



Manufacturer Complete TuffCore™ Flooring Guide

ACCURACY OF INFORMATION

While National Flooring Products uses reasonable efforts to provide accurate and up-to-date information, some of the information contained inside this technical guide is subject to changes in manufacturing, technological advancements, and updates to published industry standards. National Flooring Products will not be liable for any errors or omissions contained in the content, illustrations, procedures, or other parts of these technical guides.

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NATIONAL
FLOORING PRODUCTS

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NATIONAL
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FREQUENTLY ASKED QUESTIONS

Local Flooring Retailers VS. Online/Liquidation Companies

The Internet is an amazing tool for educating consumers on countless products, prices, and promotions. While purchasing online can be a great resource, there are many disadvantages that can only be overcome by purchasing through your local flooring retailer.

What are the advantages of purchasing flooring from local retailers?

Flooring is Technical

TuffCore flooring is designed to replicate a natural product and has many technical aspects. An experienced flooring retailer will be able to guide you through the many factors that must be considered when choosing a hardwood, bamboo, or TuffCore floor that fits your lifestyle. If installed incorrectly, your flooring may not last as long as it should, and the warranty could be voided. Unlike most carpet (which is replaced regularly) hardwood, bamboo, or even a quality TuffCore floor are investments in your home that will last. Flooring is a permanent fixture that you want to get right the first time.

Sampling

Many online/liquidation retailers only have small swatches that they will send to you. National Flooring Products' samples are made from the actual flooring. TuffCore samples are 18" x 24". This is important because flooring can have many variations in color, graining, and texture that may not be visible with smaller samples.

Stock

Many flooring manufacturers sell products that are deemed as "seconds" or "off goods" to certain online/liquidation retailers. Manufacturers will not have to provide a warranty for these "off good" products. When shopping online you could unknowingly purchase products with many issues such as mismatched dye lots or manufacturing defects with the milling or finish. These problems may not make the cheap price worth it.

Shipping

Flooring products are heavy and can be awkward to handle. A pallet of flooring can weigh as much as 2500 pounds. When products are shipped across country with freight carriers there is a reasonable chance that the products could arrive damaged. In the event this happens, most online/liquidation retailers will inform you at this time that you must deal directly with the freight carrier to resolve these issues. Flooring retailers have the equipment to safely un-load the product and in the event materials are damaged in transit they have the resources and know how to handle the freight claim, freeing you from the hassle of doing so yourself.



FREQUENTLY ASKED QUESTIONS

Local Flooring Retailers VS. Online/Liquidation Companies (Continued)

Installation

The number one cause of consumer discontent with their floor is due to poor installation. Purchasing a floor with your local retailer will help avoid this. They can provide an experienced installer or help you find one who can get the job done correctly. Your flooring is an investment in your home and should be done with as much consideration as you would put into purchasing a brand new car. Using local retailers will make the process a smooth one.

Warranty

Did you know that most manufacturers of flooring do not provide warranties on any of their products sold through online or liquidation retailers? The reason for this is because there is no way to track how the product was shipped, stored, handled, acclimated, installed, or maintained. Some online/liquidation retailers do not stock or even have a relationship with the actual manufacturer. The product is often boot-legged through some other source. By purchasing flooring through your local retailer you can be assured the flooring will be backed by the manufacturer's warranty.

Note: Is John Smith from Florida really going to take care of someone in Montana? There is no substitute for face to face interaction.

The Economy

Buying a floor locally helps your local retailers stay in business by supplying jobs and keeping the revenue in your local area.

Security

Many of our premier retailers have been in business for more than 20 years. This gives you peace of mind knowing who you are working with. Knowledgeable sales representatives will be available to answer any questions throughout the process of purchasing and installing your flooring. Unfortunately, consumers have been fooled by the great deals proclaimed "online only" and if a problem arises it can be difficult to find a resolution. Local retailers are unable to disappear into the anonymity of the Internet.

Did you know that saving \$350 on 600 square feet of flooring could end up costing you over \$3500 to replace if the flooring products you bought online failed and there was no warranty?

With flooring being such a huge part of the way your home looks and functions, having to replace it can really turn your life upside down when it is not planned. Sometimes it is better to pay a dollar too much than a penny too little.

END

FREQUENTLY ASKED QUESTIONS

Which Flooring is Right For Me?

What is the difference between wood, bamboo, and TuffCore flooring?

Solid Flooring



Solid Profile

Solid wood flooring is the traditional style of flooring that has been around for centuries. It is milled from a single piece of timber into planks ranging from 3/8" - 3/4" thick. Solid wood floors have a thick wear layer allowing it to be sanded and refinished many times. Solid flooring is generally only approved for installation ON or ABOVE Grade wood sub-floors.

Engineered Flooring



Engineered Profile

Engineered wood flooring is manufactured by joining three or more layers of solid wood, creating a real wood floor. The layers of wood are laid cross-grain and bonded together using heat and pressure to form a single piece of wood that proves to be more dimensionally stable than solid wood flooring. With greater stability there is less expansion and contraction during temperature and humidity changes. It is nearly impossible to tell the difference between solid wood flooring and a quality engineered floor once it is installed. Since engineered flooring is more dimensionally stable, it can typically be installed over an approved concrete, gypcrete, OSB, or plywood substrate.



FREQUENTLY ASKED QUESTIONS

Which Flooring is Right For Me? (Continued)

What is the difference between wood, bamboo, and TuffCore flooring?

Bamboo Flooring



Bamboo Profile

Bamboo flooring is an appealing alternative to hard-wood flooring. Coming from the grass family, bamboo is processed in a different manner than products processed from timber. Eco-friendly, bamboo is known as a sustainable and renewable version of plank flooring. Bamboo is promoted for its strength, durability, resistance to insects, and unique appearance. Just as hardwoods, bamboo is manufactured in different ways; typically vertical, horizontal, and strand-woven. Vertical and horizontal bamboo is produced by slicing the bamboo canes into strips and laminating the pieces together to form solid planks. Strand-woven bamboo is significantly more dense than vertical or horizontal bamboo and is manufactured by shredding bamboo canes into fibers and bonding them back together with resin under intense heat and pressure.

Laminate Flooring



Laminate Profile

Laminate flooring is an inexpensive alternative to wood flooring. Contrived by fusing together multiple layers of synthetic material, such as melamine resin and fiber board. Laminate flooring is given the appearance of real wood by placing a photographic appliqué on top of the core. The final layer of laminate is a clear protective coating to help prolong the life span of the product. Laminate flooring has the advantage of being a durable cost-effective option and requires less skill to install.



FREQUENTLY ASKED QUESTIONS

Which flooring is right for me? (continued)

What is the difference between wood, bamboo, and TuffCore flooring?

Luxury Vinyl Plank (LVP) Flooring



LVP Profile

Luxury Vinyl Plank (LVP) Flooring is an alternative to laminate or wood flooring, providing a water-resistant and inexpensive option to homeowners. Made of virgin PVC vinyl and strong fiberglass backing, these planks get their wood appearance from a high-definition photographic appliqué beneath a heavy-duty wear layer and UV resistant coating. Like laminate, LVP can have various textures applied using a specialized etching technique during manufacturing.

TuffCore Vinyl (LVP) Flooring



TuffCore Profile

TuffCore flooring is a vinyl-based plank alternative to hardwood. This product stands out as it is created by blending PVC and a polymer blend. This unique compound resists the expansion and contraction that is seen with traditional hardwood flooring. The PVC polymer is formed into a core with a patented interlocking click system. The core then has a high-definition photographic appliqué on a layer of virgin PVC vinyl and topped with a heavy-duty textured surface.



FREQUENTLY ASKED QUESTIONS

Which Flooring is Right For Me? (Continued)

What are available textures for TuffCore flooring?

SM=Smooth: All of the flooring planks will have a smooth surface with minimal dents, divots, or bumps. Available in a large spectrum of choices, a smooth floor can be finished in a matte surface, with very little reflectivity, or a high gloss surface that is very lustrous. Smooth finished flooring renders clean lines with a traditional look.

DS=Distressed: Commonly mistaken for hand-scraped, distressed surfaces reveal light chatter marks, divots, or scrapes. Distressed surfaces resemble the effects of every day wear over a long period of time. Similar to hand-scraped, distressed flooring can easily hide every day wear and tear.

HS=Hand-Scraped: Each flooring plank is manufactured with a hand-scraped appearance. Characterized by hills, valleys, and chatter marks giving the floor a rustic, timeless personality. Also referred to as hand sculpting, hand-scraping can be very pronounced or very subtle. Hand-scraped flooring tends to show less wear and tear over time making it a good choice for very active families.

WB=Wire Brushed: This very unique look and texture is created during the manufacturing process and is designed to look as if the wood surface had been briskly rubbed with a steel wire brush. The combination of textured surface and applique design provides a rich, durable texture filling your home with comfort and style.

LE=Light Embossed: Embossing is a manufacturing process that presses grain and texture directly into the top wear layer. This gives the flooring a more realistic wood appearance.

EIR or RIE=Registered Embossed: Embossed in register (EIR) simulates the natural appearance of hardwood flooring by adding depth and texture. This is accomplished by perfectly matching the texture with the print on the material before all of the layers are heat pressed together.

END



FREQUENTLY ASKED QUESTIONS

Getting to Know TuffCore

What are the advantages of TuffCore flooring?

A distinct appearance and feel that enhances any décor

- With new manufacturing techniques and high definition visuals, TuffCore floors can look and feel just like a hardwood with a lower installed cost.
- TuffCore floors can be produced with many textures, colors, and finishes to match any room décor.

Easy cleaning with low yearly maintenance cost

- TuffCore floors can be easily cleaned by simply vacuuming with a soft bristle attachment or sweeping, and periodically damp mopping with an approved TuffCore floor cleaner.

Hypoallergenic

- Great for families who have allergies or asthma.
- Carpet can trap and store pollens, fertilizers, chemicals, and pesticides when tracked into the home from the bottom of your shoes.

Click-Lock TuffCore is easy to install

- TuffCore flooring is easy to cut and can be clicked together. This system is a breeze for Do-It-Yourself installations. With proper planning, many projects can be completed over a weekend.

How can I bridge the cost difference between TuffCore and carpet?

Less waste with TuffCore floors

- 1ST Quality TuffCore floors typically only need about 5% waste. Rolled goods such as carpet and vinyl that are without patterns tend to have about 10-15% waste. Patterned goods can increase up to 25% waste. With TuffCore having 7-20% less waste than rolled goods, adding in the waste factor to the total cost of rolled goods (like carpet) often makes carpet and vinyl much more expensive than a TuffCore floor.

Moving from all carpet to TuffCore floors in high-traffic areas

- Sometimes home owners may be replacing the carpet in the whole house when only the high-traffic areas are worn out. They may be thinking that they have to replace the bedroom carpet so it matches the new hallway carpet.
- If the carpet is still in good condition in the bedrooms, we suggest holding back on these rooms and use the money savings for more important high-traffic areas.
- This strategy may allow you to move up to a TuffCore floor in the living room, dining room and hallway. Sometimes, this can even be done for less money than you had budgeted to spend on a whole house of carpet.

Cost over time – Carpet is dramatically more expensive over time

- Although carpet may have a cheaper initial cost, customers will end up losing all of that savings due to carpet cleanings, re-stretchings, and eventually needing to replace it in a few years especially if they follow the manufacturer's recommended cleaning schedule in order to maintain their warranty.
- Low yearly maintenance costs make TuffCore flooring a good choice for long-term



FREQUENTLY ASKED QUESTIONS

Getting to Know TuffCore (Continued)

Can I install TuffCore flooring in a bath or utility room?

