

xcore connect™

Technical Data

Description

Commercial floor covering consisting of dimensionally stable xcore board, a decorative layer, PU protective layer, XTRA-DUR top coating and an acoustic EVA backing. The xcore connect™ flooring hybrid compound structure offers dimensional stability five times greater than traditional vinyl with two protective top surfaces provide extreme durability for high traffic environments.

General Information

This product must be used for interior applications only and be installed by professional installers that have sufficient professional liability insurance coverage (aka Errors and Omissions Insurance) for the project.

Mats Inc. recommends installing and maintaining entrance matting at all outdoor; this will improve air quality, reduce maintenance costs, and lengthen the life of your floors.

Proper glides must be used on all furniture that may slide directly across the floor. Heavy objects must not be moved directly across the floor, use protective boards.

Direct sunlight can cause UV damage (fading or bleaching) to most interior finishes, so Low E glass should be selected that will reduce the UV transmission to less than 1%. If not, applying 3M™ protection film (or similar) on the windows is recommended.

Areas of the flooring subjected to direct sunlight, for example through doors or windows, must be covered using blinds, curtains, cardboard or similar materials for 2 hours before, during, and for 72 hours after the installation.

Sizes, Weights & Units

Planks: ~59.84" x 8.86" (1520 mm x 225 mm), 6 planks / ~22 sq. ft. / 47.69 lbs. per case

Tiles: ~23.62" x 11.81" (600 mm x 300 mm), 12 tiles / ~23.25 sq. ft. / 50 lbs. per case

Thickness: ~0.33" (8.5 mm)

Weight: ~2.15 lbs. / sq. ft.

Planks are 1520 mm x 225 mm (~59.84-inch x 8.86-inch) and the tiles are 600 mm x 300 mm (~23.62-inch x 11.81-inch). The overall thickness is 8.5 mm (~0.33-inch). The weight is ~2.15 lbs. / square foot or 47.69 lbs. per case of planks and 50 lbs. per case of tiles. Packaging is a recyclable cardboard box with 6 planks per case or 12 tiles per case.

Concrete Moisture Limits

Porous surface – No moisture limit or testing required.

Non-porous surface – ≤ 75% RH.

The subfloor must be tested for porosity according to *ASTM F3191 - Standard Practice for Field Determination of Substrate Water Absorption (Porosity) for Substrates to Receive Resilient Flooring*. The water droplet must be absorbed within 5 minutes to be considered porous and only then is no moisture testing or vapor retarder required.

Non-porous concrete, must either be made porous (see preparation section) or be ≤75%RH when tested following the protocol of the current *ASTM F2170 Standard Test Method for Determining Relative Humidity in Concrete Floor Slabs Using in situ Probes*.

Note: Do not install xcore connect™ if the concrete subfloor has hydrostatic pressure, ASR, or if chemical adhesive removers have been used; contact the Mats Inc. Technical Department. Mats Inc. cannot accept any liability for any effects on the building or occupants caused by excessive moisture in the building or on the subfloor.

Wear Layer	0.55 mm (22 mils).
-------------------	--------------------

xcore connect™ wear layer consists of a combined polyurethane (PU) protective layer and XTRA-DUR

Burning Characteristics	Meets Class 1.
--------------------------------	----------------

Meets Class 1 per *ASTM E648 Standard Test Method for Critical Radiant Flux of Floor Covering Systems Using a Radiant Heat Energy Source*, which requires > 0.45 w/cm² or higher. Also meets *ASTM E662 Standard Test Method for Specific Optical Density of Smoke Generated by Solid Materials*, which requires ≤ 450.

Slip Resistance	0.96 (dry) & 0.86 (wet).
------------------------	--------------------------

When tested to *ASTM D2047 Standard Test Method for Static Coefficient of Friction of Polish-Coated Floor Surfaces as Measured by the James Machine*. This product is not suitable for ramps.

