

GLUE DOWN INSTALLATION GUIDELINES FOR CASCADE COLLECTION LVT/LVP FLOORING

**ALWAYS CHECK FOR THE LATEST INSTALLATION, WARRANTY AND MAINTENANCE INSTRUCTIONS.
IT IS THE RESPONSIBILITY OF THE INSTALLER TO ENSURE THAT THE MOST CURRENT DOCUMENTS
ARE USED AND FOLLOWED DURING THE INSTALLATION PROCESS AND PROCEDURES.**

**PLEASE READ THE ENTIRE INSTALLATION INSTRUCTIONS BEFORE PROCEEDING WITH THE
ACTUAL INSTALLATION**

GENERAL INFORMATION

These installation specifications are for **Cascade Collection LVP/LVT Flooring**. All recommendations and/or requirements are based on the most recent available information.

The information on this sheet provides general guidelines. All instructions and recommendations must be strictly followed for a satisfactory installation and for warranty coverage to be intact.

- Do not mix flooring of different runs in the same room without first determining that the sheen levels and/or color tone adequately blend. **Note:** Once installed there is no question as to the acceptability of the flooring.
- Cascade Collection is not suitable for use in 3 season room applications.
- Cascade Collection LVP/LVT must be stored and installed in a climate controlled indoor location with an average temperature of between 65°-80°F or 18°-26°C. **Note:** Subfloor temperature cannot dip below 60°F or 15°C.
- Install product only after the jobsite has been cleaned and cleared of everything that may hinder a fluent installation or may damage the planks.
- **To minimize shade variation, mix and install planks from several cartons (3 to 5).**
- **Note:** Color uniformity (of the planks) can only be guaranteed for deliveries of the same production lot.
- No claims will be accepted for flooring that has been cut to size or installed. There is no exception to this rule.
- All necessary subfloor preparation must be done in accordance with Mapei Ultrabond ECO 399 an/or equivalent type of adhesive process and procedures guidelines, as well as any/all installation/ preparation requirements set forth by the flooring manufacturer.
- A minimum of 48 hours in a climate-controlled environment (65°-80°F) is required to acclimate the flooring and adhesive in the room(s) where the installation will take place. Do not open the cartons but spread them out lying flat and protect the corners and edges from damage.
- As a rule: Install all planks parallel to the main source of light in the room. Only in small and long and small rooms, the product must be installed in a longitudinal direction.

SUB FLOOR INFORMATION

Cascade Collection LVP/LVT flooring is designed as a glue down installation only. Note: The correct preparation of the subfloor is a major part of a successful installation. Therefore, it is imperative that the flooring installer follow all processes and procedures set forth by the adhesive manufacturer as well as the flooring manufacturer for a successful installation. **Note: If unsure, check with the adhesive manufacturer and/or flooring manufacturer to determine what types of subfloors/substrates qualify as porous and/or non porous before choosing a particular trowel configuration. In addition check with the adhesive manufacturer to determine how often (how many SQ FT) trowels should be changed out.**

Roughness or unevenness of the subfloor may telegraph through the new floor covering resulting in an unsightly surface and excessive wear on high spots.

SUITABLE SUBSTRATES:

- Concrete (at least 28 days old, installed per ASTM F710)

- Cement terrazzo
- Wood panel subfloors (**see below section on wood subfloors**)
- Cement-based self-leveling underlays and patching compounds
- Properly primed gypsum underlays that meet the requirements for compressive strength according to ASTM F2419
- Hydronic radiant-heat systems that have been properly installed and operating at a surface temperature no higher than 85°F (29°C)
- Properly installed and sound adhesive manufacturer approved epoxy moisture barriers. **Note:** Consult with the adhesive manufacturers Technical Services Department for installation recommendations regarding substrates and conditions not listed.

SURFACE PREPARATION:

- The substrate must be clean and free of dust, dirt, oil, grease, paint, curing agents, concrete sealers, loosely bonded toppings, loose particles, and any other substance or condition that may affect the overall performance of the adhesive product.
- **SMOOTH/FLAT** – Within 1/8" in 6' or 3/16" or 10' in all directions. Grind high areas and fill low areas using the adhesive manufacturers approved self-leveling compound and/or patch type compound that is compatible with their specific adhesive product. **Note:** Substrate irregularities may result in voids between the flooring and substrate, which can develop into hollow spots and/or debonding concerns.
- **STRUCTURALLY SOUND** – All substrates must be structurally sound, dry, solid and stable. Nail or screw any loose areas that squeak. Replace any delaminated or damaged sub flooring or underlayment.

