



TECHNICAL DATA SHEET

Revision: March 31, 2020
Supersedes: May 22, 2015
Ref. #: 379047



PL[®] Premium[®] Construction Adhesive

Description: LePage[®] PL Premium[®] is a one component, polyurethane based, moisture-curing adhesive that provides superior adhesion to most common construction materials. It is VOC compliant and contains no chlorinated solvents or water. It may be used inside or outside and will last as long as the surfaces it joins together. 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 is 3 times stronger than ordinary solvent-based construction adhesives during initial 24-hour cure. It is also waterproof, paintable and cures even in cold temperatures. Ideal for subfloor installations.

Available As:

Item #	Size	Package
1403221	295 ml	Paper Cartridge
1403222	825 ml	Paper Cartridge

Features & Benefits:

- Water Resistant
- Twice the Coverage
- Long Open Time
- Extended Repositioning Time
- Non-Shrinking
- Paintable

Recommended For:

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, foamboard 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
- Not for use in water submersion applications
- Not for use on ABS, tub surrounds and other solid sheet goods made from rigid polystyrene
- Not for use on polyethylene, polypropylene, flexible vinyl (FPVC)
- Not for use on polyethylene (PE) films that cover certain XPS or EPS foam insulation board
- Not for use on bitumen coated surfaces
- Certain natural stone* such as limestone, travertine, sandstone will have bonding difficulties
- Composite decking and lpe wood materials
- Flexible sheet goods
- Areas of high heat such as around fireplace openings or for fire pit construction
- Pressure treated lumber must be well seasoned for at least 6 months in weather exposure

Coverage:

For a 295 ml cartridge:

- A 6 mm (1/4") bead extrudes approximately 9.3 m (31 ft)
- A 9.5 mm (3/8") bead extrudes approximately 4.1 m (13.6 ft)

For a 825 ml cartridge:

- A 6 mm (1/4") bead extrudes approximately 26 m (86 ft)
- A 9.5 mm (3/8") bead extrudes approximately 11.6 m (38 ft)



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Typical Uncured Physical Properties:

Color:	Brown	
Appearance:	Thick paste	
Base:	Polyurethane	
Odor:	Minimal	
% Solids:	90% by weight	
Specific Gravity:	1.3	
Flash Point:	93°C (200°F)	
Viscosity:	550,000	@ 5 rpm and 24°C (75°F)
VOC Content:	3.0% by weight	CARB
	76 g/l	SCAQMD rule 1168
Freeze-Thaw Stability	Not damaged by freezing	
Shelf Life:	12 months from date of manufacture (unopened)	
Lot Code Explanation:	HE9038R302	
Stamped on bottom edge of cartridge body	9 = Last Digit of Year of Manufacture 038 = Day of Manufacture based on 365 days per year For example: 9038 = February 7, 2019	

Typical Application Properties:

Application Temperature:	Adhesive should be above 5°C (41°F) and below 35°C (95°F) for best performance	
Open Time:	20 minutes*	@ 25°C (78°F) and 50% R.H
Repositioning Time:	15-20 minutes*	@ 25°C (78°F) and 50% R.H
Clamping Time:	24 to 48 hours*	@ 25°C (78°F) and 50% R.H
Full Cure:	24 to 48 hours*	
	*Time is dependent on temperature, humidity, porosity of substrate and amount of adhesive applied. Cure time is greatly reduced in cold temperatures	
	Cure time is significantly increased in cold temperatures and/or low humidity conditions	
Clean Up	Clean up uncured adhesive residue with mineral spirits. Scrape away cured adhesive using a sharp-edged tool.	

Typical Cured Performance Properties:

Color:	Tan	
Cured Form:	Non-flammable solid	
Service Temperature:	-40°C (-40°F) to 71°C (160°F)	
Water Resistant:	Yes	
<u>Compression Shear Strength:</u>	<u>Douglas Fir to Douglas Fir</u>	<u>APA AFG-01 (ASTM D 3498)</u>
	Dry Lumber:	4.4 N/mm ² (638 psi)
	Wet Lumber:	2.8 N/mm ² (404 psi)
	Frozen Lumber:	5.3 N/mm ² (773 psi)
	Gap-Filling:	3.2 N/mm ² (468 psi)
	Moisture Resistance:	4.0 N/mm ² (585 psi) No delamination
<u>Bond Strength Development:</u>		@ 23°C (73°F)
		Douglas Fir to Douglas Fir Plywood
6 hours cure:	1.4 N/mm ² (208 psi)	
8 hours cure:	1.9 N/mm ² (279 psi)	
16 hours cure:	3.1 N/mm ² (450 psi)	
24 hours cure:	3.6 N/mm ² (542 psi)	
<u>Compression Shear Strength:</u>		
Granite (unpolished) to Douglas Fir Plywood:	.2 N/mm ² (467 psi)	7 day cure
Marble (unpolished) to Douglas Fir Plywood:	3.7 N/mm ² (542 psi)	7 day cure