VOC Content Analysis	Meets requirements.
-----------------------------	---------------------

xcore connect™ meets the California Department of Public Health Standard Practice for VOC Testing, Section 01350 with a limit of < 0.5mg/m³ TVOC. Also, when tested according to *ASTM F963 Standard Heavy Metal Content Analysis*, xcore connect™ was found to have no concern with any of the listed heavy metal content.

Dimensional Stability	< 0.10%
------------------------------	---------

According to *ASTM F2199 Test Method for Determining Dimensional Stability of Resilient Floor Tile after Exposure to Heat*, xcore connect™ has a total dimensional stability result of < 0.10%, and from 74°F to 113°F the expansion is 0.01%, while from 74°F to 41°F the contraction is 0.05%.

Underfloor Heating	Suitable.
---------------------------	-----------

xcore connect™ is suitable for underfloor heating up to 100 °F.

Sound Absorption	IIC of 55 over an 8-inch concrete slab, without any ceiling assembly; Δ (Delta) IIC of 20, tested over a 6-inch concrete slab, with the concrete value calculated out.
-------------------------	---

Tested following the protocol of *ASTM E492 Standard Test Method for Laboratory Measurement of Impact Sound Transmission Through Floor-Ceiling Assemblies Using the Tapping Machine*, calculated according to *ASTM E989 Standard Classification for Determination of Impact Insulation Class (IIC)*: The results are an IIC of 55 over an 8-inch concrete slab, without any ceiling.

Also, tested following the protocol of *ASTM E2179 Standard Test Method for Laboratory Measurement of the Effectiveness of Floor Coverings in Reducing Impact Sound Transmission Through Concrete Floors*, calculated according to *ASTM E989 Standard Classification for Determination of Impact Insulation Class (IIC)*: The results are a Δ (Delta) IIC of 20, tested over a 6-inch concrete slab, with the concrete value calculated out.

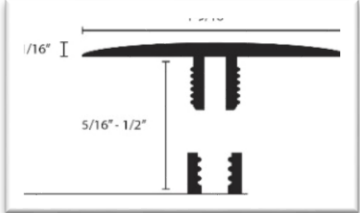
Stain Resistance	Exceeds requirements.
-------------------------	-----------------------

ASTM F925 Standard Test Method for Resistance to Chemicals of Resilient Flooring.

Note: xcore connect™ is resistant to most chemical products; however, if the floor is going to be in contact with specific industrial cleaning products, hairdresser chemicals, graphic arts, etc., test a sample before installation to make sure those products do not damage the flooring.

Color & Light Stability	Average < 0.1.
------------------------------------	----------------

Tested according to *ASTM F1514 Standard Test Method for Measuring Heat Stability of Resilient Flooring by Color Change*, and *ASTM F1515 Standard Test Method for Measuring Light Stability of Resilient Flooring by Color Change*. These test methods require a Delta E value of ≤ 8.0, and both test results average < 0.1.

Shore Hardness	> 95 Shore Hardness A.
According to <i>ASTM D2240 Standard Test Method for Rubber Property—Durometer Hardness.</i>	
Indenting	ASTM F970: 0.003-inch. ASTM F1914: 0.006-inch.
Tested according to <i>ASTM F970 Standard Test Method for Measuring Recovery Properties of Floor Coverings after Static Loading</i> , requiring a residual indentation of ≤ 0.005 -inch, the results are 0.003-inch. Also, according to <i>ASTM F1914 Standard Test Method for Short-Term Indentation and Residual Indentation of Resilient Floor Covering</i> , using 140 lbs. on a 0.178-inch diameter indenter, the results are 0.006-inch	
Warranty	10 years commercial, 25 years residential
xcore connect™ has a limited warranty (available on www.matsinc.com) of 10 years for commercial or 25 years for residential use, when installed and maintained according to the instructions.	
Accessories	Expansion Joints
Expansion joints are available for use in areas > 65 ft. in length or width (see Installation Instructions).	
	

