



# TECHNICAL DATA SHEET



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## DESCRIPTION

Loctite® PL PREMIUM MAX is the strongest, most durable construction adhesive that remains 100% solid\* after curing. Thanks to the unique high solid content adhesive technology, this product is ideal for most interior or exterior projects where long term strength and durability are a must. It can be applied to dry or wet surfaces and in both cold (down to 10° F) and hot (120° F) temperatures. Great for framing, flooring, stairs, railings, most landscaping and deck projects; and other construction or remodeling projects.

\* In typical conditions based on ASTM D3498 for dry lumber and gap filling effect on strength

## RECOMMENDED FOR:

Bonds to most common construction materials such as wood, plywood, OSB, MDF, hardwood flooring, concrete, stone, granite, marble, tile, slate, masonry, brick, foam insulation of all sorts including EPS (expanded polystyrene foam), XPS (extruded polystyrene foam), porcelain, metal, stainless steel, galvanized metal, cement-based products, ceramic, fiberglass, drywall, rigid and cellular vinyl/PVC trim and molding.

## LIMITATIONS:

- Marine Applications
- Water submersion applications
- Polyethylene, polypropylene, polytetrafluoroethylene (PTFE), and flexible vinyl (FPVC)
- 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.
- Flexible sheet goods

## FEATURES & BENEFITS:

Feature	Benefits
Low VOC's.....	4 % by weight (CARB)
Meets and exceeds APA AFG-01 and ASTM D3498 specs.....	Can be applied directly to wet and frozen lumber
High Strength.....	Stronger than many substrates it joins together.
Weatherproof.....	Can be used indoors and outdoors
Low odor.....	No strong solvent odor; excellent for indoor projects
Cold Temperature Use.....	Extrudes Easily at low temperatures
Long open time.....	20 minutes repositioning time

Item #	Package	Size
2292244	Plastic Cartridge	9 fl. oz. (266 mL)

## COVERAGE

A 9-fl. oz. cartridge will extrude approximately 28.0 ft. (8.5 m) of a 1/4" (6 mm) diameter bead.



# TECHNICAL DATA SHEET

## TECHNICAL DATA

Typical Uncured Physical Properties:		Typical Application Properties	
<u>Color:</u>	Grey	<u>Application Temperature:</u>	The adhesive should be above 10°F (-12°C) and below 120°F (49°C) for application.
<u>Appearance:</u>	Thick paste	<u>Odor:</u>	Alcohol
<u>Base:</u>	Silane Modified Polymer	<u>Open Time:</u>	20 minutes*
<u>Viscosity:</u>	1,200,000 cps	<u>Repositioning Time:</u>	15-20 minutes*
<u>Specific Gravity:</u>	1.71	<u>Clamping Time:</u>	24 hours
<u>VOC Content:</u>	4.0% by weight (64 g/L)	<u>Cure Time:</u>	24 to 48 hours* at 78°F (25°C) and 50% RH
<u>Shelf Life:</u> Stored at standard conditions	18 months from date of manufacture (unopened)		* Time is dependent upon temperature, humidity, porosity of substrate and amount of adhesive used
<u>Lot Code Explanation:</u>	18060 18 = Last Two Digits of Year of Manufacture 060 = Day of Manufacture based on 365 days per year For example: 18060 = March 1, 2018		* Cure time is greatly reduced in cold temperatures
		<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.

Typical Cured Performance Properties			
<u>Color:</u>	Gray	<u>Sandable:</u>	Yes
<u>Cured form:</u>	Non-flammable, hard solid	<u>Paintable:</u>	Yes, after fully cured with latex paint only
<u>Service Temperature:</u>	0°F (-18°C) to 160°F (71°C)		
<u>Water Resistance:</u>	Yes		

<b><u>Compression Shear Strength, ASTM D3498:</u></b> <b>Douglas Fir to Douglas Fir plywood</b>		<b><u>Applicable Specifications:</u></b>	
Dry Lumber Bonding	1275 psi (8.79 N/mm <sup>2</sup> )	<ul style="list-style-type: none"> <li>▪ ASTM D 3498</li> <li>▪ APA AFG-01</li> <li>▪ ASTM C 557</li> <li>▪ Green Guard Tested</li> </ul>	
Wet Lumber Bonding	717 psi (4.94 N/mm <sup>2</sup> )		
Frozen Lumber Bonding	904 psi (6.23 N/mm <sup>2</sup> )		
Gap Filling	631 psi (4.35 N/mm <sup>2</sup> )		
Moisture Resistance	1117 psi (7.7 N/mm <sup>2</sup> )		

## 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 and wash hands after use.

### **Preparation:**

Use above 10°F (-12°C). For easier application, ensure the product temperature is 60°F (15°C) or higher but below 90°F (32°C). Surfaces must be clean and free of frost, standing water, grease, oil, dust, release agents, and other contaminants. Pre-fit all materials and protect finished surfaces. Cut nozzle at a 45° angle to required opening. At least ¼ inch or wider. Puncture the inner seal of the cartridge. The foil seal must be completely opened using a tool of comparable size as the opening. Be very careful not to allow PL Premium Max to cure on a finished surface.



# TECHNICAL DATA SHEET

## DIRECTIONS

### General Application Guidelines:

Apply adhesive to one surface of the materials being bonded. Press the surfaces firmly together within 20 minutes. Materials may be repositioned within 15-20 minutes after applying the adhesive. If bonding two non-porous surfaces (such as foam, metal and 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 10 minutes. 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 90°F (32°C).