TuffCore products are manufactured to the highest quality standards and are technically are waterproof. The product itself is NOT affected by NORMAL water usage. Many WPC and LVP products are sold as waterproof. Although the product itself is not affected by water, the application is. For example, standing water from flooding or excessive wet mopping can create mold or through the process of hydraulic pressures, pull the floor apart. We promote Tuffcore as what we call "Life Proof", it will NOT be affected by NORMAL cleaning, full bathroom, pets, laundry rooms, entryways, or any other NORMAL household or approved commercial applications.

Can I install TuffCore flooring on an exterior porch?

It is **not** recommended to install TuffCore flooring in areas where it would be exposed to the elements. It must be installed in rooms that are finished with windows, doors, insulated walls, and have a permanent heating and cooling system.

Can I install TuffCore flooring in a cabin?

TuffCore flooring can be installed in cabin as long as the heating and cooling systems are fully functioning and the minimum temperatures and humidity levels are maintained according to the manufacturer's guidelines year-round.

Can I install TuffCore in a commercial building?

TuffCore flooring can be installed in a commercial locations depending on the type and usage of the space. Refer to the manufacturer's installation instructions for exact details.

Some approved commercial areas you can install TuffCore in are:

Retail Type: Novelty Shops, Boutiques, Product Display Areas, Sales Floors, Showrooms, Hair Salons

Medical Office: Waiting Rooms, Patient Rooms, Examination Rooms, Storage Rooms

Hotels: Guest Rooms, Conference/Meeting Rooms

Office Space: Offices, Conference/Meeting Rooms, Showrooms

Restaurants: Conference/Meeting Rooms, Dining Rooms, Break Rooms

Institutional: Classrooms, Training Rooms, Meeting Rooms, Common Areas, Residence Halls

Is TuffCore a good choice for homes with pets?



Pets should not be a deterring factor when selecting an TuffCore floor. Larger pets, such as dogs, will have a different impact on the floor than smaller pets, like cats. Regularly trimming pet nails will help reduce the chance of dinging up your floor and quickly cleaning up any spills will ensure that no lasting damage occurs.

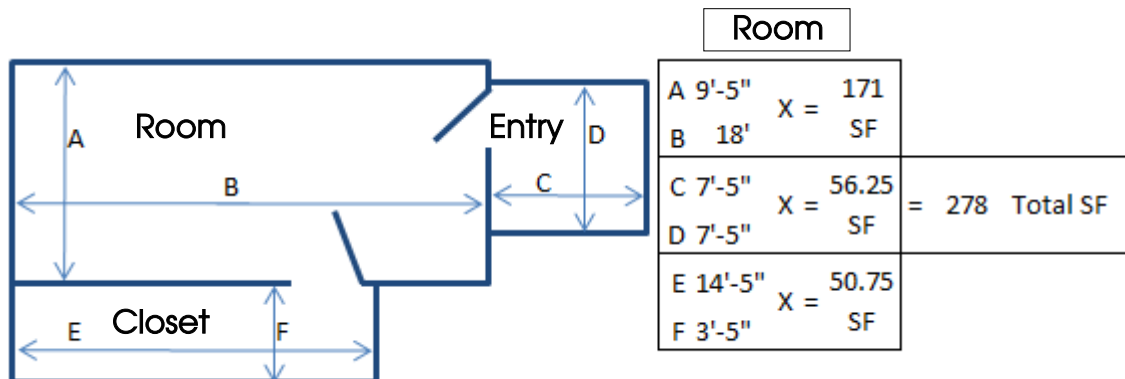
FREQUENTLY ASKED QUESTIONS

Getting to Know TuffCore (Continued)

How do I figure the square footage of my rooms?

When measuring for TuffCore flooring, it may be easier for some to visually block out or separate the rooms and measure them separately. For example: If the closet is attached to a bedroom, measure wall to wall in both directions of the bedroom. Then measure the closet wall to wall in both directions and so on. Draw out a diagram of the floor plan and write the measurements down for each room. When all rooms are measured, multiply the length by the width for each room. Add all of these totals together. You will need to add additional material to this amount for cuts, culled boards, and extra for future repairs.

Example:



How much extra should we add to the total square footage for waste?

The waste factors below are only a guide. Job site/home conditions and personal taste may vary. Always inspect every plank prior to installation. When practical, use cut pieces with at least one factory end joint to start or end the next row. This practice will reduce waste. The recommended waste factor for first-quality flooring products is 5% of the total job.

Important: Adding additional materials to the total square footage of the entire job can allow you to be more selective with the actual flooring that is installed. The additional waste factors below are only recommendations.

If you are concerned about:

- Small cut up rooms with lots of vertical objects: add an additional 1-2%
- Installing on a diagonal: add an additional 5-10%



FREQUENTLY ASKED QUESTIONS

Getting to Know TuffCore (Continued)

Should I hire someone to install my floor, or can I do it myself?

Choosing to install your own TuffCore floor is a great way to save on labor costs but may create some challenges if you are inexperienced with the prepping of the sub-strate or the finish work. TuffCore flooring with the click system is one of the easiest installation methods for a beginner Do-It-Yourself project. Make sure you gather all the facts about your TuffCore flooring, substrate, approved installation methods, and installation requirements before deciding to do it on your own.

I am remodeling my house, When should I install my floor?

To minimize potential damage, it is recommended that TuffCore flooring be installed last. There is a lot of wear and tear associated with remodels from the added traffic to your living space. Construction tools are heavy and will leave scratches and dents on new flooring if not properly handled. Manufacturer warranties do not cover damage caused during installation.

Can TuffCore flooring be installed before the painting is completed?

No! Although LVP is less reactive than wood to moisture in the air it is recommended that all painting be completed prior to the TuffCore flooring being installed as paint is difficult to remove from any flooring surface and damage from paint is not covered by the manufacturer's warranty.

Does the installation method matter?

Yes! The installation method recommended by the manufacturer will vary depending on the type of TuffCore, sub-strate, and where it is being installed. TuffCore can be installed using the floated or glued down method. Please consult with a flooring professional to discuss your options.

Where do I find the installation guides?

Installation guides can be found on www.NationalFlooringProducts.com under printable PDFs. A copy is also included in every customer care kit and the installation instructions inside each product box.

Where do I find the care and maintenance guides?

Care and maintenance guides can be found on www.NationalFlooringProducts.com under printable PDFs. A copy is also included in every customer care kit and inside each product box. Always follow the guidelines set by the manufacturer.

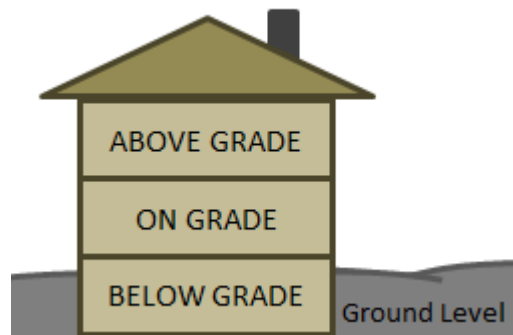


FREQUENTLY ASKED QUESTIONS

Getting to Know TuffCore (Continued)

What does "ON", "ABOVE", or "BELOW" GRADE mean?

The term "GRADE" refers to the home's exterior ground level. "ON GRADE" specifies that the floor will be installed at or on ground level. "ABOVE GRADE" refers to the flooring being installed above ground level (second story of a building); "BELOW GRADE" indicates below ground level (basements for example).



On what GRADE can I install my TuffCore flooring?

- TuffCore flooring can be installed ON, ABOVE or BELOW GRADE. Be sure to use an approved moisture retarder to protect the TuffCore from moisture coming from the substrate when installing below grade or over concrete/gypcrete.

FREQUENTLY ASKED QUESTIONS

Getting to Know TuffCore (Continued)

Does National Flooring Products carry residential warranties?

We provide only first-quality goods that are backed by a full manufacturer warranty. Warranties are based upon the products purchased. The finish warranties can range from 15 years to lifetime. Structural warranties range from 15 years to lifetime. Exact details can be obtained upon request. This information is also included in every box of flooring.

Does National Flooring Products carry commercial warranties?

Commercial warranties are based on selected products and the type of application they will be used in. If the product is approved for commercial use, the commercial warranty can range from 3 -10 years.

Can I buy directly from National Flooring Products?

TuffCore flooring has many technical aspects that must be addressed by professionals and we want to ensure that the customer will always receive first-quality products with expert advice, thus protecting the manufacturer warranty. National Flooring Products only sells to approved flooring retailers with a physical storefront.

How do I get a sample?

If you are a customer who is interested in purchasing our products, we can assist you in finding local retail stores. Please contact us or email Support@NationalFlooringProducts.com for assistance.



Sample Size 18" x 24"



Sample Backside

(example)

END

FREQUENTLY ASKED QUESTIONS

In-Floor Radiant Heat

What is in-floor radiant heating?

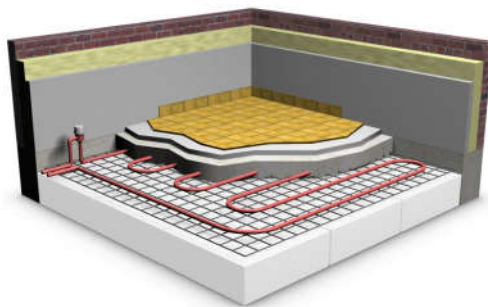
In-floor radiant heating is a floor warming system that comes in a variety of options. Most systems use heating coils that are embedded in the substrate. Only embedded in-floor radiant heat systems are permitted for use under approved LVP vinyl flooring.

What type of TuffCore flooring can I install over in-floor radiant heat?

All National Flooring Products TuffCore products can be installed over in-floor radiant heat systems as long as all installation instructions are followed and requirements are met.

What are the guidelines for substrates with in-floor radiant heat?

The in-floor radiant heat systems **CANNOT** be installed directly under the TuffCore flooring. It must be embedded in the concrete, gypcrete, or installed under the wood sub-floor. This will ensure the heat is evenly distributed across the substrate before the heat comes into contact with the bottom of the TuffCore flooring. **At no time during the life of the floor should the boiler setting exceed 110 degrees Fahrenheit, or sub-floor surface temperatures ever exceed 85 degrees Fahrenheit.** It is recommended that the surface temperature stickers (heat sensors) be installed under the TuffCore floor directly over the in-floor radiant heat source for every 300 ft² installed. These Temperature stickers can be used to validate that the surface temperature never exceeding 140 degrees. These heat sensors can be purchased through National Flooring Products or online.





FREQUENTLY ASKED QUESTIONS

In-Floor Radiant Heat (Continued)

Do we need a humidifier if we install TuffCore flooring over radiant heat?

Yes. A humidity control system (humidifier) is recommended to be installed and properly functioning one week before, during, and after the installation for the life of the TuffCore floor. This helps prevent expansion and contraction issues caused by the temperature/humidity changes in the home from the radiant heat system.

What Are approved moisture barriers for concrete/gypcrete with Radiant Heat?

The type of moisture barrier or retarder is usually based on the installation method and substrate. Different types of moisture barriers and retarders produce the same end result by doing it in different ways. Thoroughly read the installation guidelines for more information. Check with local building codes and the manufacturer of the radiant heat systems for recommendations.