LEED v4
Information
Many finishing products have the potential to contribute points to LEED v4; however, the credits can only be gained when calculating the combined performance of all the products used on a particular LEED project; therefore, no single product can guarantee you will obtain LEED v4 credits. xcore connect™ may contribute to the following LEED credits (points), the following is based on LEED NCv4:
v4 MRp2: Material and Resources – Construction & demolition waste management planning:
The tiles or planks reduce waste from the installation process, reducing waste in landfills. Made from recyclable material and/or is a reusable product, reducing waste in landfills.
v4 MRc1: Material and Resources – Building life-cycle impact reduction:
Option 3. Building and material reuse. This product can be reused or salvaged from off-site or on-site as a percentage of the surface area. Note: Materials contributing toward this credit may not contribute toward MRc3.
v4 MRc3: Material and Resources – Building product disclosure and optimization, sourcing of raw materials:
Option 2. Sourcing of raw materials. Materials reuse. Reuse includes salvaged, refurbished, or reused products.

v4 EQc2: Indoor Environmental Quality – Low emitting materials:

Option 1 (Flooring). General emissions evaluation. Verified third-party CA 01350 certificate is available.
Option 2. Budget Calculation Method.

V4 INc1: Innovation:

Option 1. The floating, interlocking installation system removes the requirement of using any flooring adhesive. Also, the creative subfloor preparation method negates the need for epoxy mitigation systems while also avoiding mold and IAQ issues.

Conditions & Storage

Conditions

Areas must be enclosed weather tight and properly conditioned at a constant ($\pm 5^{\circ}\text{F}$) service temperature that is between 65°F and 80°F with ambient relative humidity between 35% - 65%. In addition, the substrate surface must be at least 5°F above dew point for 72 hours prior to, during, and for 24 hours after the installation.

Note: Dew point calculators are available on the web. Windows etc. must also be covered for 2 hours prior, during, and for 24 hours after installation.

Storage

Do not stack pallets and store in dry conditions between 65°F and 80°F .

Preparation

Warnings

xcore connect™ contains a small amount of crystalline silica as does all concrete. The Occupational Safety and Health Administration (OSHA) has exposure limits for those exposed to respirable crystalline silica. These limits must be followed. All Safety Data Sheets (SDS) must be read, understood and followed. All local, state and federal regulations must be followed. This includes but is not limited to the removal of in-place asbestos containing material.

Wooden Subfloors

Unless stated otherwise all wooden subfloors must be prepared in accordance with *ASTM F1482 Standard Practice for Installation and Preparation of Panel Type Underlayments to Receive Resilient Flooring*. The substrate must be clean (without contaminates), dry ($\leq 8\%$ moisture content) and structurally sound and smooth enough for the project.

Wood floors must be double layer construction with a minimum total thickness of 1". The subfloor must be rigid, free from movement, and have at least 18" of well-ventilated air space below. Sleepers must not be directly in contact with concrete or earth, and a suitable vapor retarder must cover the ground beneath the subfloor. Do not install directly over Masonite™, Luan, fire retardant products, particle or chipboard. The requirements of the "Flatness Requirements" section must also be met.

Gypsum Subfloors

Unless stated otherwise, all Gypsum subfloors must be prepared in accordance with *ASTM F2678 Standard Practice for Preparing Panel Underlayments, Thick Poured Gypsum Concrete Underlayments, Thick Poured Lightweight Cellular Concrete Underlayments, and Concrete Subfloors with Underlayment Patching Compounds to Receive Resilient Flooring*. The requirements of the "Flatness Requirements" section must also be met.

Concrete Subfloors

Unless stated otherwise, follow *ASTM F710 Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring*. If the concrete subfloor has hydrostatic pressure, ASR, or if chemical adhesive removers have been used, do not install; contact the Mats Inc. Technical Department.

Joints & Cracks:

No expansion joint or moving joint should be covered over or filled as subfloor movement may cause installation failure. Use a suitable industry standard expansion joint assembly system as required.

