



EnStron™

Environmentally Strong



COMPOSITE UNDERLAYMENT

Formaldehyde Free

Made with pMDI resin certified formaldehyde emissions of 0.00ppm

Moisture Resistant

MR-10 compliant

CARB Exempt

Certified exempt by the California Air Resources Board

Certified Recycled

Certified 100% recycled wood fiber

For years, builders have settled for underlayment products like Luan plywood which are produced in a layering process and more susceptible to delamination and voids making them not ideally suited for usage as an underlayment. Products like vinyl floor coverings require a smooth, consistent surface. EnStron Underlayment from Plummer Forest Products fulfills this need and more. EnStron is a composite underlayment panel engineered with a smooth surface and a density 50% greater than Luan plywood.

EnStron is made with a no added formaldehyde (NAF) process using recycled quality pine and northwest white wood fibers which do not have natural acids like Luan plywood. These acids cause bleed-through and staining of vinyl floor coverings. EnStron is the most environmentally friendly underlayment choice available.

The EnStron line of composite underlayment by Plummer Forest Products exceeds expectations. In fact, we are so confident in EnStron's performance, we backed it with one of the best warranties in the industry; our 15-year performance guarantee means you will not find a better underlayment panel.

- ▶ **Consistency** EnStron is engineered to meet precision manufacturing standards. It has no core voids or hidden imperfections.
- ▶ **Smooth Surface** EnStron's exceptionally smooth surface means it provides superior bonding between the floor covering adhesive and the panel. The consistent face means you don't have to worry about panel imperfections, delaminating, or seaming after you lay vinyl floor coverings. Sanding tolerance is a low .005.
- ▶ **Density** At 46.5 lbs/cu. ft. EnStron is twice as dense as Luan plywood. It deflects and resists panel damage from impacts like dropped tools better than other underlayment products. Panels with high density enable nails and screws to hold tighter, reducing floor squeaking and panel movement.
- ▶ **Surface Hardness** EnStron's superior hardness helps eliminate the need for panel patching and sanding. Unlike Luan plywood, fasteners will not split the surface of EnStron.
- ▶ **Solid One-Piece Construction** No need to worry about call-backs due to veneer delamination. EnStron is an integrated panel with no layers, therefore it holds together, even in high moisture areas like bathrooms and kitchens.
- ▶ **Environmentally-Friendly** EnStron is made from 100% recycled waste from wood products. It is an environmentally superior option versus Luan plywood. It is composite panel made with no added formaldehyde (NAF) resins. The result is a panel third party tested to 0.00ppm.
- ▶ **Storage and Handling** Always store Plummer EnStron panels flat on a minimum of 5 bunks or skids in dimensions of 2"x4"x48", spaced evenly at least every 16", with spacers between panels in a dry, covered, and level area.





UNDERLAYMENT PLUS

Installation Instructions

STORAGE AND HANDLING

- » Always store EnStron Underlayment PLUS panels flat on a minimum of 5 bunks or skids in dimensions of 2"x4"x48", spaced evenly at least every 16", with spacers between panels in a dry, covered, and level area.

JOB SITE PREPARATION

- » Subfloor must be of wood construction; code approved, 5/8" minimum thickness, tongue and groove, and dried to the moisture conditions that will be found in the structure during occupancy. Subfloor moisture content must not exceed 12%.
- » Immediately before installation acclimatize panels to the room's temperature and humidity expected during occupancy, which may take as long as 48 hours. Lay panels on a flat surface and separate individual panels with lath (stickers) for proper air circulation
- » Subfloor surface must be properly secured, free of protruding fasteners, dry, and level. It is essential to repair uneven joints and variations in panel thickness. Sand any uneven joints if necessary.
- » Subfloor surface must be free of surface debris and foreign matter. Sweep and vacuum the entire surface of the subfloor to accomplish this.

CRAWL SPACES

- » Crawl spaces must have a minimum 18" clearance, between the ground and floor joists, with proper crossventilation. The ground within the crawl space must be covered with a minimum 6 mil polyethylene vapor barrier or equivalent. Do not apply Plummer EnStron over concrete or below grade.

LAYOUT

- » EnStron Underlayment PLUS panels must be installed in a direction perpendicular to the subfloor panels that are supported by joists spaced no more than 19.2" on-center.
- » Begin by laying EnStron Underlayment PLUS panels in one corner of the room. Arrange panels so that four panel corners do not meet at one point.
- » Dry-fit the room, without any fasteners applied. Avoid pieces less than 24" except where necessary for floor fixtures.
- » Use full EnStron Underlayment PLUS panels when possible for best results; lightly butt factory edge to factory edge, with custom cut edges at the perimeter where possible.
- » Allow for a 3/8" gap along the perimeter of the room and fixtures.
- » EnStron Underlayment PLUS joints should be offset at least 8" from subfloor joints, so EnStron edge is not directly above subfloor edge.

MATERIALS

- » Select galvanized or clear coated staples with a minimum of 18 gauge shank, 1/4" crown (maximum 3/8" crown.) The length of staple should be no longer than the combined thickness of the sub-floor and underlayment.
- » Staples should not protrude through subfloor if possible and should be countersunk just below the panel's surface, but no more than 1/8" below the surface.
- » Do not use divergent staples of any kind.

FASTENING

- » The correct fastening of EnStron Underlayment PLUS is critical.
- » After dry-fitting the room, begin fastening the first panel you fitted, making sure to maintain 3/8" spacing from the wall and fixtures and ensure panel edges are lightly butted.
- » Fasten panels starting from one side and working to the other so that panel is completely flat. It is critical to follow the nailing grid as a guide with fasteners spaced 3" on the perimeter and 6" in the field of the panel. Do not tack corners. Failure to follow these guidelines will void any implied warranty.
- » Always hold the EnStron Underlayment PLUS panels down securely, in firm contact with the subfloor while fastening.
- » Fasten one panel at a time, individually and completely, before installing the next EnStron Underlayment PLUS panel.