Note: It is recommended to not use any moisture barrier or retarder that is primarily oil or tar based over any type of in-floor radiant heat substrate, unless it is clearly marked suitable for radiant heat. It may give off toxic fumes.

- **On or Above Grade Concrete & Gypcrete slabs testing ABOVE 5lbs moisture emissions/24HR:** Cover the entire slab sub-strate with 6 mil plastic, overlap all seams 6", and fully tape all edges with moisture proof tape.
- **On or Above Grade Concrete & Gypcrete slabs testing UNDER 5lbs moisture emissions/24HR:** Cover the entire slab sub-strate with Aqua Bar (B) underlayment paper, overlap all seams 6", and tape edges to prevent the underlayment from shifting.
- **Below Grade Concrete slabs:** Cover the entire slab sub-strate with 6 mil plastic, overlap all seams 6", and fully tape all edges with moisture proof tape.

What Are approved moisture retarders for wood sub-floors with Radiant Heat?

- **Floated Click-Lock TuffCore with Pad Attached:** Cover the entire wood sub-floor with Aqua Bar (B) underlayment paper. Over lap all seams 6", and tape edges to prevent the underlayment from shifting.
- **Floated Click-Lock TuffCore (No Attached Pad):** Cover the entire wood sub-floor with Aqua Bar (B) underlayment paper, or If an underlayment/pad is desired, National Flooring Products recommends our 60PVC1510 underlayment/pad with a built-in film.

Does the radiant heat system need to be turned off during installation?

Yes. All installation methods of TuffCore require the heating system to be turned off a minimum of 24 hours before, during, and after installation. After installation, gradually raise the temperature to its normal operating level over a period of 3 days. If using the glue down method, always follow the glue or adhesive manufacturer's instructions as moisture and bond warranties come solely from the glue/adhesive manufacturer.



NATIONAL
FLOORING PRODUCTS

FREQUENTLY ASKED QUESTIONS

In-Floor Radiant Heat (Continued)

How can I tell if the floor is in-floor radiant heat approved?

The label on each National Flooring Products sample will indicate if the product is approved for in-floor radiant heat. It is the job site/home owner and installer's responsibility to check with the manufacturer for a current list of approved TuffCore products. Contact your local retailer for any questions about in-floor radiant heat applications.

It is the responsibility of the owner/installer to determine the correct installation method over in-floor radiant heat.

Yes; the product is approved for in-floor radiant heat.

No; the product is not approved for in-floor radiant heat.

tuffCORE
PREMIUM VINYL FLOORING SYSTEM

Color #: 1350 HS-TUF
SKU #: NTCHSCBA-NAT
Species: Acacia (Cork Attached)
Size: 7.5MM X 7" X FL
Type: HS-CORK
Sq Ft Box: 17.35
Texture: Hand Scraped
Warranty: Lifetime / 10 Com

APPROVED INSTALLATION METHODS

Nail: No	Click: Yes
Glue: Yes	Radiant Heat: Yes
Float: Yes	Below Grade: Yes

HAND SCRAPPED

ADDITIONAL PRODUCT INFORMATION

XL WIDE PLANK **LONG** LENGTH **SLANT** **HS** HAND SCRAPPED **TUFFCORE**

MM MARKET & MAIN COLLECTION

END



FREQUENTLY ASKED QUESTIONS

Installation

What type of sub-floor do I have?



Plywood Sub-floor: 5/8" to 1-1/8" thick, plywood is one of the most commonly used sub-floors. Plywood is a multiply construction with 5 or more layers and is typically 4'x8' long sections with edges that are tongue and groove.



Plank Sub-floor: More commonly found in older homes, plank sub-floors are made by laying and fastening 3/4" thick x 3" up to 8" wide planks across the floor joists. Over time, the nails securing the planks in place can become loose, making it important to re-screw them down before installing any new TuffCore flooring product.



OSB Sub-floor (Oriented Strand Board): Created from wood chips that have been glue and pressed together, OSB can generally be treated like plywood. If the glued down method is chosen, be sure to thoroughly read the adhesive instructions and sub-floor requirements. Some adhesives are not compatible with OSB sub-floors.



Particle Board Sub-floor: Underlayment-grade particle board is comprised of tiny wood particles that are glued and pressed together forming a smooth surface. The only installation method that can be used directly over particle board is the floating method as long as there are no current or future moisture concerns from below or above. If moisture comes in contact with the particle board it will swell and void the manufacturer's warranty.



Concrete or Gypcrete Slab Substrates: Concrete slabs are regularly found in basements and the ground floor of many job sites/homes. Gypcrete is commonly seen in upper levels of condos, apartments, and some in-floor radiant heat applications. When installing TuffCore products, an approved moisture retarder is always required directly over concrete or gypcrete.



FREQUENTLY ASKED QUESTIONS

Installation (Continued)

Which installation method is right for me?

There are two distinct ways to install TuffCore floors:



Floated (4mm - 8.5mm TuffCore Click-Lock Systems): This is the most common way a TuffCore floor is installed. When using the click-lock system, glue is not required because the planks are specially designed to be “clicked” together. The flooring stays together based on the shape of the plank’s locking system. The entire floor floats above the substrate. Approved substrates are underlayment-grade particle board, gypcrete, concrete, plywood, OSB, or any hard, well bonded, smooth, and flat surface.



Glue-Down (2mm-3mm Vinyl Planks) & (4mm-8.5mm Vinyl Click-Lock Systems): TuffCore flooring products are approved for glue-down installations. This method can be used to glue the flooring directly to most concrete, gypcrete, plywood, and approved OSB substrates. This is done by using an approved notched trowel and spreading an approved adhesive over the entire substrate. The flooring planks are then firmly set into the adhesive while the adhesive is still active. To avoid installation issues, be sure to use the proper procedures, leveling compounds, moisture retarders, and trowels recommended by the adhesive manufacturer. For approved substrates, thoroughly review the adhesive guidelines.

What is “acclimation”?

Acclimation is a critical process that allows the TuffCore flooring product to equalize to the temperature and become accustomed to its new environment. If LVP flooring products are installed without proper acclimation they may have issues like shrinkage, ledging, or cupping. Temperature levels can vary from room to room making it very important to acclimate the TuffCore flooring only in the rooms it is going to be installed in.

How long does my flooring need to acclimate before I can install it?

It is recommended to have TuffCore flooring acclimate for a minimum of 24 hours. The flooring will come with acclimation instructions that will help guide you through this process.

Are moisture Barriers or retarders required?

The type of moisture barrier or retarder is usually based on the installation method and substrate. Different types of moisture barriers and retarders produce the same end result by doing it in different ways. Thoroughly read the installation guidelines for more information.

- **On Grade Concrete & Gypcrete:** Use an Aqua Bar (B) underlayment (Retarder) for slab substrates that test BELOW 5lbs 24/HR vapor emissions. Use 6 mil poly film (Barrier) for On Grade slab sub-strates that test ABOVE 5lbs vapor emission 24/HR.
- **Below Grade Concrete:** Use 6 mil poly film (Barrier).
- **Wood Sub-Floors:** In most cases Aqua Bar (B) paper will work as a vapor retarder as long as water never comes in contact with the paper and the moisture levels of the On or Above Grade sub-floors never exceed the maximum moisture content levels of 12%.

FREQUENTLY ASKED QUESTIONS

Care and Maintenance

Prevention



The predominant cause of damage to a floor's finish is abrasion from dirt and grit. It is important to use walk off mats at entrances and doorways and non-staining floor protectors under heavy furniture, chairs, and tables.

What cleaning products should I use on my floor?



It is recommend to use Bona Professional Series stone, tile, laminate cleaner on TuffCore flooring. This is specially formulated to work with TuffCore floors and will not damage them. You can find these cleaners online at Bona.com or through your local home and building centers. **Do not use treated dust mops**

How often should I clean my floor?



Clean your TuffCore flooring as often as needed. Abrasive materials such as dirt, sand, and dust can build up over time and damage the floor's finish. Your cleaning schedule may need to be adjusted depending on your lifestyle. Over time floors may begin to lose their brilliance and require an application of floor polish. Frequency and location will depend on the traffic the floor undergoes. A good quality floor polish like "Hilway Direct" can provide up to a year of protection in high traffic areas.

How should I clean my floor?



Dry mop, sweep, or vacuum (with a soft bristle hose attachment). Shake the dry mop or broom out often to free any particles that can abrade the finish. **Never** use a vacuum with a beater brush as they can severely damage the floor's finish. When mopping the floor, thoroughly wring out the mop so it is damp, not wet. It should not leave cleaning solution or water behind. When the mop pad becomes soiled, rinse it out with clean water. **Important: Using an excessively dirty pad can cause streaking and will abrade the floor's finish. Replace the mop pad with a clean one as needed.**

How often should I clean my floor?



Avoid using aerosol air fresheners, scented plug-ins, bug spray, and kitchen cleaners directly over any hard surface flooring. Over time they can build up and leave residues which are difficult to remove. The oils from scented candles, aerosol, and sprays can react with foot traffic, leaving behind footprints and smudges.



FREQUENTLY ASKED QUESTIONS

Care and Maintenance (Continued)

With an overabundance of cleaning products, selecting the right one for your flooring can often be confusing. Never use the following cleaners and cleaning systems on any TuffCore flooring products.

Steam mops:

Never use any type of steam cleaners on LVP vinyl flooring. Steam cleaners can force high levels of moisture deep into the LVP floor. Over time, the steam can saturate the floor causing issues and even mold in extreme cases. This type of damage is not covered under the manufacturer warranty.

Vacuums with beater brushes:

Never use a vacuum or any attachments with a beater brush. The brushes will abrade the finish over time.

Furniture or wood polish:

Never use any oil products or furniture sprays to clean your floor. Oils will not be absorbed by the TuffCore leaving behind a residue. Even a single use can leave the finish looking cloudy.

Wax:

Never use any wax products on LVP vinyl floors that are finished with a urethane, acrylic, or similar finish. The wax will build up and cause the finish to look cloudy.

Ammonia:

Never use any products that contain ammonia. Ammonia is acidic and over time it will slowly etch the vinyl finish leaving microscopic surface scratches that dull the finish.

Abrasives or Alkaline:

Never use floor cleaners that contain abrasives or alkaline. These will ruin the finish of the flooring by slowly abrading the finish.



FREQUENTLY ASKED QUESTIONS

Care and Maintenance (Continued)

Why are temperature levels important?



Thermostat

Temperature levels in your job site/home are affected by seasonal changes. Homes and their contents respond to these changes by expanding and contracting. During warm, humid weather LVP will expand giving the floor a crowned look. During dry, cold weather LVP will shrink causing thin cracks to appear between each plank. This seasonal movement is a normal characteristic of LVP flooring. You can reduce these effects by simply following these guidelines. The best way to maintain steady temperature levels is by having an automatic thermostat system installed on the heating and cooling system in your job site/home. Contact your local heating and air service contractor to discuss your options.

What should I use to protect my TuffCore floor from scratches and dents?



Scratches

- All furniture being placed on the flooring should have protective felt pads secured on the feet. These pads are inexpensive and will help prevent denting and scratches from the furniture.
- Take advantage of natural fiber rugs in high traffic areas such as hallways, entryways, and anywhere water is in use. Shake rugs out regularly to remove any dirt and dust accumulation.
- Never use lined rugs. Only use natural fiber rugs that are approved for vinyl flooring.