Leveling & Patching Compounds:

Meet the “Flatness Requirements” (below), if required, smooth using a commercial grade (≥ 3000 psi.) moisture resistant leveling or patching underlayment, following the manufacturer's written instructions and allow it to cure fully/dry before proceeding.

Concrete Moisture & Porosity

The subfloor must be tested for porosity according to *ASTM F3191 - Standard Practice for Field Determination of Substrate Water Absorption (Porosity) for Substrates to Receive Resilient Flooring*. The water droplet must be absorbed within 5 minutes to be considered porous and only then is no moisture testing or vapor retarder required.

Non-porous concrete, must either be made porous (see preparation section) or be ≤75%RH when tested in accordance with the current *ASTM F2170 Standard Test Method for Determining Relative Humidity in Concrete Floor Slabs Using in situ Probes*.

Note: Do not install xcore connect™ if the concrete subfloor has hydrostatic pressure, ASR, or if chemical adhesive removers have been used; contact the Mats Inc. Technical Department. Mats Inc. cannot accept any liability for any effects on the building or occupants caused by excessive moisture in the building or on the subfloor.

If the concrete surface does not meet the above requirement, then it must be made to do so. This can be achieved by either dustless bead-blasting / diamond grinding (or similar) or acid etching, following the manufacturer's written instructions and Safety Data Sheet (SDS). When etching, the concrete surface must be thoroughly washed (scrubber-dryer is suggested) with clean potable water and wet-vacuumed twice, then allowed to surface-dry.

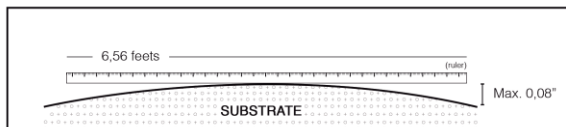
Other Subfloors

For all other subfloor/substrates contact Mats Inc. Technical Department

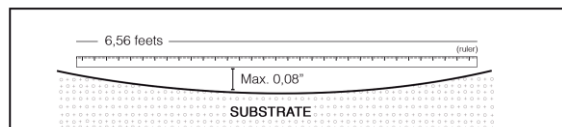
Flatness Requirements

All substrates must be both smooth (ridge-free) and with a minimum flatness and gradient tolerance of ≤ 3/16-inch over 10-ft. as shown.

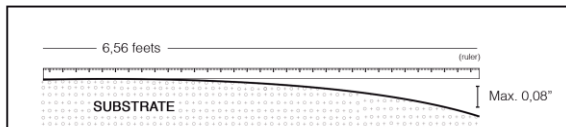
Occurrence 1



Occurrence 2



Occurrence 3



Layout

The material layout, including the direction of the flooring, should be decided by the architect, designer or end user. The planks are recommended to be installed with the end joints kept random but at least 8-inches apart between rows. It is recommended to install all tiles in the brick bond pattern. Measure the width of the area and calculate the required width

of the first and last boards to ensure a balanced installation, avoiding the use of small pieces (< 1/3 the width of the plank or tile) on each side.

Planning

Measure the width of the area and calculate the required width of the first and last boards to ensure a balanced installation without the need for small pieces (< 1/3 the width of the plank or tile) on each side.

Cleaning Substrate

Clean the prepared substrate using only suitable dustless vacuum cleaners to remove all dirt and debris.

Installation Instructions

Acclimatization

Upon receipt of the flooring at the project, especially if it has been subjected to colder temperatures, it is recommended to unpack and restack the cases neatly and no more than 5 cases high for 48 hours to properly acclimate. Areas must be fully enclosed and weather tight.

Note: All of the flooring and the substrate must be acclimated until it is at least 65°F before commencing the installation; check using a non-contact infrared digital thermometer.

If packaging is damaged, take photos and mark shipping documents as such before signing for the shipment. Contact shipper and Mats Inc. and report the damage.