If Choosing Mapei Ultrabond ECO 399 Adhesive See the “Surface preparation requirements” reference guide in the Floor Covering Installation Systems section of MAPEI’s Website.

MIXING:

Before product use, take appropriate safety precautions. Refer to the Safety Data Sheet for details.

- Ready to use, with no mixing necessary.

WOOD SUBFLOORS:

- **Note:** ACX sanded face plywood is an approved wood panel subfloor. **Note: It is the installers responsibility to fill all surface voids (i.e., missing knots, divots, etc.) in the subfloor with a patching compound approved by the adhesive manufacturer.**
- **Note: It is the installers responsibility to ensure that the wood panel subfloor is not treated with sealers, finishes, paint, wax, preservatives, contaminates of any/all kinds, and/or anything else that can result in adhesive bond failure and/or staining of LVP/LVT flooring.**
- If the surface of the plywood subfloor is not smooth, a 1/4" or 6 mm ACX sanded face plywood underlayment panel must be installed over the subfloor via mechanical attachment using 1/4" crown x 18-gauge x 1 1/4" long staples, spacing the fasteners 4" to 6" apart.
- Check with the wood panelling manufacturer to determine the required spacing around all vertical obstructions, as well as between panel edges. **Note:** Typical panel joint spacing is 1/16" and 3/8" along walls.
- **Note:** When installing over a wood panel subfloor ledging between panel edges must be eliminated via sanding and/or by using a patching compound approved by the adhesive manufacturer to feather out any ledging condition so that you end up with a gradual sloping transition.
- **Note:** Our Cascade Collection LVP/LVT glue down flooring cannot be installed over 1" X 6" diagonal plank subflooring and/or directly over sleeper systems. Nor can it be glued down over engineered wood flooring that has been glued down to the surface of a concrete slab. Nor can it be glued down to the surface of a solid wood floor that is mechanically fastened and/or glued to the surface of a wood subfloor that has been installed over the surface of a concrete slab. Nor can it be installed over plywood or any other type of wood panel of subflooring that is directly attached to the surface of a concrete slab.

CONCRETE SUBFLOORS:

- The concrete subfloor must be dry, smooth and free from dust, solvent, paint, wax, grease, oil, and any other extraneous materials. The surface must be hard and dense and free from powder or flaking.

- New concrete slabs must be thoroughly dry and completely cured and must meet the guidelines of the latest edition of ASTM F 710, "Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring". The final responsibility for determining if the concrete conditions are suitable for installation of the flooring lies with the floor covering installer.
- Per the adhesive manufacturer (Mapei), do not install when the moisture vapor emission rate (MVER) exceeds 15 lbs. Per 1,000 sq. Ft. (6.80 kg per 92.9 m) per 24 hours, when using the anhydrous calcium chloride test (per ASTM F1869). **Note: If using a like type of adhesive product from a different adhesive manufacturer, the installer must follow all testing requirements set forth by that manufacturer.**
- Per the adhesive manufacturer (Mapei), do not install when the relative humidity (RH) of the concrete slab exceeds 99% (per ASTM F2170).
- **Note:** Excessive subfloor moisture is an ideal breeding ground for mold, mildew and fungus. The limited warranty does not cover discoloration from mold or from any kind of water damage caused by flooding, leaking or similar conditions. Nor does it cover any structural damage caused by water and/or mold. Mildew and/or fungus.
- Holes, grooves, expansion joints and other depressions must be filled with a Portland based patching and levelling product and trowelled smooth and feathered even with the surrounding surface.
- Concrete floors with a radiant heating system are allowed, provided that the temperature of the floor never exceeds 85°F or 29°C. Before installing the flooring, the heating system must be turned on for at least two weeks prior to installation to eliminate residual moisture within the concrete. A few days prior to installation, lower the temperature to 65°F and gradually increase in increments of 5°F to avoid overheating. The use of an in-floor temperature sensor is recommended.

EXISTING FLOOR COVERINGS:

- Our Cascade Collection LVP/LVT can be installed over most existing hard surface floor coverings, provided that the existing floor surface is smooth or can be made smooth, free of contaminates of any and all kinds that can/will act as adhesive bond breakers. **Non-Approved Hard Surface Floor Coverings: Wood floors glued to the surface of a concrete slab, wood floors mechanically and/or chemically attached to a wood panel subfloor that is mechanically and/or chemically attached to the surface of a concrete slab, wood floors that are treated with oil, wax, polyurethane, shellac, varnish and/or any other types of finish and/or OSB subflooring as it can/will contain a wax coating that can/will act as an adhesive bond breaker.**
- Ceramic tiles should be made smooth by applying a cementitious overlay such as patching or levelling compound.
- When the removal of the existing resilient floor covering is not an option, then it must be covered with a leveller or equivalent in order to adjust it. Existing sheet vinyl floors must not be heavily cushioned and must consist of only one layer and must be free from any/all topical coatings and/or topical agents.

