the spot method works best (Fig.3).



Fig. 1



Fig. 2

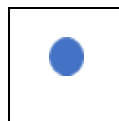


Fig. 3

Bonding Drywall, Vinyl Board, or Paneling to wall surfaces:

For bonding to relatively smooth and level surfaces apply adhesive as a series of vertical beads 10 inches apart (perimeter gluing is not recommended). Start the beads approximately 1 inch from the panel edge applying ¼" to ⅜" round beads of adhesive. Immediately after applying the adhesive place the foam against the substrate and press firmly into place to flatten out the adhesive. Be careful not to over press. Mechanical fasteners or temporary bracing must be used and kept in place until the adhesive is fully cured, depending upon the project requirements. Cure time will vary depending on the porosity of the material used, the humidity, and the temperature at time of application.

When bonding drywall or paneling to wood/metal stud framing, apply ¼" to ⅜" round bead of adhesive to each stud starting 3 inches from the top and ending 3 inches from the bottom. All drywall applications require perimeter nailing/screws 16" O.C. and 24" O.C. in the field following the Adhesive Nail-On Attachment Method for gypsum wallboard. Temporary support or bracing is required for prefinished panels until adhesive is fully cured. Mechanical fasteners may be required at the top and bottom of each prefinished panel.

Drywall application over foam insulation:

Apply not smaller than ¼" round beads of adhesive as outlined above. Position drywall, align, then press firmly into place. Perimeter fasten to underlying studs or strapping around entire perimeter. It is recommended to brace the center or field of the panels for at least 24 hours. Mechanical fasteners must be used and kept in place until adhesive is fully cured. Furring strips are recommended for concrete wall applications.



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DIRECTIONS

Clean up:

Clean tools and adhesive residue immediately with mineral spirits, following solvent manufacturers precautions. LePage No More Nails Ultimate Crystal Clear can only be removed mechanically once cured.

STORAGE & DISPOSAL

Not damaged by freezing. Store product at standard conditions which are defined as $22 \pm 2^{\circ}\text{C}$ ($72 \pm 4^{\circ}\text{F}$) and <50% relative humidity. After completion of work, seal cartridge nozzle tightly with aluminum foil. Wrap the foil tightly around the nozzle and seal it with tape. Applying petroleum jelly around the opening before sealing with aluminum foil can create a more airtight seal. Product cures with exposure to moisture. Use an approved hazardous waste facility for disposal.

LABEL PRECAUTIONS

CAUTION ATTENTION POISON

FUMES MAY BE HARMFUL. Do not breathe fumes. Methanol is released during application and cure, which may cause dizziness, headache, or nausea. Use only in a well-ventilated area. Prolonged or repeated skin contact with uncured adhesive may cause an allergic reaction. Keep out of reach of children. Wear gloves and safety glasses. Remove contact lenses before using. Wear appropriate respiratory protection for prolonged use.

FIRST AID TREATMENT: Contains silanes. If swallowed call a Poison Control Center or doctor immediately. If in eyes or on skin rinse well with water. If breathed in, move person to fresh air.

Refer to the Safety Data Sheet (SDS) for further information

DISCLAIMER

The information and recommendations contained herein are based on our research and are believed to be accurate, but no warranty, express or implied, is made or should be inferred. Henkel recommends purchasers/users should test the products to determine acceptable quality and suitability for the intended use. All adhesive/sealant applications should be tested under simulated or actual end use conditions to ensure the adhesive/sealant meets or exceeds all required project specifications. Since assembly conditions may be critical to adhesive/sealant performance, it is also recommended that testing be performed on specimens assembled under simulated or actual production conditions. Nothing contained herein shall be construed to imply the nonexistence of any relevant patents or to constitute a permission, inducement, or recommendation to practice any invention covered by any patent, without authority from the owner of the patent.

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