

# PL® 400® SUBFLOOR All Weather Construction Adhesive

## DESCRIPTION

LOCTITE® PL® 400® Subfloor All Weather Construction Adhesive is an eco-friendly latex-based formulated for interior or exterior subfloor construction. Its cold weather formula offers easy extrusion and excellent adhesion in all weather conditions. PL 400 Subfloor All Weather bonds to most building materials to provide reliable performance. Its low VOC formulation meets stringent State and Federal VOC regulations.

### Available As:

Item #	Package	Size
2136216	Plastic Cartridge	10 fl. oz. (295 mL)
2136221	Paper Cartridge	28 fl. oz. (828 mL)

## FEATURES & BENEFITS

- Bonds to wet, frozen & treated lumber\*
- Weather resistant when cured
- Guns easily from 18°F to 120°F
- Bridges minor gaps in framing
- Strong adhesion to most building materials

## RECOMMENDED FOR

LOCTITE PL 400 Subfloor All Weather Construction Adhesive is primarily used for glued floor projects involving standard plywood tongue-and-groove flooring to standard wood joist systems. This adhesive can also be used in a wide variety of other general construction projects with most building materials. Offers strong adhesion for all types of wood-to-wood assemblies, concrete and masonry.

## LIMITATIONS

- Not for use on polyethylene (PE), polypropylene (PP), polytetrafluoroethylene (PTFE), and acrylic
- Not recommended for vinyl plank flooring materials, other composite flooring materials, or IPE type lumber materials
- Not recommended for use on expanded or extruded polystyrene foams
- Not for use on mirrors or tub and shower surrounds
- Not recommended for bonding two non-porous surfaces
- Do not use outdoors if expecting rain within 24 hours, or extended freezing temperatures
- Not suitable for permanent water immersion
- Not suitable for applications requiring temperature resistance greater than 150°F or below -18°F

\* Test adhesion to treated wood before using in application. Treatments vary widely and can adversely impact adhesive bond and performance.

## COVERAGE

**For a 10-fl. oz. (295 ml) cartridge:**

- A 1/4" (6 mm) bead extrudes approximately 30.6 ft. (9.3 m)
- A 3/8" (9.5 mm) bead extrudes approximately 13.6 ft. (4.1 m)

**For a 28-fl. oz. (828 ml) cartridge:**

- A 1/4" (6 mm) bead extrudes approximately 86 ft. (26 m)
- A 3/8" (9.5 mm) bead extrudes approximately 38 ft. (12 m)

## TECHNICAL DATA

Typical Uncured Physical Properties		Typical Application Properties	
<u>Color:</u>	Tan	<u>Application Temperature:</u>	Apply between 18°F (-7°C) and 120°F (49°C) for optimal performance
<u>Appearance:</u>	Thixotropic liquid	<u>Odor:</u>	Mild Acrylic
<u>Base:</u>	Latex	<u>Open Time:</u>	15 minutes* at 78°F (25°C) and 50% RH
<u>Viscosity:</u>	190,000 – 300,000 cps	<u>Reposition Time:</u>	15 minutes* at 78°F (25°C) and 50% RH
<u>Specific Gravity:</u>	1.367	<u>Cure Time**:</u>	2 – 7 days*
<u>pH:</u>	8.5	<u>Clean Up:</u>	Clean up uncured adhesive residue with warm water and soap. Cured adhesive may be carefully cut away with a sharp-edged tool.
<u>Flashpoint:</u>	129.2°F (54°C)		
<u>% Solids by Weight:</u>	80%		
<u>VOC Content:</u>	0.1% by weight (CARB) 49 g/L (SCAQMD rule 1168)		
<u>Shelf Life:</u>	18 months from date of manufacture (unopened)		
<u>Lot Code Explanation:</u>	YYDDD YY = Last Two Digits of Year of Manufacture DDD = Day of Manufacture based on 365 days per year For example: 19061 = March 2, 2019		

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

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

## Typical Cured Performance Properties

<u>Color:</u>	Tan	<u>Service Temperature:</u>	-20°F (-29°C) to 150°F (66°C)
<u>Cured Form:</u>	Non-flammable solid	<u>Water Resistant:</u>	Yes, once cured. Do not use outdoors if rain is expected within 24 hours
<b>Shear Strength, ASTM D3498:</b>			
<u>Wet Lumber:</u>	195 psi	<u>Gap Filling:</u>	228 psi
<u>Frozen Lumber:</u>	125 psi	<u>Moisture Resistance:</u>	100 psi no delamination
<u>Dry Lumber:</u>	221 psi		

**Specifications:**

Meets and exceeds the following Specifications:

- American Plywood Association (APA) #AFG-01
- Requirements of HUD UMB No.60a
- ASTM D3498
- Green Guard Certified

**DIRECTIONS****Tools Typically Required:**

Utility knife, caulking gun, tool to puncture cartridge seal. For best application results, LOCTITE recommends the use of a high-quality caulking gun with at least a 12:1 hand thrust ratio such as the Albion<sup>®</sup> B12 and B12Q Cartridge guns.