CAUTION: Some types of nails, such as common steel nails, may cause a discoloration of the vinyl floor covering. The method of gluing and screwing the underlayment panels is not recommended. Solvent based construction adhesives are known to stain vinyl floor coverings. All responsibility for discoloration problems caused by the use of the above-mentioned products is not the responsibility of the producer but rests with the installer.

GLUE DOWN INSTALLATION

APPROVED ADHESIVE (Mapei Ultrabond ECO 399 or Equivalent Type of Adhesive)

DESCRIPTION

Ultrabond ECO 399 is a high-moisture-resistant, heavy-rolling-load-resistant, aggressive, pressure-sensitive adhesive with enhanced dimensional control properties designed to install a wide variety of resilient flooring types. Ultrabond ECO 399 can also be used for flash-coving installations using traditional installation methods.

FEATURES AND BENEFITS

- Resistant to heavy rolling loads
- Minimizes gaps in luxury vinyl tile and plank
- Resistant to high moisture
- Allows up to 6 hours of working time

LIMITATIONS

- Do not store in garages, patios, and/or in uncontrolled environments such as the structure in which the flooring will be installed.
- Do not install over substrates containing asbestos.
- For interior installations only.
- Install flooring only in areas recommended by the flooring manufacturer.
- Do not install into wet adhesive over nonporous substrates.
- Do not apply over any adhesive residues, including cutback adhesive.
- Do not use to install luxury vinyl tile or luxury vinyl plank with known dimensional stability issues.
- Do not install when the moisture vapor emission rate (MVER) exceeds 15 lbs. per 1,000 sq. ft. (6.80 kg per 92.9 m) per 24 hours, when using the anhydrous calcium chloride test (per ASTM F1869).
- Do not install when the relative humidity (RH) of the concrete slab exceeds 99% (per ASTM F2170).
- Do not install in areas with known moisture problems.
- Use only when the substrate temperature is between 50°F and 90°F (10°C and 32°C).
- Do not install unless the surface temperature of the substrate is 5 degrees F (2.8 degrees C) above the dew point.
- Do not install when the pH is 12 or greater.
- Do not install over Luan – Waffer Board – Homasote – Partical Board – HDF – MDF – Advantech and/or OSB.

PRODUCT APPLICATION

1. Select the appropriately notched trowel and spread the adhesive evenly over the subfloor, keeping the trowel at a 45-degree angle to the subfloor/substrate.
2. On nonporous substrates, allow adhesive to remain open for 30 to 60 minutes or until it is dry to the touch, and then place the flooring.
3. On porous substrates, flooring can be installed into semi-wet adhesive. Or allow the adhesive to remain open for 30 to 60 minutes until it is dry and does not transfer to the finger when touched.
4. Only apply as much adhesive as can be installed within 6 hours. Protect the open adhesive from dust and debris, which will inhibit proper bond and decrease tack.
5. Roll flooring using a 75-lb. (34.0-kg) or 100-lb. (45.4-kg) roller, first going in the long direction of the flooring then at a 90 degree angle to the long direction of the installation.
6. **Note: When installing flooring into semi wet adhesive will produce a much more tenacious bond as compared to installing the flooring via the dry adhesive installation method.**

REQUIRED TOOLS AND ACCESSORIES

- For adhesives we recommend Mapei Ultrabond ECO 399 Heavy-Duty, Pressure-Sensitive, Multi-Flooring Adhesive or Equivalent Type of Adhesive. Note: If Using an Equivalent Type of Adhesive, it is the Installers Responsibility to Follow the Requirements Set Forth by the Adhesive manufacturer, as Well as the Flooring Manufacturer for Any/All Applicable Warranties to Apply.
- Vinyl Plank Cutter
- Jamb Saw
- Jig Saw
- 1/16" x 1/16" x 1/16" Square Notch Trowel for Applications Involving Porous Substrates (Follow Adhesive Manufacturers' Guidelines for Proper Application).
- 1/16" x 1/16" x 1/32" U Shape Trowel for Application Involving Non-Porous Substrates (Follow Adhesive Manufacturers' Guidelines for Proper Application).
- Moisture Meter (Wood/Concrete)
- Temperature Hygrometer
- Soft Rubber Mallet
- 75 to 100 Lb. Roller
- Utility Knife
- Pry Bar
- Tape Measure
- Chalk Line
- Safety Equipment (Goggles & Mask)
- 75 lb. to 100 lb. Roller

INSTALLATION: On concrete substrates use only a concrete moisture sealer system that is specifically designed for moisture suppression and adhesive bonding properties. The subfloor must be permanently dry and protected against moisture.