- Keep pets' nails trimmed. If you can hear the clicking of nails on the floor as your pet is walking across it, it is time to trim their nails.
- Whenever remodeling or moving large equipment and/or furniture, be sure to always take precautions to protect the floor. It is always recommended to use soft tire dollies and hard protective sheets with a soft padding underneath.







How do I avoid sun spots?

Exposure to UV rays from natural sunlight causes all things to age. LVP flooring is no exception. Continued exposure to UV rays can cause the LVP's finish to fade over time or cause thermal degradation of the vinyl. Following this suggestions will help to reduce these effects on the floor.

- The use of blinds or window tinting in rooms with high amounts of natural sunlight exposure will reduce the effects the sun rays have on the LVP floor.



Self-Rimming Vents/Floor Registers			Specifications			
			Group (1)	Group (2)	Group (3)	Group (4)
SKU#	Profile	Optional Dampers	Birch, Red Oak, White Oak	AM. Cherry, Hickory, Maple	Acacia, African Mah. AM. Walnut, Oiled	Afromosia, B. Jatoba, Ipe, Tigerwood, Cumaru
38 SRV210			2" x 10"		Lead Time 2-3 Weeks	
39 SRV212			2" x 12"			
40 SRV214			2" x 14"			
41 SRV410			4" x 10"			
42 SRV412			4" x 12"			
43 SRV414			4" x 14"			
44 SRV610			6" x 10"			
45 SRV612			6" x 12"			
46 SRV614			6" x 14"			



LVP/WPC Transitions					
SKU#	Profile	Description	Overall Length	Track	Available Thickness
51WQR		TuffCore Quarter Round Quarter rounds are used to finish off exposed edges along cabinetry and as wall base.	46" Lengths (TuffCore Only) & 94" Avail.	No	7.5MM
52WTM		TuffCore T-Molding (Overlap) T-molding transitions between two hard surfaces of similar height (Ex: TuffCore to tile).	46" Lengths (TuffCore Only) & 94" Avail.	Yes	7.5MM
53WRD		TuffCore Reducer (Overlap) Reducers transitions TuffCore to a lower hard surface (Ex: TuffCore to linoleum, tile, or concrete).	46" Lengths (TuffCore Only) & 94" Avail.	Yes	7.5MM
54WSQN		TuffCore Square Nose/ End Cap (Overlap) These transitions TuffCore flooring to carpet or finish exposed edges (Ex: TuffCore flooring against exterior doors).	46" Lengths (TuffCore Only) & 94" Avail.	Yes	7.5MM
55WSTN		TuffCore Flush Stair Nose Stair noses are used on floating floors as a cap on stair edges. Available only for 7.5MM thick floors.	46" Lengths (TuffCore Only) & 94" Avail.	Yes	7.5MM
56WCLIP		WPC Clips Clips For Mounting WPC Transitions. Available only for 7.5MM thick floors.	94"	N/A	7.5MM



LVP/WPC Underlayment Padding





SKU#	Profile	Description	SQ. FT. Roll Size	Vapor Barrier
*60PVC1510		<p>(LVP/WPC Approved) Black 3N1 Premium PVC Underlayment (With 10MIL. Vapor Barrier)</p> <p>Constructed of high-density EVA foam which has excellent sound absorption ratings. This is an excellent choice for all luxury vinyl plank/tile, wood, bamboo, and laminate floating installations.</p>	100	N/A
60 OMNI		<p>(LVP Approved) 3N1 Omni Choice Underlayment (With 6 MIL. Vapor Barrier)</p> <p>Constructed of high-density memory foam, and is incorporated with Antimicrobial protection. Omni Choice has excellent sound absorption ratings.</p> <p>Approved For: Floated LVP/WPC, Laminate, & Eng. Wood.</p>	100	Yes

LVP/WPC Protective Paper

SKU#	Profile	Description	Coverage	Quantity Per Unit
70 ABUP		<p>Aqua Bar Underlayment Membrane (B) Paper</p> <p>Is an extremely effective vapor retarder for use under solid and engineered wood flooring. It is cleaner and easier to handle when compared to roofing felt or ploy-film. Aquabar "B" slows moisture migration down and is a superior vapor retarder. It is not a waterproof membrane.</p>	<p>500 Sq. Ft. Per Roll If Not Overlapped</p> <p>420 Sq. Ft. per Roll If Overlapped 6"</p>	1
89 RAMB		<p>FortiBoard Floor Protection System</p> <p>Designed & engineered with Contractors in mind. This non-corrugated, heavy duty floor protection material has excellent water resistance, is lighter weight than other competitive floor protection boards and is made from 100% recycled materials. Rolls out flat and fast and may contribute up to 2 LEED points toward USGBC Certification.</p>	<p>Package Includes: 1- Roll 38" x100 LIN. FT. Coverage: 317 SQ. FT. per roll</p>	1



Wood & Laminate Customer Care Kits or Pieces Sold Separately

SKU#	Profile	Description	Contents
79 FCS		Complete Wood or Laminate Floor Care System This effective and easy-to-use cleaner features a safe, non-toxic, water-based, Swedish formula specifically designed to clean all types of hardwood floors. The solution is biodegradable and leaves no dulling residue. Safe to use around family and pets.	Package Includes: 1- 4 piece mop handle with 4" x 15" mop head. 1-Microfiber easy glide, machine washable cleaning pad. 1-Non-toxic, no residue, 32 oz. hardwood cleaner 1- Microfiber Pad.
80 TAS	<p>Temporarily Unavailable</p> 	Zenith Tibet Almond Stick This product works miracles on white surface scratches. Simply rub the stick along the scratch and it disappears! Will not damage the finish, making it ideal for all types of wood flooring or furniture. Not recommended for gouges, deep scratches or for use on bleached surfaces.	Package Includes: 1- 2-7/8" x 1" Almond stick packaged in a sealed metal can.
81 FTM		Furniture Touch-up Markers Instantly hide nicks & scratches on wood, wood veneer furniture and wood trims. Simple to apply - just draw over the scratch, scuff, or discolored spot & watch them disappear permanently. The tight-seal cap keeps markers fresh and colors vibrant.	Available In The Following Stain Options: Natural Tones (Light Oak, Natural Oak) Red Tones (Cherry Mahogany, NAT. Cherry) Dark Tones (Dark Mahogany)
82 HPFP		Heavy Duty Polyester Furniture Pads Protect your laminate, vinyl or hardwood flooring with our Heavy Duty Furniture Pads made of 100% polyester felt. Just peel and stick them to lamps, furniture, and small appliances to protect tabletops, shelves, desks, floors and countertops. Easy to trim into the exact shape and size you need.	Package Includes: 20 PC. 3/4" Rounds 48 PC. 1" Rounds 12 PC. 1-1/4" Rounds



TuffCore Installation Guide

Job Site/Home Owner and Installer's Responsibility

TuffCore products are manufactured to the highest quality standards and are technically waterproof. The product itself is NOT affected by NORMAL water usage. Many WPC and LVP products are sold as waterproof. Although the product itself is not affected by water, the application is. For example, standing water from flooding or excessive wet mopping can create mold or through the process of hydraulic pressures pull the floor apart. We promote TuffCore as what we call "Life Proof". It will NOT be affected by NORMAL cleaning, full bathroom, pets, laundry rooms, entryways, or any other NORMAL household or approved commercial applications.

Prop 65 Warning: Drilling, sawing, sanding, or machining wood products generates dust, a substance known to the State of California to cause cancer. Use caution during the removal or sanding of existing flooring or other building materials as these may contain hazardous fumes, chemicals, or generate harmful dust. Check the substrate out for any health hazards. Always wear safety equipment and approved dust mask.

Note: The suggestions in this booklet are only a guide until you receive the actual boxes of flooring. It is highly recommended that the job site/home owner consult a professional for any questions regarding proper installation. This guide is not a substitute for the official installation instructions included in every box of TuffCore flooring and is subject to change without notice. For the most up-to-date installation and maintenance requirements please visit www.NationalFlooringProducts.com.

General Job Site/Home Condition

***** Only install flooring in rooms under adequate lighting conditions. Taking this important step will allow you greater visibility and help you avoid costly installation mistakes. *****

Important: The requirements listed below are considered standard practices for the flooring industry and are required by most building codes. Following these simple guidelines will greatly extend the life of any fixture in the job site/home. Local building codes may vary and will prevail.

- It is the job site/home owner and installer's responsibility to inspect ALL TuffCore flooring prior to installation. Inspect every plank for inconsistency with the finish, texture, milling, color, graining, locking system integrity, dimensions, and the suitability of the TuffCore flooring product to its environment. TuffCore flooring products installed with pre-existing defects or with incorrect acclimation CANNOT be claimed after installation.
- Verify there are enough materials to complete the job with a minimum of 2% extra for future plank replacements.
- Make sure the crawl space has at least 18" clearance and is covered with a minimum of 6 MIL plastic with all seams overlapped 18" and fully sealed with a moisture proof tape. It is recommended to use an approved moisture retarder between the sub-floor and TuffCore flooring (see approved moisture retarders below for details).
- To prevent excessive moisture build up all crawl spaces must have at least 1.5% cross ventilation on the exterior of the home for every 100ft² of the crawl space or an air exchanger will be needed.
- Drainage from roofs, rain gutters, and other sources of moisture around the job site/home must be directed away from the site. Excessive moisture coming from these sources can severely damage any flooring product.
- All exterior doors, windows, drywall, painting, venting, heating, and cooling systems must be properly installed prior to the delivery of the TuffCore flooring to the job site/home. Do not store TuffCore in exterior sheds or garages that are not temperature controlled.
- All heating and cooling systems are required to be installed and functioning for at least 7 days before the installation of the TuffCore flooring begins.
- The job site/home heating and cooling systems must be able to maintain a minimum of 62 degrees Fahrenheit in winter and 85 degrees Fahrenheit in summer before, during, and after the TuffCore flooring is installed, even when the job site/home is not occupied.
- The job site/home must be able to maintain a 30% - 50% relative humidity before, during, and after the installation even when the job site/home is not occupied.
- Small humidifiers may not be capable of properly maintaining the humidity levels in large job sites/homes. Your local heating and cooling air service contractors can provide information for automatic humidifiers/dehumidifiers that work with your heating and cooling systems.
- Prior to the installation the TuffCore flooring must be acclimated for a minimum of 24 hours in the temperature-controlled room it is being installed in.
- TuffCore flooring is not recommended, nor will it carry a manufacturer warranty, if installed in any area of the job site/home that has extreme temperature and moisture fluctuations. For example: saunas, hot tub/pool rooms, green houses, exterior porches, or garages.

Radiant Heat Requirements for TuffCore

- TuffCore flooring can be installed over in-floor radiant heat.
- There are unique installation requirements for TuffCore flooring. It is the responsibility of the job site/home owner and installer, prior to installation, to check with the manufacturer for a current list of approved installation methods and underlayment requirements.
- Operate the in-floor radiant heat systems for at least 14 days prior to the TuffCore flooring being installed. All moisture in the substrate must be evaporated off. This will also ensure all systems are in good running condition.
- **In-Floor Radiant Heat Systems: At no time during the life of the floor should the boiler setting exceed 110 degrees Fahrenheit, or the sub-floor surface temperatures ever exceed 85 degrees Fahrenheit.**
- A humidity control system (humidifier) must be installed and properly functioning one week before, during, and after the installation for the life of the floor. This helps prevent shrinkage caused by moisture/temperature changes in the home from the in-floor radiant heat system.
- The in-floor radiant heat systems **CANNOT** be installed directly below the TuffCore flooring. It must be embedded in the concrete, gypcrete, or installed under the wood sub-floor. This will ensure the radiant heat is evenly distributed across the substrate before the heat comes into contact with the TuffCore flooring.

