

PL® PREMIUM Construction Adhesive



DESCRIPTION

Loctite® PL® Premium Construction Adhesive is a one component, polyurethane based, moisture-curing adhesive. It is VOC compliant and contains no chlorinated solvents or water. Loctite PL Premium provides superior adhesion to most common construction materials. Since the bonding strength of PL Premium is so strong, it offers twice the coverage of conventional adhesives therefore much less adhesive is required to complete projects. PL Premium can be used for interior or exterior projects and is 3 times stronger than ordinary solvent-based construction adhesives during initial 24-hour cure. It is also water resistant, paintable and cures even in cold temperatures. Ideal for sub floor installations.

Available As:

Item #	Package	Size
1451588	Carded Tube	4 fl. oz. (118 mL)

FEATURES & BENEFITS

- Up to 3 times the strength of conventional adhesives during initial 24 hours
- Low VOC content
- Water resistant. Can be used outdoors and in high humidity environments
- Broad service temperature range
- For indoor and outdoor use
- Meets and exceeds ASTM D3498 requirements
- Non-shrinking

RECOMMENDED FOR

Loctite PL Premium bonds to most common construction materials such as wood, plywood, OSB, MDF, treated wood, hardwood flooring, concrete, stone *, granite, marble, slate, masonry, brick, foambord insulation including EPS (expanded polystyrene foam), XPS (extruded polystyrene foam), and polyiso (urethane) foam, carpets, metal, stainless steel, galvanized metal, lead, cement-based products, fiber cement panels, ceramic, rigid fiberglass, drywall, rigid and cellular vinyl/PVC trim and molding and polyash trim.

LIMITATIONS

- Marine Applications
- Water submersion applications
- Tub surrounds and other solid sheet goods made from rigid polystyrene
- Polyethylene, polypropylene, polytetrafluoroethylene (PTFE), and flexible vinyl (FPVC)
- Polyethylene (PE) films that cover certain XPS or EPS foam insulation boards
- Bitumen coated surfaces
- Certain natural stone* such as limestone, travertine, sandstone will have bonding difficulties
- Some materials such as rubbers, plastics, exotic or composite wood may have bonding difficulties. Test before use.
- Flexible sheet goods
- Areas of high heat such as around fireplace openings or for fire pit construction
- Treated or pressure treated lumber must be well seasoned for at least 6 months in weather exposure

COVERAGE

For a 4-fl. oz. (118 ml) cartridge:

- A 1/4" (6 mm) bead extrudes approximately 12.2ft. (3.7 m)
- A 3/8" (9.5 mm) bead extrudes approximately 5.4 ft. (1.7 m)

TECHNICAL DATA

Typical Uncured Physical Properties:	Typical Application Properties
<p><u>Color:</u> Tan</p> <p><u>Appearance:</u> Thick paste</p> <p><u>Base:</u> Polyurethane (Formaldehyde / Asbestos free)</p> <p><u>Viscosity:</u> 555,000 cps</p> <p><u>Specific Gravity:</u> 1.3</p> <p><u>VOC Content:</u> <3% by weight (CARB) 76 g/L (SCAQMD)</p> <p><u>Shelf Life:</u> 12 months from date of manufacture (unopened)</p> <p><u>Lot Code Explanation:</u> 19038 19 = Year of Manufacture 038 = Day of Manufacture based on 365 days per year For example: 9038 = February 7, 2019</p>	<p><u>Application Temperature:</u> Adhesive should be above 41°F (5°C) and below 95°F (35°C) for optimal performance. (See Cold Weather Application)</p> <p><u>Odor:</u> Aromatic / Minimal</p> <p><u>Open Time:</u> 15-20 minutes*</p> <p><u>Repositioning Time:</u> 30-45 minutes*</p> <p><u>Clamping Time:</u> 24 hours</p> <p><u>Cure Time**:</u> 24 to 48 hours* at 78°F (25°C) and 50% RH</p> <p><u>Clean Up:</u> Clean up uncured adhesive residue with mineral spirits. Scrape away cured adhesive using a sharp-edged tool.</p>

* Time is dependent upon temperature, humidity, porosity of substrate and amount of adhesive used