Important: The flooring shall be installed from several cartons (3 to 5) at the same time to ensure proper color and shade mix.

- Undercut doorjambs if necessary. Use a piece of flooring (approximate 12" long) as a guide for your manual undercut saw to ride on. Position the piece face down as a guide for sawing off the bottom of the door jamb and casings. **Note:** This will allow the flooring to slide beneath the jamb and casings. Or you can use an undercut electric jamb saw to perform the same operation.
- As with all plank products, install the planks parallel to the longest wall.
- Before starting with the installation, it is important to determine the layout of the flooring. Proper planning and layout will prevent having narrow plank widths at wall junctures or noticeably short length pieces at the end of rows.
- Determine if the starter row will need to be cut, measure the width of the room and then divide the room's width by the width of the plank. If this means that the last row of planks will be narrower than 2", then you will need to cut the first row of planks to make it narrower. Cut in such a way that both rows of planks (the first and last to be installed in the room) will have the same approximate width for an overall continuous appearance.

Note: Planks may be cut with a utility knife or by using an LVP/LVT cutter, chop saw, jig saw and table saw.

- If the first row of floor panels had already been trimmed in width to meet minimum requirement, there is no need to trim it again.
- Use 5/16" (5mm) expansion spacers to provide a gap for the seasonal expansion of the flooring along the walls of the entire room. Always place expansion spacers against the wall where the two boards meet. This will make maintaining a good layout easier. **Note:** Larger rooms require additional expansion space. Add 1/16" to the width of the spacers for every 3' the room extends beyond 25'.
- Using a chalk line snap a working line along the starting wall making sure to leave a 5/16" gap between the long edge of the starter plank and the wall. Whether you're starting with a full width plank, or the plank is split down the middle, it is important to leave an expansion space of 5/16" for seasonal movement of the flooring.
- Choose the correct configuration trowel for the type of substrate (i.e., porous or non-porous) you'll be applying the adhesive to according to the adhesive manufacturer's instructions.

Note: It is the flooring installers' responsibility to follow the adhesive manufacturer's instructions. Failure to follow the adhesive manufacturer's instructions and/or the flooring manufacturer's instructions that results in adhesive bond failure, cupping, end joint peaking, gapping, and/or any other non-manufacturing related type of failure will not be covered under any/all applicable warranties offered with the flooring.

- Spread enough adhesive to allow flash off before installing the flooring. Follow the guidance of the adhesive manufacturer for maximum working times (**colder temperatures or high humidity will extend times and warmer temperatures or low humidity will shorten times**). **Note:** An oscillating fan pointing upward toward the ceiling (not directly across the surface of the freshly applied adhesive) should be used in the areas with freshly applied adhesive to facilitate air movement in order to prevent premature skinning over of the adhesive.
- Always refer to the specific instructions on the LVP/LVT flooring adhesive label or by contacting the adhesive manufacturers technical department for guidance.
- After applying the adhesive to the surface of the substrate following the adhesive manufacturer process and procedures you are now ready to begin the installation.
- Align the side edge of the starter row planks along the chalk line making sure to leave a 5/16" between the edge of the starter row and the wall. **Note:** The leftover end cuts from each plank, for each row, may be used to start the next row as long as the starter piece is minimum of 6" (150mm) long.
- **Note: It is imperative that the planks long side edge lines up perfectly along the chalk line. In addition, the planks end joints must also perfectly align otherwise you will end up with a skewed installation.**
- Install the first plank in the second row making sure to leave a minimum of 8" from end joint to end joint. In addition, make sure to leave 5/16" between the end joint and wall. Next, you'll carefully align the long side edge of the plank with the side edge of the starter row making sure that the backside of the plank makes full and complete contact with the trowelled-out adhesive. Next, install the second plank in the second row by aligning the end and side joints with the previously installed planks.
- Continue the installation by working across the length of the room installing planks along the wall in the first row and then aligning the planks in the second row. It is critical to keep these two rows straight and square, as they are the "foundation" for the rest of the installation. Check squareness and straightness often.
- Continue installing planks and make sure to achieve a random appearance with end joints being offset by a

minimum of 8" (150mm).