Approved In-Floor Radiant Heat moisture barriers and retarders

The type of moisture barrier or retarder is usually based on the installation method and substrate. Different types of moisture barriers and retarders produce the same end result by doing it in different ways. Thoroughly read the installation guidelines for more information. Check with local building codes and the manufacturer of the radiant heat systems for recommendations. Note: It is recommended to NOT use any moisture barrier or retarder that is primarily oil or tar based over any type of in-floor radiant heat substrate, unless it is clearly marked suitable for radiant heat. It may give off toxic fumes.

Floated Click-Lock TuffCore With Pad Attached:

- **On or Above Grade Concrete & Gypcrete slabs that test ABOVE 5lbs moisture emissions 24/HR:** Cover the entire slab sub-strate with 6 mil plastic, over lap all seams 6", and fully tape all edges with moisture proof tape.
- **On or Above Grade Concrete & Gypcrete slabs that test UNDER 5lbs moisture emissions 24/HR:** Cover the entire slab sub-strate with Aqua Bar (B) underlayment paper, over lap all seams 6", and tape edges to prevent the underlayment from shifting.
- **Below Grade Concrete slabs:** Cover the entire slab sub-strate with 6 mil plastic, over lap all seams 6", and fully tape all edges with moisture proof tape.
- **Wood Sub-Floors:** In most cases Aqua Bar (B) paper will work as a vapor retarder as long as water never comes in contact with the paper and the moisture levels of the On or Above grade sub-floors never exceed the maximum moisture content levels of 12%. Cover the entire wood sub-floor with Aqua Bar (B) underlayment paper. Overlap all seams 6". Tape edges to prevent the underlayment from shifting during installation.

Special instruction for TuffCore with Non attached pads or glue down applications

- **Floated Click-Lock TuffCore (No Attached Pad):** National Flooring Products recommends our 60PVC1510 underlayment/pad with a built-in 6 MIL vapor barrier. Follow the underlayment/pad manufacturer guidelines for in-floor radiant heat installations.
- **Glue-down TuffCore:** Use an approved, trowelled-on sealant or two-part epoxy coating that is compatible with the adhesive. Some brands of LVP adhesive simplify this by having a moisture retarder built in. For example: Taylor MS-Plus Resilient adhesive has moisture blocker properties when installed correctly and will easily do the job. Be sure to closely follow the sealant and adhesive manufacturer's application procedures. All moisture protection and bond warranties come solely from the adhesive and sealant manufacturers.

Turn In-Floor Radiant Heat On or Off During Installations

- For LVP floors, it is required to turn off the in-floor radiant heat system a minimum of 12 hours before and during the installation. (For glue down applications follow adhesive manufacturer's application procedures after install) Raise the temperature slowly to liveable conditions. It is recommended to not raise the temperature up or down more than 5 degrees in a 24 hour period.

Acclimation Tips for TuffCore

Important: TuffCore boxes can be packaged and manufactured differently. Be sure to read the manufacturer's installation guides inside each box for its particular requirements on acclimation. The information below is only a general guide until you receive the actual boxes of TuffCore flooring.

- Installing TuffCore flooring before it has properly acclimated will greatly increase the chances of expansion and contraction issues and may make it more difficult to install.
- Depending on the environment, TuffCore floors will usually acclimate within a minimum of 24 hours.

Acclimation Tips for TuffCore (continued)

- Always acclimate the TuffCore flooring in the temperature controlled room it will be installed in.
- During acclimation, stack the boxes squarely on top of each other to prevent plank warping. Do not stack boxes higher than 5 ft. Do not lean boxes against walls or other objects as this can warp the flooring and make the flooring difficult to install.
- Keep the stacked boxes of TuffCore flooring 3" apart to allow air circulation around the boxes.
- Never cover TuffCore flooring before, during, or after installation with any type of plastic or tar paper. It must be allowed to breathe. Use only breathable materials like construction paper (FortiBoard) to protect LVP flooring.
- Propane heaters are not an approved source of heat and can give off extreme amounts of moisture and does not provide a reliable and consistent source of heat. The manufacturer warranty will be void if the job site/home heating and cooling system were not fully operational at the time of installation.

Approved Substrates for TuffCore Floors:

Plywood/OSB:

- Acceptable minimum wood sub-floor thickness is determined by the distance between the joists/trusses. Vertical deflection must be under a 1/4" over a 6' span when walked across.
 - ◇ When joists are 16" o/c or less; minimum acceptable thickness is 5/8" CDX plywood or nominal 3/4", OSB 40LB Minimum density, T&G, with a TECO or APA certification stamp.
 - ◇ When joists are 16" o/c up to 19.2" o/c; minimum acceptable thickness is 3/4" plywood or nominal 3/4", OSB 40LB Minimum density, T&G, with a TECO or APA certification stamp.
 - ◇ When joists are 19.2" o/c up to 24" o/c; minimum acceptable thickness is 7/8" plywood or nominal 1", OSB 40LB Minimum density, T&G, with a TECO or APA certification stamp.

Cured Concrete/Gypcrete:

- Cured concrete must be over 3000 PSI. Cured gypcrete must be over 2500 PSI. Both of these substrates must be free of any type of top coating, plaster, paints, or curing compounds.
- All concrete or gypcrete substrates must be cured for a minimum of 60 days before TuffCore is ever installed.
- Concrete or gypcrete substrates must be tested for moisture content when using the glue down installation method.
- Concrete moisture testing should be performed by ASTM F1869 Calcium Chloride Tests with levels not exceeding 5LBS per 1000 ft² for a 24 hour period or the ASTM F2170 In-Situ Relative Humidity Test with readings exceeding 80%.
- Gypcrete moisture testing should be performed using the ASTM F2170-11 In-Situ Relative Humidity Test Standard. For more information visit RHSPEC.com

Particle Board (Underlayment-grade):

Note: Some adhesive companies will warrant an LVP glued down over underlayment-grade particle board. Follow their installation instructions since the warranty would come solely from the adhesive manufacture.

- The only approved install method that can be used directly over underlayment-grade particle board is the floating method as long as there are no current or future moisture concerns from below or above. If moisture comes in contact with the particle board, it may swell. The product warranty does not cover sub-floor upheavals.

General Substrate Conditions for TuffCore

- TuffCore flooring can be installed over wood sub-floors that are ON or ABOVE GRADE and over concrete or gypcrete substrates that are BELOW, ON, or ABOVE GRADE.
- Wood sub-floors when walked on must not exceed 1/4" deflection over a 6' span. If it does, this condition must be corrected before the TuffCore installation begins. The sub-floor will not stiffen up after the flooring is installed.
- Fix all squeaks coming from the wood sub-floor prior to installation. Use wood screws, minimum of 2-1/2" lengths, fastened every 6" through the wood sub-floor into the joist. Squeaks in the sub-floor will not go away after the floor has been installed.
- All substrates must be flat and free of dust, loose particles, paint, drywall compound, and structurally sound.
- If levelling of the substrate is required use only cement-based levelling compounds. Be sure to follow the levelling compounds manufacturer installation guidelines. Sand and/or flatten the substrate to within 1/4" dip or rise over 10' or 3/16" dip or rise over 6' for all floated installations.

Important: Hand held angle grinders with special cupped diamond grinding wheels and vacuum attachments can be rented or purchased from your local rental or home building center. This system works well with any type of substrate. Use precautions when sanding any surface. Check the substrate out for any health hazards. Always wear safety equipment and approved dust mask.

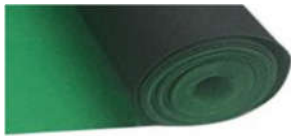
General Installation Specs

- Avoid installing TuffCore plank pieces less than 8" in total length against walls or on ends.
- Room humidity and temperature can vary according to the season, so it is vital that the floor and the home are able to expand and contract. Therefore, make sure you leave minimum expansion gaps of 1/4" on all sides of the floor, around pipes, thresholds, under doors, and around any fixed/stationary objects.
- It will generally be necessary to saw some flooring panels during installation. To obtain a clean cut, the pattern side should face down if using a jigsaw, saber saw, or circular handsaw and face up when you use a handsaw, table saw, or a crosscut saw.
- Before installation begins, use a jamb saw to undercut all door casings and vertical objects coming off the floor. To achieve the correct height, combine a piece of the underlayment/padding and TuffCore flooring together to use as a guide for the saw. Be sure to clean out all debris from under the jambs. This will allow the flooring to slide underneath the object for a clean professional look.
- Never attach the molding to the floor. This allows the floor to expand and contract under the molding. For a perfect finish around pipes, use rosettes or caulking in places where profiles or skirting cannot be placed, fill expansion gaps with matching caulking.

Approved High-Density Underlayment Padding For Click-Lock 4 mm – 8.5 mm TuffCore without attached pad or cork

Note: Never install an additional underlayment/pad beneath TuffCore that already has an attached pad or cork to the planks.

- Clicked together TuffCore does not have to be installed over any type of underlayment pad. If the end user would like additional comfort and improve sound absorption, the following National Flooring Products underlayments are approved:



60PVC1510

(LVP/WPC Approved) Black 3N1 Premium PVC Underlayment (With 10MIL Vapor Barrier) Constructed of high-density EVA foam which has an excellent sound absorption ratings. It is an excellent choice for all luxury vinyl plank/tile, wood, bamboo, and laminate floating installations. With great sound absorption rating and a 10 MIL vapor barrier, this pad can be used for BELOW, ON, or ABOVE grade concrete slabs, wood sub-floors, over a finished basement, or the second floor of the job site/home.



60OMNI (H)

This high-density foam underlayment padding meets the requirements with a minimum density of 25LBS/ft³ and maximum of 1.5mm thick. It can be used under floated 4 mm - 8.5 mm clicked together TuffCore flooring. With great sound absorption rating and a 6 MIL vapor barrier, this pad can be used for BELOW, ON, or ABOVE grade concrete slabs, wood sub-floors, over a finished basement or the second floor of the job site/home.

- Do not use underlayment/pad that are not approved for TuffCore. If the underlayment/pad does not meet the minimum standards and does not support the flooring when walked on, the floor will come apart. The flooring WILL NOT BE COVERED under the manufacturer warranty.

Approved Floating Method (TuffCore 5.5 mm–8.5 mm Välinge 2G system)

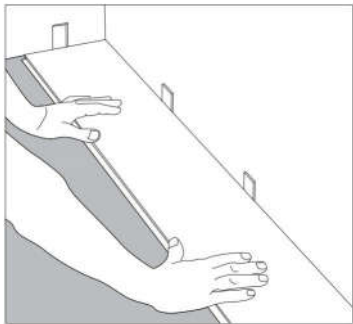
Never install cabinetry, islands, or other permanent fixtures on top of a floated floor. Never use nails to secure anything to the floor. The floor must be allowed to float. As you install the click flooring, ensure all seams are fully engaged before moving on to the next row. Visually, a row can appear to be engaged but is not. To avoid this, use an approved tapping block to tap the planks together. This will securely engage the locking system.