Tools

Personal protective equipment (PPE) – HEPA filtered vacuum – suitable guillotine style flooring cutter – Malco TSF2 EV Turboshear or similar and suitable drill with suitable dust control (per OSHA) – tape measure – framers square – pencil – chalk line – utility knife with blades – scribing tool – spacer wedges – pull bar – tapping block – hammer – hand saw (for door frames) – suitable vacuum with Hepa filter – thermo-hygrometer– Infrared thermometer – camera phone.

Expansions Gaps & Joints

xcore connect™ is a floating flooring system, that must not be fixed to allow for expansion and contraction in both directions.

- For areas ≤ 32 ft. (10 m) in both length and width, no expansion gap is required.
- For areas > 32 ft. (10 m) and ≤ 65 ft. (20 m) in either the length or width, an expansion gap around the entire perimeter of the flooring of 3/16-in. (4 mm) is required. Areas must not be greater than 65 ft. in length or width; if required use expansion joints to separate the area into sections.

Inspection

If the wrong product or product with obvious defects or other damage has been shipped, do not install it. Contact Mats Inc. immediately. Use product from the same batch only in any area and randomly shuffle before installing.

Installation / First Row

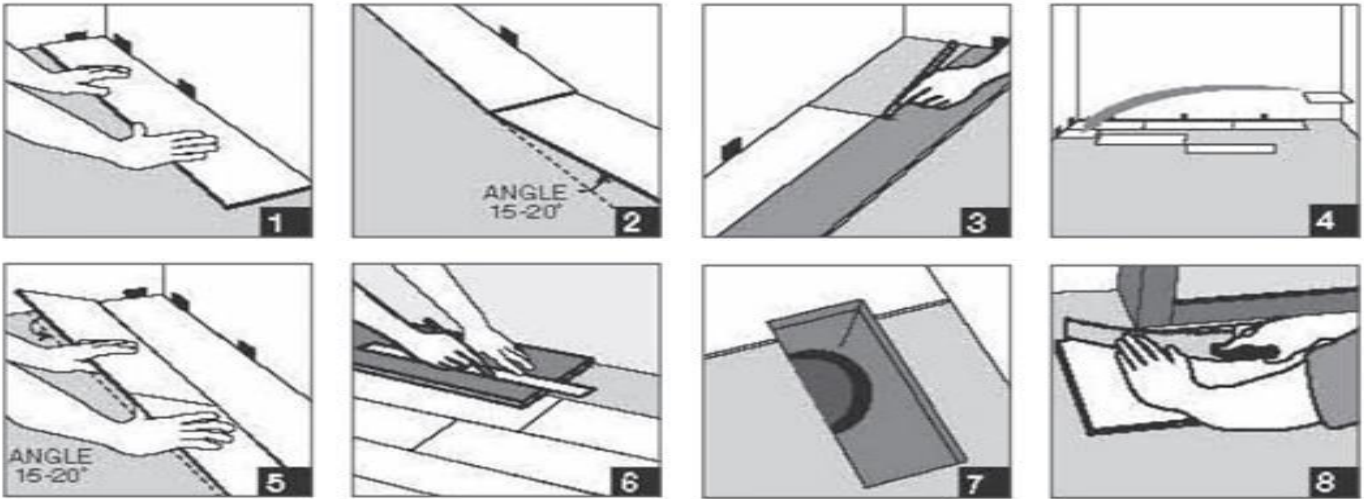
Start in one of the left corners. Remove the male end and side tongues using a utility knife. Place the first board with the male side and end against the walls (FIGURE 1). Insert the male end of the second board into the female end of the first at an angle of about 15 to 20 degrees (FIGURE 2). Continue connecting each board until you reach the last one, then measure, mark, and cut then install (FIGURE 3).

If required, scribe-in and cut the wall side to fit depending on the straightness of the wall and following the planned layout. Make sure that the first row is straight and if required, supported by spacing wedges to avoid too much movement or bounce. All areas > 32 ft. will need a spacer used on all three walls

Installation / Balance

Continue with the installation making sure that all of the end boards are ≥ 8 -inch in length and for plank installations, the end seams are random and ≥ 8 -inch apart (FIGURE 4). Insert the male side into the female side inclined at an angle of 15 to 20 degrees and gently tap into place using a tapping block and hammer plank until it is connected flush to the first row, make sure the block is flush with the board before tapping it (FIGURE 5).