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Typical Cured Performance Properties:

Granite to Granite (unpolished):	2.6 N/mm ² (371 psi)	7 day cure + 24 hrs. water immersion
Marble to Marble (unpolished):	2.1 N/mm ² (305 psi)	7 day cure + 24 hrs. water immersion

Compression Shear Strength:

OSB to Expanded cellular PVC:	1.8 N/mm ² (263 psi)	24 hour cure
PVC trim molding to Pine:		
Fiber cement to Douglas Fir plywood:	2.1 N/mm ² (305 psi)	24 hour cure
	2.1 N/mm ² (305 psi) Substrate failure	7 day cure
Fiber cement to Douglas Fir plywood:		
	2.6 N/mm ² (377 psi) Substrate failure	14 day cure + 24 hrs water immersion

Tensile Shear Strength:

Douglas Fir plywood to Stainless steel:	4.1 N/mm ² (590 psi) Substrate failure
Douglas Fir plywood to Hot galvanized steel:	3.5 N/mm ² (512 psi) Substrate failure

Shear Strength:

APA AFG-01
Bond area = 1.5 in²

Wet Lumber	
Douglas Fir:	356 kg (785 lbs)
Southern Pine:	269 kg (593 lbs)
Frozen Lumber	
Douglas Fir:	380 kg (837 lbs)
Southern Pine:	346 kg (762 lbs)
Dry Lumber	
Douglas Fir:	404 kg (890 lbs)
Moisture Resistance	
Douglas Fir:	413 kg (911 lbs)
Oxidation Resistance	Passed

Specifications:	Meets and exceeds the following specifications:
	<ul style="list-style-type: none">• ASTM D3498• APA AFG-01• ASTM C557• GreenGuard Certified

Directions:

Tools Typically Required:

Utility knife, caulking gun, tool to puncture cartridge seal, 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 5°C (41°C). For easier application, ensure the product temperature is 15°C (59°F) 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. Cut nozzle at a 45° angle to required opening, usually ¼ inch or wider. Puncture the inner seal of the cartridge. The foil seal must be completely opened using a tool of similar size as the opening. Be very careful not to allow PL Premium to cure on a finished surface.



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Directions:

Cold Weather Use:

Cold Weather application is possible down to -7°C (19°F) ambient conditions. Adhesive product must be kept above 7°C (45°F) during application and all bonding surfaces must be free of snow, ice and frost prior to use. Cold weather conditions will slow cure times.

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 32°C (90°F) as this may cause cavitation of the foam. User is responsible for determining suitable and acceptable results for their intended project. Test before use.

Sub Floor Installations:

Apply a continuous line of adhesive (1/4" thickness minimum but not greater than 3/8") to joists/framing members, or a serpentine pattern to wide areas; and a continuous or spaced line of adhesive (1/8" thick minimum) in groove of tongue-and-groove panels. Apply enough adhesive to install ONLY one or two panels at a time depending upon prevailing conditions. Each panel must be positioned and fastened in place within 15 minutes of applying adhesive to ensure maximum bond before proceeding to the next. Follow APA Glued Floor System guide for detailed gluing and fastening schedules for the type of floor being installed.

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 22°C ± 2°C (22°F ± 4°F) and <50% relative humidity. After completion of work, seal cartridge 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! POISON! FUMES MAY BE HARMFUL. MAY CAUSE SKIN AND RESPIRATORY SENSITIZATION. Do not use if you have chronic lung or breathing problems or if you have ever had a reaction to isocyanates. Do not swallow. Do not breathe fumes. Use only in a well ventilated area. Wear gloves. Wear appropriate respiratory protection for prolonged use. **KEEP OUT OF REACH OF CHILDREN.**

FIRST AID TREATMENT: Contains petroleum distillates. If swallowed, call Poison Control Centre or doctor immediately. If on skin, wipe away immediately. If hardened, do not peel. If breathed in, move person to fresh air.

Refer to Material Safety Data Sheet (MSDS) 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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