** Cure time is significantly increased in cold temperatures and/or low humidity conditions

Typical Cured Performance Properties

<p><u>Color:</u> Tan</p> <p><u>Cured form:</u> Non-flammable, rubbery solid</p> <p><u>Service Temperature:</u> -40°F (-40°C) to 160°F (71°C)</p>	<p><u>Water Resistance:</u> Yes</p> <p><u>Applicable Specifications:</u></p> <ul style="list-style-type: none"> ▪ ASTM D 3498 ▪ APA AFG-01 ▪ ASTM C 557
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Compression Shear Strength, ASTM D3498: Douglas Fir to Douglas Fir plywood	Compression Shear Strength to Various Substrates:
Dry Lumber Bonding 638 psi (4.4 N/mm ²)	OSB to expanded cellular PVC (24-hour cure) 263 psi (1.8 N/mm ²) Wood failure
Wet Lumber Bonding 404 psi (2.8 N/mm ²)	PVC trim molding to pine (24-hour cure) 305 psi (2.1 N/mm ²)
Frozen Lumber Bonding 773 psi (5.3 N/mm ²)	Fiber cement to Douglas Fir plywood (7-day cure) 305 psi (2.1 N/mm ²) Substrate failure
Gap Filling 468 psi (3.2 N/mm ²)	Fiber cement to Douglas Fir plywood (14-day cure followed by water immersion and drying) 377 psi (2.6 N/mm ²) Wood failure
Moisture Resistance 585 psi (4.0 N/mm ²) no delamination	
Bond Strength Development* @ 73°F (23°C): Douglas Fir to Douglas Fir plywood	Stone Bonding: Compression Shear Strength:
6 hours cure 208 psi (1.4 N/mm ²)	Granite (unpolished) to Douglas fir plywood (7-day cure) 467 psi (3.2 N/mm ²)
8 hours cure 279 psi (1.9 N/mm ²)	Marble (unpolished) to Douglas fir plywood (7-day cure) 542 psi (3.7 N/mm ²)
16 hours cure 450 psi (3.1 N/mm ²)	Granite to Granite (unpolished), 7-day cure followed by 24 hours water immersion 371 psi (2.6 N/mm ²)
24 hours cure 542 psi (3.6 N/mm ²)	Marble to Marble (unpolished), 7-day cure followed by 24 hours water immersion 305 psi (2.1 N/mm ²)

TECHNICAL DATA

Tensile Shear Strength (Lap Shear Strength):

Douglas Fir Plywood to stainless steel	590 psi (4.1 N/mm ²) - Wood failure
Douglas Fir Plywood to hot galvanized steel	512 psi (3.5 N/mm ²) - Wood failure

Compression Shear Strength, APA AFG-01:

(Bond area = 1.5 in²)

	Douglas Fir to Douglas Fir plywood	Southern Yellow Pine to Southern Yellow Pine
Dry Lumber Bonding	890 lbs.	No data
Wet Lumber Bonding	785 lbs.	593 lbs.
Frozen Lumber Bonding	837 lbs.	762 lbs.
Moisture Resistance	911 lbs.	No data
Oxidation Resistance	Passed	Passed

DIRECTIONS

Tools Typically Required:

Plant mister bottle containing water.

Safety Precautions:

Wear gloves to avoid skin contact. Cured adhesive on bare skin will not come off immediately with washing and may cause skin to darken. Cured adhesive and discoloration will come off of skin in about 3 days.

Preparation:

To ensure positive adhesion it is recommended to use adhesive above 41°F (5°C). For easier application, ensure the product temperature is 59°F (15°C) or higher. Surfaces must be clean and free of frost, standing water, grease, dust and other contaminants. Pre-fit all materials and protect finished surfaces. Be very careful not to allow PL Premium to cure on finished surfaces. Pierce inner seal with reverse end of cap.

General Application:

Apply adhesive to one surface of the material being bonded. Press the surfaces firmly together within 15 to 20 minutes. Materials may be repositioned within 30 to 45 minutes after applying the adhesive. If bonding two non-porous surfaces (such as foam, metal or rigid 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. Follow same procedure if bonding large size sheet goods. The repositioning time will then be reduced to less than 15 minutes. Use mechanical support for 24 hours 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 90°F (32°C) as this may cause cavitation of the foam. User is responsible for determining suitable and acceptable results for their intended project. Test before use.

Clean-up:

Clean tools and adhesive residue immediately with mineral spirits. Loctite® PL® Premium can be removed mechanically once cured. Solvents have little to no effect on cured adhesive.

STORAGE & DISPOSAL

Not damaged by freezing. Store product at standard conditions which are defined as 72°F ± 4°F (22°C ± 2°C) 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

WARNING: HARMFUL IF INHALED. EYE, SKIN AND RESPIRATORY IRRITANT. MAY CAUSE SKIN AND RESPIRATORY SENSITIZATION.

WARNING: Contains petroleum distillates and methylene diisocyanate (MDI). Individuals with lung or breathing problems or prior sensitization to isocyanates should not use this product. Avoid breathing vapors. Vapors may cause headaches, dizziness and nausea. Open windows and doors to ensure cross ventilation during application and until all odors are gone. Avoid contact with eyes and skin. Prolonged or repeated exposure may cause dermal or respiratory sensitization, effects may be permanent. Gloves recommended.

FIRST AID: If swallowed, call a physician or Poison Control Center immediately. Do not induce vomiting. For eye contact flush with water for 15 minutes, call a doctor. For skin contact wash thoroughly with soap and water. If inhaled, move to fresh air. If symptoms develop or persist, get immediate medical attention.
INTENTIONAL MISUSE BY DELIBERATELY INHALING CONTENTS MAY BE HARMFUL OR FATAL. DO NOT TAKE INTERNALLY. KEEP OUT OF REACH OF CHILDREN.

Refer to 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.

LIMITED WARRANTY

This product is warranted by Henkel Corporation to be free from defects in materials when used as directed. Henkel's sole obligation shall be, at its option, to replace or refund the purchase price of product proven to be defective. Henkel makes no other warranty – express or implied – including warranties of MERCHANTABILITY and FITNESS FOR A PARTICULAR PURPOSE and will not be liable for consequential or incidental damages. This Limited Warranty gives you specific legal rights, which vary from state to state. For warranty assistance, contact Henkel at 1.800.624.7767 M-F 9:00 am to 4:00 pm ET.



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