For TuffCore Click-Lock 5.5 mm to 8.5 mm flooring, transition strips/breaks are recommended every 40' (lengthwise), every 40' (widthwise). If transitions/breaks are not desired, it is recommended to use the glue down method for floors exceeding 40' in either direction or job sites with heavy rolling equipment, heavy motorized wheel chairs, or commercial traffic.

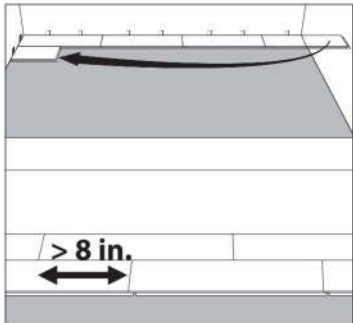
NOTE: You **must** verify which locking system your flooring has before beginning any installation.

The Välinge 2G system is a patented locking profile for installing thicker TuffCore planks without using glue. The panels are clicked together simply and easily thanks to the ingenious shape of the 2G locking profile.

Angle-Tap Installation Method: Position the panel to be installed at an angle of 20° to 30° to the panel already installed. Move the panel gently up and down while exerting forward pressure. The panels will automatically click into place. Tongue-to-groove is the recommended direction for installation.

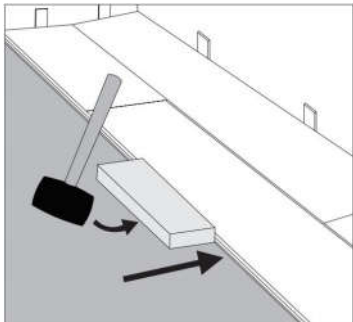


1. Leave at least 1/4" expansion gap around all perimeters and vertical objects coming off the floor.



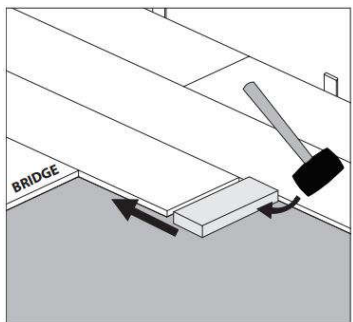
2. Insert spacers at ends and edges where the planks will meet the walls and vertical objects.

4. Use a cut piece to start the second row. **NOTE: End joint spacing must be at least 8" for all adjacent rows. If any piece is less than 8" in total length, discard it and do not use it.**



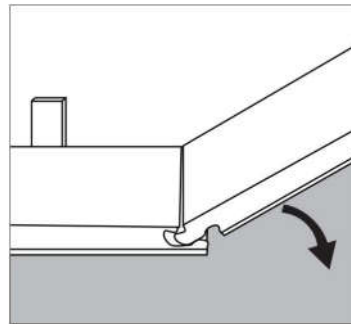
5. Engage the locking system on the long side of the next planks by inserting the tongue at an angle, then rotating downward. Slide this plank toward the end of the previously installed plank until the tongue just touches the groove.

6. Use a scrap piece of flooring as a tapping block and tap on the long edge of the plank to ensure that the locking system fully engages. **NOTE: Any gapping may disrupt the locking system and prevent the floor from performing well.**

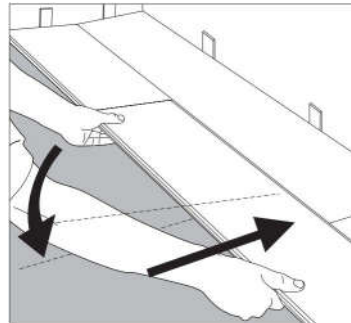


7. Attach a scrap piece of flooring (with an intact factory end joint) to cover the gap where the tongue is touching the groove on the planks installed in **Step 5**. This piece is called a "bridge".

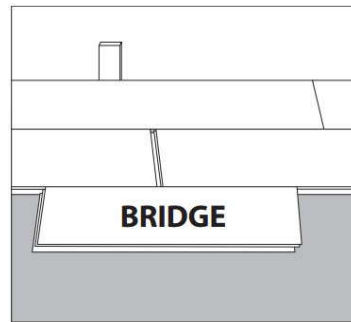
8. Using a scrap piece (with a factory end joint) as a tapping block, tap the end of the plank to engage the locking system covered by the bridge. **Be cautious to not damage the locking profile when tapping.** Continue installing until you reach the end of the row.



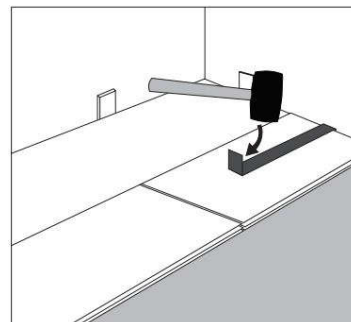
3. Start the first row by inserting the short end of the plank (tongue first) into the groove at an angle, then rotating downward to lock it in place. Continue laying planks to establish the first row.



5. Engage the locking system on the long side of the next planks by inserting the tongue at an angle, then rotating downward. Slide this plank toward the end of the previously installed plank until the tongue just touches the groove.



7. Attach a scrap piece of flooring (with an intact factory end joint) to cover the gap where the tongue is touching the groove on the planks installed in **Step 5**. This piece is called a "bridge".



9. At the end of the row, use a hammer and pull bar to engage the locking system of the final piece in the row. Install a 1/4" spacer at the row end. Repeat this process until the final row of flooring.

10. At the final row, use the hammer and pull bar to lock the long edges of the planks as well as the row ends.

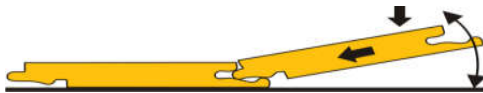
Approved Floating Method (4 mm LVP Uniclic Systems)

Never install cabinetry, islands, or other permanent fixtures on top of a floated floor. Never use nails to secure anything to the floor. The floor must be allowed to float. For LVP flooring, transition strips/breaks are required every 34 feet (lengthwise), every 30 feet (widthwise), and at each doorway separating large rooms. As you install the click flooring, ensure all seams are fully engaged before moving on to the next row. Visually, a row can appear to be engaged but is not. To avoid this, use an approved tapping block to tap the planks together. This will securely engage the locking system.

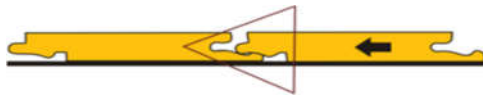


Uniclic® is a revolutionary system for installing TuffCore floors without using glue. The panels can be clicked together simply thanks to the ingenious shape of the tongue and groove. Uniclic® is unique because you can install the planks two different ways and in either direction:

Angle-In installation method: Position the panel to be installed at an angle of 20° to 30° to the panel already installed. Move the panel gently up and down while exerting forward pressure. The panels will automatically click into place. You can either insert the tongue into the groove, or the groove on to the tongue. The tongue into the groove is the easiest method.

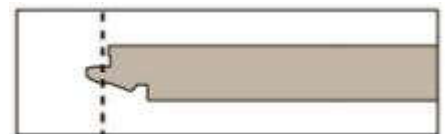
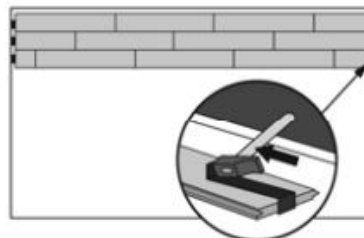
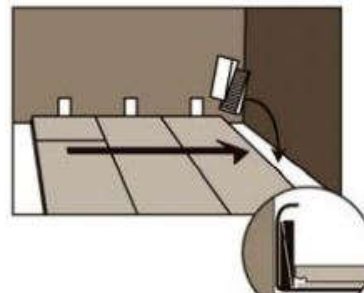
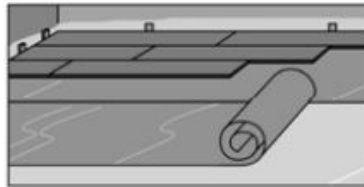


Flat installation method: With Uniclic® you can also tap the panels into each other without lifting. For this method you must use the special Uniclic® tapping block. The planks should not be joined with a single tap and the tapping block should be sitting flat on the floor. To avoid damaging the panels you must tap them together gradually. Use this method only in cases where you are unable to use the Angle-In method. The rest of the floor should be installed using the Angle-In Method.

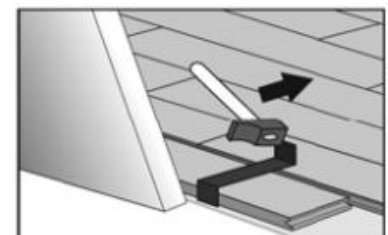


Installing the Uniclic® floor:

1. For wood sub-floors Install an approved moisture retarder, per width and gradually as you progress through the installation. Cut the moisture retarder one inch from the wall. For concrete/gypcrete sub-strates, let the moisture barrier run up the wall a bit before cutting to size.
2. Begin the first row by placing spacers around the perimeter and all vertical objects. The required expansion gap is 1/4".
3. The first piece installed should be a whole plank. Cut the tongue off of both the short and long sides. Cut the plank by scoring through the top layer with a utility knife, then snap the plank across the score.
4. Lay the first row by inserting the tongue on the short end of the board into the groove at an angle and bringing it down to the floor, engaging the Uniclic® lock.
5. Use a cut piece to start the second row. **Note: End joint spacing must be at least 6" for all adjacent rows.**
6. In certain places, it may be difficult to angle-in the plank. These places are usually at row ends and the final row. In these cases, a hammer and pull bar may be helpful in engaging the Uniclic® lock system.
7. Continue installing moving from left to right until you reach the final row. The last row will require you to engage the click system using a pull bar.



Remove tongue or groove lip sticking out past the top wear layer when installing next to all walls and vertical objects.



Approved Tuffcore Glue-Down Method (Only for Approved 5.5 mm-8.5 mm TUFFCORE)

Important: It is not recommended to glue TuffCore flooring down over particle board sub-floors unless the glue manufacture approves it and they warranty the application. Either remove the particle board or install new 1/4" thick plywood over the particle board, then install the new TUFFCORE floor over the plywood. Since the warranty is provided solely by the adhesive manufacturer, be sure to use their recommended trowels and instructions. Coverage of 100% is required. Periodically check to make sure the trowel notches are not worn out.

Glue down procedure

Note: The sub-strate must be dry, flat to within standards, and clean. Thoroughly remove all foreign substances such as grease, dirt, wax, chemicals and any other substance that would interfere with a good adhesion. Test concrete subfloor for alkalinity (pH of floor should be between 5 and 9). Moisture tests should be performed using an anhydrous calcium chloride test according to ASTM F-1869 test method. Moisture emissions should not exceed 5.0 lbs. per 1000 square feet per 24 hours. Take corrective measures if the concrete moisture emissions or surface pH is outside these limits.

