



WE'RE HERE TO HELP

These instructions are intended as general guidelines for trial applications of our product, but optimal crosslinking results can often depend on a variety of factors (substrate, ratio of solvent to compound, application method, environmental conditions, etc.)

To achieve the best possible results in your trials, we encourage you to reach out to us before getting started. Our knowledgeable team can answer questions and provide advice specific to your unique application. Our success is made possible through your success.

If you have questions, concerns, or feedback, contact your XLYNX representative, or send us a message at: info@xlynxmaterials.com.

For more information, updates, and video demonstrations, visit us at: www.xlynxmaterials.com



PLASTILYNX PLD-1002 / PLD-3003 INSTRUCTIONS FOR TRIAL USE

IMPORTANT:

- PlastiLynx is activated by heat, UV, and visible light:
 - Always keep samples and prepared solutions stored in a refrigerator or freezer when not in use.
 - Freezer storage is highly recommended for long-term stability.
 - Do not use heat to evaporate solvent, as it may initiate crosslinking activation.
- PlastiLynx should be applied as a thin, even coating. **More is not better;** Excessive application will weaken the effectiveness of bonds.

WHAT YOU'LL NEED:

Depending on your application, the following will be required:

- Ethanol, methanol, or other polar solvent. Purified water can also be used.
- Vial or container for mixing PlastiLynx with the solvent.
- Liquid dispenser (pipette, dropper, brush, etc.).
- UV curing chamber, handheld UV curing device or curing oven.
- Adhesive (when using PlastiLynx as a primer). Polyurethane adhesives are recommended, but cyanoacrylates and epoxies are also effective.
- Standard personal protective equipment for safe handling of chemicals (e.g., gloves, masks, eyewear).

PRIOR TO USE: PREPARE PLASTILYNX SOLUTION

PlastiLynx must be mixed with the solvent of your choice so that only a thin layer of solution is applied to your material:

- The ratio of PlastiLynx-to-solvent will vary by substrate and use. For reference:
 - In priming applications, 0.2 - 2.0 mg of PlastiLynx per in² (0.03 - 0.31 mg per cm²) is recommended.
 - In adhesion applications, 2.0 - 10 mg of PlastiLynx per in² (0.31 - 1.55 mg per cm²) is recommended.
- **Mix until PlastiLynx has completely dissolved.** It may take 1-2 minutes of vigorous mixing for a homogeneous solution to result.
- Refrigerate and/or limit exposure to light until ready to use.

OPTION #1: USING PLASTILYNX AS A PRIMER

Step 1: Apply PlastiLynx Solution

- For best results, ensure that the surfaces of the materials to be treated are as smooth as possible (no raised edges, surface defects) and have been cleaned of any dust or residue. Precleaning with isopropanol (or ethanol) 70% solution is recommended.
- Apply solution in a **thin, uniform layer** with liquid dispenser of choice.

Step 2: Allow Solvent to Evaporate

- Solvent must be **evaporated completely** before proceeding.
- Evaporation times will vary according to the solvent and material being used. Allow 30-to-45 minutes for solvents like methanol or ethanol. When water is used as a solvent, evaporation may take 4+ hours.
- A freeze dryer or ventilated fume hood may be used to accelerate drying.

Step 3: Cure Treated Materials

- Once solvent has evaporated, PlastiLynx PLD-1002 and PLD-3003 can be cured by either UV / visible light (**photocuring**) or heat (**thermal curing**).
- Photocuring is achieved by using either a 365nm or 395nm wavelength UV / visible light source. For reference:

| Wavelength | Intensity* | Duration** |
|------------|------------------------|------------|
| 365nm | 6.7 mW/cm ² | 10 minutes |
| 395nm | 19 mW/cm ² | 10 minutes |

* Measured in a UV curing chamber at approx. 5" to 6" for 365nm / 2" to 3" for 395nm from the treated material surface.

** Duration may depend on the intensity of UV light and the UV transmittance of materials used in certain applications. Use table as a guideline or consult with your XLYNX representative for advice.

- Alternatively, treated materials can be thermally cured in **2 hours** at a temperature between **80°C and 90°C (175°F and 195°F)**.
- **Note:** Thermal curing may cause treated areas to turn slightly yellow. To avoid discoloration, use photocuring approach.

Next Steps

- Once cured, treated surfaces are now receptive to commodity adhesives, dyes, or coatings.
- When using commodity adhesives, follow the manufacturer's instructions for use but **do not engage in any further surface preparation** of the treated area.

OPTION #2: USING PLASTILYNX AS AN ADHESIVE

Step 1: Apply PlastiLynx Solution

- For best results, ensure that the surfaces of the materials to be treated are as smooth as possible (no raised edges, surface defects) and have been cleaned of any dust or residue. Precleaning with isopropanol (or ethanol) 70% solution is recommended.
- When using PlastiLynx as a single-agent adhesive, treatment of only one of the two polymer materials being bonded is generally required.
- Apply solution in a **thin, uniform layer** with liquid dispenser of choice.

Step 2: Allow Solvent to Evaporate

- Solvent must be **evaporated completely** before proceeding.
- Evaporation times will vary according to the solvent and material being used. Allow 30-to-45 minutes for solvents like methanol or ethanol. When water is used as a solvent, evaporation may take 4+ hours.
- A freeze dryer or ventilated fume hood may be used to accelerate drying.

Step 3: Secure Bonding Materials Together

- Tightly press or clamp the materials you wish to bond together, ensuring materials are aligned and there is an even application of pressure.

Step 4: Cure the Bond

- PlastiLynx PLD-1002 and PLD-3003 can be cured by either UV / visible light (**photocuring**) or heat (**thermal curing**), depending on materials being bonded.
- When bonding **UV-transparent materials or textiles**, photocuring may be achieved as follows:

| Wavelength | Intensity* | Duration** |
|------------|------------------------|------------|
| 365nm | 6.7 mW/cm ² | 10 minutes |
| 395nm | 19 mW/cm ² | 10 minutes |

* Measured in a UV curing chamber at approx. 5" to 6" for 365nm / 2" to 3" for 395nm from the treated material surface.

** Duration may depend on the intensity of UV light and the UV transmittance of materials used in certain applications. Use table as a guideline or consult with your XLYNX representative for advice.

- Materials or textiles that are not UV-transparent can be thermally cured in **2-to-4 hours** at temperatures between **80°C and 90°C (175°F and 195°F)**.
- **Note:** Thermal curing may cause treated areas to turn slightly yellow.