If required, cut any door jamb from/at the bottom to allow the flooring to slide underneath using a hand saw and using an off-cut of flooring as a guide (FIGURES 7 and 8).



Protection

Protect the clean flooring if required, using sheets of plywood and tape all seams.

Maintenance Instructions

Precautions

Follow facilities Standard Operating Procedures (SOP). All Safety Data Sheets and product label instructions must be read, understood and followed before using the product.

Initial Cleaning (after installation)

xcare connect™ does not require initial cleaning; however, any construction dirt and debris should be removed before any trafficking by dust mopping, and only if required, damp mop following the protocol the “Daily Cleaning”.

Finish

xcare connect™ does not require any coats or finish to be applied.

Regular Cleaning

Dust mop or vacuum the floor to remove dirt or grit and follow one of the following options:

1. Damp mop using a flat microfiber mop and a suitable neutral cleaning solution like Diversey Profi or similar. Change the microfiber head often as required (after each patient room), and allow the floor to dry before use.
2. Steam clean the floor using a suitable steam cleaning machine with a microfiber pad and distilled water only.

Note: Change the microfiber head often as required. Do not allow the stream to remain stationary and in contact for more than 5 seconds. Allow the floor to dry before use.

Additional Information

Do not use dust mops treated with oils or silicones, acetone, strong alkaline cleaning agents, scouring powder, strong solvents, or abrasive cleaning pads, as these can damage the product

These instructions supersede any verbal or written instructions from Mats Inc. representatives and must be followed in order for the Mats Inc. xcore connect™ warranty to be in effect.

Limited Warranty

Mats Inc. (“SELLER”) warrants that xcore connect (the “Product”) sold to the first end user (“END USER”) will be free of manufacturing defects in materials provided that they are stored, installed, and maintained strictly in accordance with the SELLER’s instructions for a period as provided in Section IV of this Limited Warranty.

Receipt and installation of the Product constitutes acceptance of this Limited Warranty and all of its terms, conditions, limitations, and disclaimers.

This Limited Warranty applies only to installations sold to the first END USER of the Product and becomes void on the transfer or sale of the Product or the use of the Product by any party other than END USER.

I. Installation and Maintenance Requirements

This Limited Warranty applies only if:

- (A) The Product is installed on a properly prepared subfloor as detailed within the product installation instructions and ASTM F710 Standard Practice for Preparing Concrete Subfloors to Receive Resilient Flooring; and
- (B) The Product must be installed properly following the installation instructions by professional flooring installers experienced at installing commercial resilient floor covering products and having sufficient professional liability insurance coverage (aka Errors and Omissions Insurance) for the project; and
- (C) The product is maintained according to the SELLER’s instructions furnished to END USER at the time of purchase; and
- (D) The Product is not misused or abused, and there is no evidence of mishandling, neglect, modification or repair without the approval of SELLER or damage done to the product by anyone other than SELLER.

II. Method for Obtaining Warranty Service

To obtain a replacement product under this Limited Warranty, END USER must:

- (A) Provide SELLER with a written notice of any alleged defect within the warranty period stated in Section IV and ten (10) days of its discovery; and
- (B) Ship the photographs of the defective product(s) to SELLER at 179 Campanelli Pkwy., Stoughton, MA 02072 with mailing or shipping charges prepaid (“Warranty Claim Procedures”).

III. Warranty Service Provided

- (A) If the Product shall be proved to SELLER’s satisfaction to be defective, within the applicable warranty period described below, SELLER’s obligations under this Limited Warranty shall be limited to either repairing or replacing the Product, at SELLER’s sole discretion, if such defect was caused solely by defective materials. Such repair or replacement shall be SELLER’s sole obligation and END USER’s exclusive remedy hereunder and shall be conditioned upon END USER’s fulfilling its obligations under SELLER’s Warranty Claim Procedures.