- After completing the first four to five (6-8) rows, roll the installation with a 75 lb. to 100 lb. roller to promote good contact with the adhesive and bonding to the substrate/subfloor (**unless otherwise directed by the adhesive manufacturer**). Repeat the process and procedure every four to five (6-8) rows. **Note: It is crucial that the floor is rolled parallel with the long direction of the installation as well as perpendicular with the long direction of the installation within the first six (6) hours of applying the adhesive.**
- If the starting wall is out of square, it will be necessary to scribe the first row to match the wall, allowing the opposite side of the row to present a true square base for the rest of the floor. When the first row is complete, you must have a straight, even base established.
- Always stagger a minimum of 8" between end joints of adjacent plank rows, but at all costs avoid creating a stair step pattern. The end joints should not repeat visually across the installed floor and avoid aligning end joints after every other row so that you don't end up with an "H" joint pattern.
- As you are installing the floor check for a tight fit on sides and ends and that the spacers are in place.
- To install the rest of the flooring, continue spreading the adhesive and placing the boards from left to right, plank by plank, and row by row.
- Repeat the steps until all rows have been installed.
- Clean adhesive from the surface of the floor (**frequently**) using an adhesive remover recommended by the adhesive manufacturer. **Note:** Adhesive is difficult to remove when cured. Use clean towels to prevent haze and adhesive residue.
- Make sure when the installation is complete that the expansion spacers are removed.
- Most often the entire length of the last row will need to be cut so that it is narrow enough to fit the remaining space.
- Within the first six (6) hours re-roll the entire installation with a 75-100 lb. roller. Roll the flooring along the long axis of the installation than at a 90 degree angle to the long axis of the installation in order to promote good contact and bond with the adhesive.**
- Vacuum the floor thoroughly using the soft brush attachment or dust mop to remove any dirt and debris.
- If the floor is to be covered do not use plastic but rather use breathable material such as Ram Board or construction grade kraft paper.
- Damp mopping, cleaning, furniture or heavy objects can be put back into place 48 hours after installation.
- When fitting under door casings, etc., the flexibility and convenient connection of the material becomes evident. If necessary, a flat pull bar may be used to assist.
- When fitting around obstacles or into irregular spaces, LVP/LVT Planks can be cut easily and cleanly using a utility knife with a sharp blade. It is often beneficial to make a cardboard template of the area and transfer this pattern to the plank.
- Make sure when the installation is complete that the expansion spacers are removed and the expansion space is covered with the appropriate molding and/ or transition strips. Do not nail moldings into the planks but rather nail moldings into the wall.

PREVENTATIVE MAINTENANCE GUIDE

- Use doormats outside each entrance to your home to prevent dirt, sand, grit and other substances from being tracked onto your floor. Use non-staining mats on your floor. Do not put rubber-backed, latex-backed or coco fiber mats on your floor as they can/will stain or damage the surface. **Note: Rug Pad USA (rugpadusa.com) carries rug pads that are compatible with vinyl flooring.**
- Protect the finished installation from exposure to direct sunlight. Close curtains or blinds where extreme sunlight hits the floor. A combination of heat and sunlight causes most fading or discolorations and/or heat generated cupping.
- Support furniture with wide-bearing, non-staining floor protectors. Ideally, the protectors should be at least one inch in diameter, made of non-pigmented durable plastic, and rest flat on the floor. Non-staining felt protectors are also acceptable. Casters (type W) felt pads or floor protectors are recommended for all moveable furniture. Use protection mats under chairs with caster in order to avoid abrasion of the vinyl flooring. Make sure that any metal protectors are rust-proof before attaching protective glides.
- If you need to move heavy furniture and/or appliances across the floor, always use strips of wood, plywood, or hardboard runways to protect the floor. Always use runways even if you have an appliance dolly, or even if the heavy objects are equipped with wheels or rollers.

- Sweep and/or vacuum your flooring regularly; we recommend at least once a week.
- Prevent stains by wiping up spills promptly.
- Clean floors using a pH neutral cleaner such as Bona Stone Luxury Vinyl Cleaner. Follow the guidelines given on the bottle. Do not use soaps of any kind, detergents, wax, diluted urethane treatments, Mop and Glo, Clean and Shine, Windex and water, vinegar and water, Mr. Clean Magic Eraser, ammonia, bleach and/or any non mentioned cleaning products as they can/will leave a dulling film and/or chemically etch the surface of the floor. Do not use steel wool, scouring pads, and/or scouring powder as they can/will scratch and/or mar the floors surface.