**Safety Precautions:**

Interior applications require ventilation to the outside during application and cure. Wear gloves to avoid skin contact and wash hands after use.

**Preparation:**

The temperature of the adhesive, surfaces and working area must be between 20°F (-7°C) and 120°F (49°C). For smooth, fast, easy application during cold weather, store adhesive at room temperature (70° ± 5°F) 24 hours prior to use. Surfaces to be bonded must be clean, structurally sound, and free of standing water, snow, frost, dust, grease, oil, or other contaminants. To increase adhesion, sand glossy surfaces to a dull finish. Pre-fit all materials prior to applying product. Cut off tip of cartridge at 45° angle to desired bead size. Cut another 45° angle opposite the first cut. See Diagram 1. This will allow for applying a round bead of adhesive. The recommended bead size is 3/8" (9.5mm). Puncture seal inside of nozzle.

Diagram 1

**General Application:**

Pre-cut and fit materials before applying adhesive. Using a caulking gun, apply adhesive to one surface of the material being bonded. Ensure that all outer edges and centers are adequately supplied with adhesive to ensure a complete and total bond. All materials should be pressed firmly together within 15 minutes after applying the adhesive. If work is delayed, remove excess adhesive and begin again. Repositioning time is approximately 15 minutes after joining. Cure time is dependent upon temperature, humidity, porosity of substrate, and amount of adhesive used. Low temperature and humidity will slow cure time. User is responsible for determining suitable and acceptable results for their intended project. Test before use. After use, wipe off nozzle tip and re-cap immediately.

**Sub Floor Installations:**

**For optimal performance, strict adherence to adhesive and flooring manufacturer installation instructions must be followed.**

Apply a continuous line of adhesive (3/8" round bead) to joists/framing members, or a serpentine pattern to wide areas such as 2x4 top cords laid flat. For tongue and groove panels, apply a continuous line of adhesive (1/4" thick) to groove avoiding excess "squeeze out". Each panel must be positioned in place (avoid sliding or smearing the adhesive) and fastened within 15 minutes of applying adhesive to ensure maximum bond before proceeding to the next step.

(Note: if work is delayed, remove applied adhesive, and begin again.) Follow proper gapping and fastening methods as designated by the APA Nailed-Glued Fastening Schedule (Table 14) published in the APA Engineered Wood Construction Guide, Form No. E30W. (Special note: screws are recommended for installing subfloor panels).

**Clean-up:**

Clean tools and uncured adhesive residue immediately with warm water and soap. Cured adhesive may be carefully cut away with a sharp-edged tool.

**STORAGE & DISPOSAL**

**NOT DAMAGED BY FREEZING.** For best results, store product at 70°F ± 5°F and <50% relative humidity. Store away from heat, flame and sparks. Take unwanted product to an approved hazardous waste facility. Hardened material may be disposed of with household trash.

## LABEL PRECAUTIONS

**WARNING! COMBUSTIBLE. MAY BE HARMFUL IF INHALED. MAY CAUSE EYE, SKIN AND RESPIRATORY IRRITATION.**

**WARNING!** Contains acetone, urea, ethylene glycol and crystalline silica. Do not use or store near heat, sparks or open flame. Do not smoke when using this product. Prevent build-up of vapors by opening all windows and doors to achieve cross ventilation. Use in a well-ventilated area. Avoid breathing vapors. Avoid contact with eyes and skin. Prolonged or repeated exposure may affect the nervous system causing dizziness, headache or nausea. If you experience eye watering, headache or dizziness, leave the area to obtain fresh air. Do not swallow. **FIRST AID:** If swallowed do not induce vomiting, call a physician or Poison Control center immediately. For eye contact flush with water for 15 minutes, call a physician. For skin contact wash thoroughly with soap and water. If overcome by vapors, get fresh air. **KEEP OUT OF THE REACH OF CHILDREN.**

**NOTICE:** Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain, nervous system, liver and kidney damage or may cause cardiac arrhythmia. INTENTIONAL MISUSE BY DELIBERATELY INHALING THE CONTENTS MAY BE HARMFUL OR FATAL.



**WARNING:** Cancer and Reproductive Harm – [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov)

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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