### 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 top and ending 3 inches from 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:

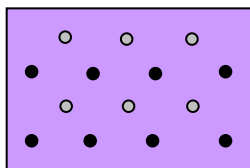
Apply not less than ¼" round beads of adhesive as outlined above. Position drywall, align and press firmly into place. Perimeter fasten to underlying studs or strapping around entire perimeter. It is recommended to brace the center or field of the panels for at least 24 hours. Mechanical fasteners must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

## SPECIAL APPLICATIONS

### Mirrors:

Using a caulking gun, apply adhesive dollops to back of mirror in 2 to 3-inch (5 to 7.5 cm) diameter spots approximately 1/2" (12 mm) thick for every square foot of mirror (see Fig.1). Do not place the adhesive too close to the edge to prevent squeeze out. A permanent support system, such as plastic holders or clips, or mirror channels must be used to hold mirrors in place, both at the top and bottom of mirror. Heavy mirrors may require an additional support system. Place mirror in position, in supports, and carefully press into place within 20 minutes of application. The adhesive should be compressed so that it is approximately 1/8 inch (3 mm) thick. Do not attempt to remove or reposition the mirror once adhesive has started to cure. Brace top of mirror to hold in place while the adhesive cures, usually 24 hours. Mirrors should not be mounted to wallpaper, painted surfaces, plaster, natural stone, fire retardant plywood, pressure treated wood or any surface that is damaged or not structurally sound. Total time required for curing depends upon temperature, humidity, porosity of substrate and amount of air that can reach the adhesive. For non-porous surfaces longer curing time will be required. Fully sealing around the edges may extend cure times.

Fig.1



Not recommended for overhead mirror installations. Not recommended for mirror overlays. Do not apply horizontal adhesive beads

### Tub Surrounds:

#### Preparation:

1. The adhesive is dark gray in color and requires that the wall be painted a dark color as the adhesive may show through the surround.
2. The temperature of the adhesive, the surfaces and the working area must be above 50°F (10°C).
3. Walls must be dry and free of dirt, waxes and soap or other residues. Painted glossy surfaces require sanding. Remove all paint, wallpaper, old adhesive or any loose materials. Unpainted, waterproof drywall or cement board is the best backing for tub and shower units. Use primer to seal areas having exposed joint compound.
4. Lay panels flat and allow them to come to room temperature (65°F to 75°F) for at least 24 hours before installing. Wipe back of panels with an IPA (Isopropyl alcohol) to remove any possible release agents. Do not use bent or bowed panels. Make sure that corners are 90° from top to bottom.



# TECHNICAL DATA SHEET

## DIRECTIONS

5. Pre-fit all materials following the tub surround manufacturer's instructions before using adhesive. Use the cardboard box that the tub kit came in as the template. Measure the spout and faucet placement onto the cardboard template and make the cut-outs. Position the cardboard in place on the wall and check for the correct cut-out placement. Transfer the markings on the tub panel. Make all the cuts in the tub panel using a hole saw bit in an electric drill. Drill a small starter hole. Make all the cuts from the face or front panel surface to the rear or backing surface. This will prevent chipping. Set each tub panel in place in the order suggested by the manufacturer. Limit stressing the tub unit into place, as this will weaken the material.
6. Use masking tape to temporarily support the tub panels in place. Make sure the tops of all panels are levelled and all the pieces are aligned. Using a pencil, outline the tub panels in their correct position before gluing.
7. Place the adhesive cartridge in a caulking gun and cut the nozzle at a 45° to desired bead size (1/4" minimum). Puncture inner seal. Do not get adhesive on finished parts of tub surround. If this happens remove immediately using mineral spirits to clean wet adhesive from surface following solvent manufacturer's precautions with plastics surfaces.

**Application:** Apply the adhesive in a continuous 1/4" vertical beads to paneling starting 1" (2.5cm) in from the edges and continuing every 6 inches (15 cm) across the back panel. Do not apply adhesive where the panel will not make contact with the wall (for examples curved corners). Press the tub surround panel firmly in place within 10 minutes of applying adhesive. Apply hand pressure across the entire panel surface to ensure good adhesive contact.

**Alternate Application Method:** Adhesive may be applied in continuous "S" pattern every 8 inches (20 cm) apart and only on flat sections that closely mate with existing wall surface.

**NOTE:** All application methods will require bracing for at least 24-48 hours to maintain contact while adhesive cures. Panel edges can be supported with masking tape. After 20 minutes hand press again over all areas of installation to ensure good contact. Connect seams of panels according to tub surround manufacturer instructions. Edges can be sealed after at least 24 hours after installation but not before hand. Allow at least 24 hours after sealing before using the area.

### Clean-up:

Clean tools and adhesive residue immediately with mineral spirits. Loctite® PL® Premium Max can only be removed mechanically once cured.

## STORAGE AND DISPOSAL

**Not damaged by freezing.** Store product at standard conditions which are defined as 72 ± 4°F (22 ± 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:** Contains Crystalline silica and silanes. May be harmful if inhaled or swallowed. Methanol is released during application and cure, which may affect the nervous system causing dizziness, headache, or nausea. Use in a well-ventilated area. Do not breathe vapors. Avoid eye and skin contact. Prolonged or repeated skin contact with uncured adhesive may cause an allergic reaction. Wear impermeable gloves and safety glasses when applying product. Remove contact lenses before using adhesive. Wash hands after using.

**FIRST AID:** For eye contact flush with water for 15 minutes. Call a physician if irritation develops and persists. For skin contact, wash thoroughly with soap and water. If affected by inhalation, remove to fresh air and get medical attention. If ingested, do not induce vomiting; call a physician or Poison Control Center immediately. **DO NOT TAKE INTERNALLY. KEEP OUT OF THE REACH OF CHILDREN.**



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

**Refer to the Material 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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