- (B) Pursuant to Subsection (A), SELLER's warranty services will specifically include providing END USER with alternative floor covering of comparable quality and/or carry out necessary repairs of the Product to cover the remainder of the warranty period. This includes material cost only and does not include labor.

IV. Warranty Period

This Limited Warranty of the Product, and any implied warranties provided to END USER by state law not otherwise excluded or disclaimed in this Limited Warranty, apply for a period commencing from the date of shipment of the Product from SELLER's manufacturing or distribution facilities, including motor drive or other means of transportation. The length of the xcore connect warranty period ten (10) years for commercial and twenty-five (25) years for residential usage.

V. Exclusions from Warranty

- (A) This Limited Warranty does not apply to Product which has been discontinued or to a particular color or design which has been discontinued at the time of sale or to Product sold as seconds or B grade.
- (B) This Limited Warranty does not apply to outdoor installations.
- (C) This Limited Warranty does not apply to installations over subfloors that have not been prepared according to the installation instructions, including any effects on the building or occupants caused through excessive moisture in the building or the subfloor.
- (D) The following is not included under this Limited Warranty:
1. Color deviations as compared to physical, printed, and electronic representations;
 2. Damage caused by improper storage and handling before installation;
 3. Any use of the product which, in the sole judgment of the SELLER, is improper (players' boxes in ice arenas, pivot zones in high traffic areas);
 4. Scratches, splinters or marks on the Product unless SELLER is notified as soon as the Product is received by the END USER;
 5. Excessive wear from the presence of sand and/or grit on the installed material;
 6. Periodic adjustments and shifting not caused by the Product. Such shifting is normally the result of improper installation;
 7. Damaged caused by exposure to petroleum distillants (solvents, chlorine, acidic chemicals) or industrial oils;
 8. Misuse or abuse of the Product by the END USER;
 9. Damage caused by the subfloor or substrate movement of any kind;
 10. Damage caused by unreasonable use and/or negligence, including but not limited to spiked heels;
 11. Damage caused by improper preparation, installation or maintenance, including other accessories;
 12. Damaged caused by furniture, appliances, fixtures, and equipment that is not properly leveled with appropriate protective glides, casters and floor protectors;
 - i. Glides must be a minimum of 1" in diameter.
 - ii. Glides must be flat, smooth and slightly rounded.
 13. Damage caused by extended direct exposure to sunlight;
 14. Labor costs for removing and/or re-installing replacement and associated freight costs are not covered under this warranty.

VI. Limitations on Warranty

This Limited Warranty is provided by SELLER, and it contains the only express warranty provided to END USER by SELLER. SELLER does not authorize any other person to give any other warranties on SELLER's behalf.

VII. Sellers Liability

SELLER's liability with respect to the Product sold to END USER shall be limited to the warranty provided herein. SELLER shall not be subject to any other obligations or liabilities, whether arising out of breach of contract, warranty, tort (including negligence and strict liability) or other theories of law, with respect to products sold or services rendered by SELLER or any undertaking, acts or omissions relating thereto.

Without limiting the foregoing, SELLER specifically disclaims any liability for property or personal injury damages, penalties, special or punitive damages, damages for lost profits or revenues, services, downtime, shut down or slow down costs, or for any other types of economic loss, and for claims of END USER's customers or any third party for any such damages. **SELLER shall not be liable for and disclaims all consequential, incidental and contingent damages whatsoever.**

VIII. Miscellaneous

Any description of the Product, whether in writing or made orally by SELLER or SELLER's agents, specifications, samples, models, bulletins, drawings, diagrams or similar materials used in connection with END USER's order, are for the sole purpose of identifying the Product and shall not be construed as an express warranty. Any suggestions by SELLER or SELLER's agents regarding use, application, or suitability of the Product shall not be construed as an express warranty unless confirmed in writing by SELLER to be such.