FINISHING

- » After installing EnStron Underlayment PLUS panels lightly sand all joints for a smooth and level floor. For best results use a belt sander and medium grit sandpaper running at a 45-degree angle to the joints to prevent cupping.
- » If minor irregularities exist (e.g. gouges, chips, voids, or openings between panels) fill with a non-shrinking cementitious patching compound intended for the purpose. Do not fill normal edge joints. Follow the patching compound manufacturer's application instructions. Smooth and level the filler once it is completely dry. After the sanding is complete the entire surface must be swept and vacuumed.
- » Pure vinyl products will necessitate a perfect installation. To achieve maximum smoothness sand off the nailing grid marks on the panels' edge with a fine grit sandpaper.

INSTALLING NEW FLOORCOVERING

- » Floorcovering should be installed immediately after the installation of EnStron Underlayment PLUS panels to avoid damage or environmental influences. Prolonged exposure to foot traffic will impact the performance of the Plummer EnStron panels.
- » Follow the floorcovering manufacturer's instructions carefully before installing the floorcovering.
- » Use only adhesives recommended by the floorcovering manufacturer for use over wood underlayment.
- » It is essential to follow the adhesive manufacturer's recommended spread rate and trowel size.
- » Optimum performance of EnStron Underlayment PLUS and any implied warranty is dependent on correct handling and installation procedures.

15-Year Limited Warranty

Product Warranty: This limited warranty applies to the original retail purchaser ("Purchaser") of Plummer brand **EnStron Underlayment PLUS** (the "Product") and to any owner of a residential building on which the Product is originally installed ("Owner"). Subject to the installation requirements and conditions set forth below, Plummer warrants that, for a period of 15 years from the date of installation, the panels:

- » Will not delaminate or contribute to discoloration of the floor covering material.
- » Will hold the floor covering material permanently to the floor. Panels must be installed in accordance with the manufacturer's instructions and prescribed fastening patterns and adhesives spread rates for this warranty to apply.
- » When installed as directed, will not telegraph joints through the finished floor due to product failure or defects.
- » Warranty shall only be effective if panels are stored, handled and installed in accordance with the attached Plummer EnStron installation instructions.
- » Warranty applies to residential installations only.
- » Length of Coverage: This transferable warranty is valid for 15 years from the date of installation.
- » If any panels should fail to meet the above limited warranty, Plummer will, at its discretion:
 - » Supply replacement panels for those found to not satisfy the warranty; or
 - » Refund the full purchase price of the defective panels if the floor covering has not yet been installed; or
 - » Pay an amount equal to the purchase price of the defective panels, adhesives, and floor covering, and reasonable installation cost of the floor covering.
- » Claims regarding panels that fail to meet the limited warranty will only be honored subject to the following conditions:
 - » A written notice of claim must be delivered to Plummer within thirty (30) days of the time you discover a possible defect with the panels, including a brief description of the problem, along with photographs and samples if available.
 - » The claim must include proof of purchase, sales receipt, invoice, dealer's name and address, along with address and date installed.
 - » Plummer must be provided the opportunity to inspect the reported damage claim prior to any alteration, change or repair for a period of at least 30 days after its receipt of the notice of claim.
 - » Send claims to Plummer Forest Products, 401 N. Potlatch Rd., P.O. Box 788, Post Falls, ID 83854
 - » Plummer Forest Products does not accept responsibility for:
 - » Telegraphing at panel edges caused by uneven floor joist, movement of the sub-floor, telegraphing or foreign material due to improper cleaning, tile or vinyl shrinkage, insufficient or improper use of floor patch or poor workmanship.
 - » Damage due to structural movement of the building or failure of the structure material to which panels are attached.
 - » Deficiencies in the sub-floor/floor joist assembly, including but not limited to irregular subfloor surface, or voids in subfloor.
 - » Improper storage, handling or installation, or failure to install in accordance with the attached installation instructions for Plummer EnStron underlayment panels.
 - » Defects, incompatibility or failures of other manufacturers' products in the floor assembly including but not limited to fasteners, patching compound, adhesives, and floor covering.
 - » Damage arising from acts of God, such as earthquakes, lightning, floods, natural disasters, etc.
 - » Panel failure resulting from exposure to moisture.
 - » Failure of the owner to maintain the building with reasonable care.
 - » Exclusion of Implied Warranties; No Other Express Warranties

THIS WARRANTY IS IN LIEU OF AND EXCLUDES ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING BUT NOT LIMITED TO WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. THE REMEDY PROVIDED IN THIS WARRANTY SHALL BE THE SOLE AND EXCLUSIVE REMEDY FOR BREACH OF THE WARRANTY. PLUMMER FOREST PRODUCTS SHALL NOT BE LIABLE UNDER ANY CIRCUMSTANCES FOR ANY SPECIAL, INDIRECT, INCIDENTAL, CONSEQUENTIAL, OR PUNITIVE DAMAGES, REGARDLESS OF THE THEORY UNDER WHICH SUCH DAMAGES ARE SOUGHT.

IN NO EVENT WILL PLUMMER FOREST PRODUCTS BE LIABLE FOR ANY INCIDENTAL, SPECIAL, INDIRECT, OR CONSEQUENTIAL DAMAGES RESULTING FROM ANY DEFECT IN THE PANELS, INCLUDING, BUT NOT LIMITED TO, DAMAGE TO PROPERTY OR LOST PROFITS.