Never use any non-approved adhesives. All adhesive and bond warranties come solely from the adhesive manufacturer. Follow all adhesive manufacturer guidelines regarding installation requirements. The TuffCore requires that the adhesive is adhered to 100% of the bottom of the TuffCore flooring. **Approved adhesives for TuffCore with attached Cork:** Good quality multi-purpose latex based or polymer-based adhesives like Taylor MS Plus Resilient, Taylor 2085, or Parabond 5080 Pressure Sensitive Adhesive. **Approved adhesives for TuffCore with NO underlayment:** Parabond 5080 Pressure Sensitive

- Recommended trowel size is a 1/16" x 1/16" square notched. **Note:** Periodically check to make sure the trowel notches are clean and not worn out for proper coverage.
- Leave at least 1/4" expansion gap around every row end and 1/4" expansion gap around the row widths.
- Most adhesives can be cleaned off of the TuffCore floor surface with light WF Taylor Touchdown #9 adhesive remover on a terry cloth rag, followed by a rinse with clean water on a rag. Do not pour cleaning products or adhesive removers directly onto the floor.
- If need be use only green/blue 3M/Scotch Tape model #2080 to hold the TUFFCORE together while the adhesive is drying (minimum of one hour). Remove the tape within 24 hours to avoid damage to the finish. Allow the glue to dry for 24 hours before heavy traffic begins. Do not use duct tape or packing tape as they can damage finishes.
- During the installation, carefully roll the top of the TUFFCORE floor with a soft 100lb. 3-section roller while the adhesive is still active, and again usually within 45-60 minutes. Be sure to always follow the adhesive manufacturer guidelines and installation procedures.
- Allow the first rows to dry for a minimum of one hour before installing additional rows. This will ensure a solid and straight platform to install the next rows against.
- Working off the longest straight wall, snap a chalk line parallel with the wall that is equal to the width of the TUFFCORE flooring plus enough room for the expansion gap (1/4"). Use spacers to maintain the proper expansion gap around all walls and vertical objects coming off the floor.
- If using the glue down method Keep the groove facing out, glue 2-3 rows down while using the snapped line as a guide.
- It is recommended to avoid heavy foot traffic on the floor for a minimum of 24 hours to allow the glue to set properly.
- Once the TUFFCORE floor installation is complete, remove all spacers that were used to maintain the expansion gap.

DO NOT WET-CLEAN FLOOR FOR A MINIMUM OF 72 hours. THIS WILL ALLOW THE ADHESIVE TO CURE PROPERLY.

Installation Tips For How to Improve the Look of Your TuffCore Floor

Note: Install your TuffCore floor under good lighting conditions. Examine each plank carefully. Contact the dealer immediately if the material is not acceptable. Materials installed with visible defects are not covered under warranty. The manufacturer will not assume any responsibility for installed materials.

- When ready to install, open up and work with at least five boxes at a time. Check for any defects and thoroughly mix the planks to avoid groupings of similar colors, sizes, and graining. Be sure to stack the planks on a flat surface to reduce plank warping.
- Plank flooring generally shows fewer seams and imperfections if it is installed lengthwise into the light.
- Avoid "H-Seams" in the TuffCore flooring for cosmetic and structural reasons. "H-Seams" are when two flooring end joints are laid parallel to each other within three rows.
- For both cosmetic and structural reasons stagger end joints more than 8" from each other.
- The room will seem longer whichever direction the TuffCore flooring is laid lengthwise.

How to Protect TuffCore Floors During & After Installation (During Construction)

- After each section of TuffCore flooring has been installed and thoroughly cleaned, cover your floor with a breathable construction paper (FortiBoard). Do not apply the tape directly to the surface of the flooring. It may damage the finish.
- During construction, vacuum the floor as often as it takes to keep the floor free of dirt and construction debris. (**Never** use a beater brush)
- If drywall repairs or any type of sanding is needed, thoroughly cover the floor. These types of dust and grit can damage the TuffCore's finish and is very difficult to remove if it gets into the joints. Do not wet mop these types of dust. Always use a vacuum (without a beater brush) to remove any construction dust if needed.
- Before furniture goes onto the TuffCore floor, apply approved 3/16" thick heavy duty pads under all furniture feet. (Furniture with rollers or casters are **not approved** for use on TuffCore flooring)
- Never roll or drag anything heavy over TuffCore floors. It will make indentations or scratches in the surface. Always use a soft-tire dolly when moving objects.



NATIONAL
FLOORING PRODUCTS

TuffCore Care and Maintenance Guide

Humidity is Important

Important: The suggestions in this booklet are only a guide until the actual flooring boxes arrive. This guide is not a substitute for the official installation instructions included in every box of TuffCore flooring and is subject to change without notice. For the most up-to-date information please go to www.NationalFlooringProducts.com

Maintaining proper humidity levels and air temperature in the job site/home is critical

Failing to maintain the correct air temperatures and humidity levels in the job site/home may damage the floor and will void all manufacturer warranties. These guidelines will help maintain the appearance and longevity of your TuffCore flooring, cabinets, wood furniture, doors, trims, leather furniture, and more. More importantly, correct temperature and moisture levels in the job site/home are essential to the health of your family.

Too much moisture inside your job site/home can promote the growth of mold, mildew, fungi, bacteria, and viruses that can cause or worsen asthma, as well as hay fever and other allergies. Too little moisture in the air can lead to dry skin, sore throats and respiratory problems. **American Academy of Allergy, Asthma and Immunology*

Why proper humidity levels and air temperature are critical for TuffCore flooring

Humidity levels and more importantly, temperature levels in your job site/home are affected by seasonal changes. Your home responds to these changes by expanding and contracting. These conditions may be noticeable. During warm, humid weather most floors expand giving the floor a crowned look. During dry, cold weather the home and its floors will shrink causing cracks to appear between each plank. Although this seasonal movement is a normal characteristic of LVP flooring, these effects can be reduced by simply following these guidelines.



- All heating and cooling systems must be installed and functioning for at least 7 days before installation of the TuffCore flooring begins.
- The job site/home's heating and cooling system must be able to maintain a minimum of 62 degrees Fahrenheit in winter and 85 degrees Fahrenheit in summer before, during, and after the TuffCore flooring is installed even when the job site/home is not occupied.
- Humidity levels in the air of the job site/home must be maintained at 30% – 50% before, during, and after the installation for the life of the floor.
- A humidifier and dehumidifier is strongly recommended for any job site/home especially if it is in an excessively dry or humid area of the country. We recommend contacting your local heating and air contractor for more information on these systems. In most cases, the heating and air contractor can install a humidifier/dehumidifier directly on your heating/cooling systems between \$300 to \$600 (prices may vary by system).
- Acclimate the flooring only in the room where it will be installed.

Acclimation

TEMPERATURE AND RELATIVE HUMIDITY BEFORE, DURING, AND AFTER INSTALLATION MUST BE MAINTAINED BETWEEN 62-85 DEGREES FAHRENHEIT AND 30% - 50% RH. IT IS THE PURCHASER'S RESPONSIBILITY TO ENSURE INSTALLATION CLIMATE MEETS THIS CRITERIA.

For any questions please feel free to email Support@NationalFlooringProducts.com



NATIONAL
FLOORING PRODUCTS

TuffCore Care and Maintenance Guide

Please thoroughly review all care and maintenance guides before the new TuffCore flooring is cleaned. Using the wrong type of floor cleaner can severely damage the floor's finish. These guides can be found in every box of TuffCore flooring, National Flooring Products' customer care kits, and online at www.NationalFlooringProducts.com

Note: The predominant cause of damage to a floor's finish is abrasion from dirt and grit. It is important to use walk off mats at entrances and doorways and non-staining floor protectors under heavy furniture, chairs, and tables.

Caution: Any Vinyl flooring may become slippery when wet. Immediately wipe up wet areas from spills and be careful walking on any newly cleaned floor while it is wet.

General Maintenance:

- Place approved natural fiber floor rugs at every entryway to collect excessive moisture and dirt that could be tracked into the job site/home. **DO NOT USE** rubber backed or non-ventilated rugs. These type of rugs can trap moisture or stain the finish and can severely damage the floor. Use rugs that are made specifically for vinyl floors. Shake them out regularly. Place rugs in any area where water is in use, such as sinks or a pet's water dish.
- Always apply heavy-duty felt furniture pads (at least 3/16") to all furniture feet. No type of caster is generally acceptable for use on vinyl floors and may void your warranty.
- Over time floors may begin to lose their brilliance and require an application of floor polish. Frequency and location will depend on the traffic the floor undergoes. A good quality floor polish like "Hilway Direct" can provide up to a year of protection in high traffic areas. Please visit <http://www.hilway.com> for information.
- Oil or petroleum-based products can stain vinyl surfaces. Do not track asphalt-driveway sealer, motor oil, wood stains, or similar products onto the vinyl floor covering.

Pet Guide:

Protecting the beauty of your TuffCore floor can be easy, even with pets. Follow these simple guidelines to keep your TuffCore flooring in good condition while having indoor pets:

- Clip your pet's nails regularly. If you can hear the nails clicking on the floor, they need to be trimmed.
- Wipe up any pet waste/vomit as quickly as possible. These accidents are harsh and can damage the finish.
- It is recommended to use natural fiber rugs or a riser to keep water bowls off the floor.
- If your pets are hyper and like to run and slide across the floor, it is recommended to place rugs in these areas to protect the floor.

Approved Cleaning Methods:

- Vacuum, dry mop, or sweep your floor at least once a week or more if needed. Do not let sand, dirt, or grit build up. It will act like sandpaper and abrade and dull the finish. Bona Professional Stone, Tile, and Laminate Cleaner applied with the Bona Micro Plus pads with the terry cloth cover is the recommended way to clean your floor. The best method of removing dirt and grit is vacuuming with a soft brush attachment on your vacuum. Do not use vacuums or attachments with beater brushes.
- After all dirt and grit particles have been removed (using a vacuum, dry mop, or broom) lightly spray a mist of the Cleaner over a 4' x 6' area of your TuffCore floor or directly on the cleaning cloth. Thoroughly clean the floor surface and dry if needed. Finish one area before moving onto the next. Repeat the process until the floor is clean. When the Bona cleaning cloth becomes soiled, rinse with water, thoroughly wringing out the cloth. Once the cleaning cloth becomes excessively soiled, launder and reuse. Excessively soiled cleaning cloths will cause streaking and can abrade the floor. **Cleaning TuffCore flooring with any type of wood polishes, Murphy's Oil Soap, Mop & Glo, furniture polishes, acidic cleaners (ammonia/bleach) will damage the finish and will void any manufacturer warranties. Always follow the installation and maintenance instructions included in every box of TuffCore flooring.**



TuffCore™ Flooring Warranty

Who is covered?

- All warranties outlined in this Limited Warranty are given solely to the original retail purchaser (end user) of the product. For the warranty to take effect, the TuffCore flooring must be paid for in full, installed and maintained correctly, and was only used for its intended purpose.
- TuffCore products purchased online from internet retailers are not covered under this warranty, since there is no way to validate the handling, storage, shipping, installation, or sales practices of the source.

What is covered?

- The limited warranties are subject to the TuffCore flooring product applications, limitations, disclaimers, and exclusions described below and are effective for floors purchased after May 1, 2016. All warranties begin from the date of retail purchase.
- Moldings are not covered under this limited warranty once they are installed.

Terms of manufacture Warranty

- Warranty durations and types will vary depending on the TuffCore flooring products purchased. Please see the specific warranty found on every TuffCore box label for warranty duration. All warranty claims must be received in writing. The term of warranty is based on the receipt date of the purchase. All credits or replacement material will be arranged by the manufacture.

TuffCore products with 20 mil wear layer have a lifetime structural limited warranty and a 10 year light commercial limited warranty.

Residential Use (lifetime limited warranty)

- * Year1: Credit of faulty material or replacement material with labor up to maximum labor rate.
- * Years 2-5: Credit of faulty material or replacement material with 55% of labor up to maximum labor rate.
- * Years 6-10: Credit of faulty material or replacement material for affected area with no labor credit.
- * After 10 Years: Replacement material for affected area only with no labor credit.

Commercial Use (10 year limited warranty)

- * Year1: Credit of faulty material or replacement material with labor up to maximum labor rate.
- * Years 2-3: Credit of faulty material or replacement material with 50% of labor up to maximum labor rate.
- * Years 4-5: Credit of faulty material or replacement material with 25% of labor up to maximum labor rate.
- * Years 6-10: Credit of faulty material or replacement material for affected area with no labor credit.

TuffCore products with 12 mil wear layer have a 30 year limited warranty and a 7 year light commercial limited warranty.

Residential Use (30 year limited warranty)

- * Year1: Credit of faulty material or replacement material with labor up to maximum labor rate.
- * Years 2-5: Credit of faulty material or replacement material with 55% of labor up to maximum labor rate.
- * Years 6-8: Credit of faulty material or replacement material for affected area with no labor credit.
- * After 9 Years : Replacement material for affected area only with no labor credit.

Commercial Use (7 year limited warranty)

- * Year1: Credit of faulty material or replacement material with labor up to maximum labor rate.
- * Years 2-3: Credit of faulty material or replacement material with 50% of labor up to maximum labor rate.
- * Years 4-5: Credit of faulty material or replacement material with 25% of labor up to maximum labor rate.
- * Years 5-7: Credit of faulty material or replacement material for affected area with no labor credit.

Structural

- We warrant to the original retail purchaser that the TuffCore flooring in its original manufactured condition will be free from defects in lamination and assembly for the warranty period.

Finish

- We warrant to the original retail purchaser that the wear layer on the surface of the TuffCore flooring product will not wear through or separate from the core under approved residential or commercial use when maintained in accordance with the recommended installation and maintenance guidelines for the length of the warranty (ex. 3 year, 25 year, lifetime). "Wear layer" is defined by the total thickness of the top vinyl protective layer, typically 12mil for residential and 20mil for commercial. "Wear through" is defined as a complete loss of this wear layer so that the printed applique is substantially altered or affected and exceeds 2% of the installed area. Gloss reduction, indentation, scratches, and or dull appearance are not considered a product defect or surface wear. The guidelines provided by National Flooring Products in the care and maintenance guide are not intended to be an exclusive list. Please note: specific types of TuffCore with a high gloss finish will tend to show scratches and dents more easily. These types of wear are considered normal.

Quality Assurance

- The manufacture warrants the covered TuffCore flooring products will meet our quality standards. You or your installer should carefully inspect the products before installation for any milling, dimensional, or visual defects. Since TuffCore is imitating a natural product, there will be natural variations in color, tone, texture, and graining that are not covered by this warranty. TuffCore flooring color variations or darkening are a natural occurrence and may be due to exposure to sunlight or natural aging. TuffCore samples may not always exactly match the TuffCore flooring received. Inherent variations in grain or color are not considered as manufacturing defects. This pre-installation warranty expires upon installation.

What are the consumer's responsibilities under this warranty?

- To be covered under the manufacturer warranty you need to retain your original sales slip and all documents related to the TuffCore flooring purchase. The manufacturer strongly advocates the use of licensed, experienced installers for best results. If using a professional TuffCore flooring licensed installer, you may be asked for the name and license number when submitting a claim. **You must also keep your proof of pre-installation moisture test results as we may request this information from you when submitting a claim under this warranty.**
- When you receive the TuffCore flooring products, you must thoroughly inspect all flooring products in each carton ordered **before** permanent installation. The manufacturer is not responsible for any labor or damages incurred by delivery delays, TuffCore product not matching samples, wrong product installed, dye lot (mismatch), installation, or job site conditions. The installer/owner is the final inspector and assumes the responsibility to determine if the product is correct and acceptable before installation begins.
- To ensure repairs can be made in the future it is required a minimum of 2% of the floor be kept in unopened boxes in a temperature controlled room. This 2% can be used by the manufacture for plank replacement as needed.
- The TuffCore products must have been installed in accordance with all manufacturer installation guidelines.
- The installer/owner of the pre-finished TuffCore flooring has the final inspection responsibilities as to the grade, manufacturing, texture, color, graining, dye lot, and factory finish. They must use reasonable selectivity and hold out or cut off pieces with glaring defects, whatever the cause. A minimum 5% of extra material should have been added for waste factor to the actual footage needed as allowance for cutting, waste, and mismanagement.
- Maintenance must be properly performed as needed in accordance with the manufacturer care and maintenance guidelines.

What is the manufacturer's responsibility under this warranty?

- **PRE-INSTALLATION** - Should the material be doubtful as to grade, manufacturing, texture, color, graining, dye lot, shipping damage, factory finish, those defective materials shall not be more than 5% of total. If the manufacturing defects exceed 5%, the manufacturer will supply additional material for replacement and cover standard shipping fees to the retailer.
- If any of the covered events occur within the warranty period, the manufacturer will furnish comparable flooring (manufactured by the manufacturer and of similar pricing, specifications, and quality) for either the repair of the defective area or the replacement of the floor material, at manufacturer's sole discretion. TuffCore floors that were installed correctly will be eligible for labor cost reimbursement up to \$1.75 per square foot of the installed area. If the TuffCore floors were installed incorrectly by a non-licensed installer, the manufacturer assumes no responsibility for any labor cost associated with such repairs or replacement. In the event that we are unable to correct the problem after a reasonable number of attempts, or if the replacement or repairs fail in the same manner a second time, we will refund the portion of the purchase price for the section of failed flooring.
- These warranties do not include removal or replacement of cabinets, electrical fixtures, plumbing fixtures, hand rails, transitions, moldings, furniture, or any other fixtures of the job site/home. These are the exclusive remedies under this warranty if a defect or other warranted condition occurs. We reserve the right to verify any claims or defect by inspection and have samples removed for technical analysis.

What is not covered under this warranty?

- Damage caused by fire, flooding, and other natural disasters.
- Damage caused by negligence, accidents, misuse, abuse, or man made disasters.
- Damage caused by vacuum cleaner beater brush or hard heads (see care and maintenance guidelines).
- Damage caused by appliances, furniture, and casters (see care and maintenance guidelines).
- Damage caused by cutting from sharp objects, tape, adhesive, or burns.
- Damage caused by the use of **NON-APPROVED** cleaning products or methods such as: wax, wood polish, alkaline products, any abrasives, wet or steam mopping, etc.
- Construction or installation related damage. (EX: chips, dents, scratches)
- Reduction in gloss, scratches, or indentation due to sand, pebbles, other abrasives, pets, insects, construction traffic, or failure to maintain the floor as required (see care and maintenance guidelines).
- Reduction in gloss or any finish distortion from removing any adhesives or chemicals.
- Mold or mildew growth from over cleaning, steam mops, leaking pipes or any other water sources.

What is not covered under this warranty? (Continued)

- Color, shade or texture variations between samples, printed color photography, or replacement flooring and the actual material.
- Product warping, buckling, cupping related to any water related occurrence (Floods or Extreme Wet Mopping).
- Color variations between flooring and/or samples and other flooring or TuffCore products which you wish to match such as: cabinets, stair railings, or trim.
- Fading or color change due to UV rays from natural sunlight (see care and maintenance guidelines).
- Deficiencies related to sub-floor/floor joist assemblies, sub-floor preparation materials, and fasteners including, but not limited to, uneven sub-floor surfaces, floor deflection, or voids in the sub-floor.
- Noises (squeaking, popping, crackling, etc.) associated with sub-floor movement.
- Naturally occurring TuffCore characteristics such as variations in the printed layer/film, graining, color, mineral streaks, and knots.
- Seasonal gapping caused by natural expansion and contraction resulting in separation between boards, or damage caused by low or excessive humidity.
- TuffCore floors installed in rooms with direct sunlight or external heat sources where the surface temperature of the floor exceeds 140 degrees Fahrenheit.
- TuffCore floors installed on wood sub-floors without an approved moisture retarder or over substrates with a moisture content above 12% (wood subflooring) are not covered under the warranty. In addition, prior to installation, the installer should make certain that sub-floors are properly inspected for moisture conditions according to the NWFA guidelines. (www.nwfa.org) All moisture testing must be documented with photos.
- TuffCore floors installed on concrete or gypcrete sub-structures without an approved moisture barrier/retarder or over substrates that test ABOVE 5lbs 24/HR moisture emission are not covered under the warranty. In addition, prior to installation, the installer should make certain that sub-floors are properly inspected for moisture conditions according to the NWFA guidelines. (www.nwfa.org) All moisture testing must be documented with photos.
- The warranty does not apply if the TuffCore products are installed with **NON-APPROVED** TuffCore floor adhesives. **DO NOT** use any adhesives that contain any water. All bond and moisture related warranties comes solely from the manufacturer of the adhesive and moisture retarders. The TuffCore manufacturer is not liable for bonding or moisture related warranted failures.
- The warranty does not apply if the TuffCore products are installed with **NON-APPROVED** TuffCore underlayment or padding. All padding, vapor barriers, and underlayment must be specifically approved for use under TuffCore and have a density rating at/greater than 25LBS/ft³.
- The warranty **DOES NOT** cover TuffCore flooring products installed over in-floor radiant heating systems unless the particular product has been specifically approved and the correct installation method was used for over in-floor radiant heating systems. **The in-floor radiant heating system must meet all requirements specified in the NFP and manufacturer installation guidelines.** Gapping between boards may occur on any TuffCore floor installed over an in-floor radiant heating system and is not considered a defect.
- All TuffCore flooring damage caused by in-floor heating element not embedded in the substrate.
- The warranty does not apply to products designated as "BARGAIN," "CABIN GRADE," "SECONDS," "CLOSE-OUT," "DISCONTINUED," OR "NON-STANDARD." SUCH PRODUCTS ARE SOLD "AS IS."
- Commercial installations, unless otherwise notated pre-installation. Approved commercial installation types are as follows:

Medical Facility: Storage Room, Waiting Room, Patient Room, Examination Room

Retail: Product Display Area, Boutique, Sales Floor, Showroom, Hair Salon

Hotels: Conference/Meeting Rooms, Rooms, Bathrooms

Offices Buildings: Office, Conference/Meeting Room, Showroom, Dining Room, Break Room, Hall Ways

Schools: Training & Meeting Room, Common Area

- Floors damaged or adhesive breakdown caused by sub-floor moisture or water damage, including without limitation, due to broken or leaking water pipes, flooding, **EXTREME** wet mopping spills, steam mopping, damage, or unapproved cleaning agents.
- Installation defects, including but not limited to, installations made: (i) upon improper acclimation; (ii) in violation of applicable state or local housing or building codes, or (iii) by non-licensed installers, (iv) contrary to written instructions furnished with the product.

What is excluded from this warranty?

- NO RETAILER, DISTRIBUTOR, MANUFACTURER, EMPLOYEE, OR SALES AGENT REPRESENTATIVE HAS THE AUTHORITY TO ALTER THE OBLIGATIONS, LIMITATIONS, DISCLAIMER, OR EXCLUSIONS UNDER ANY OF OUR WARRANTIES. WE EXCLUDE AND WILL NOT BE LIABLE FOR OR PAY INCIDENTAL, CONSEQUENTIAL, OR SPECIAL DAMAGES UNDER OUR WARRANTIES. MEANING ANY LOSS, EXPENSE, OR DAMAGE OTHER THAN TO THE FLOORING ITSELF THAT MAY RESULT FROM A DEFECT IN THE FLOORING. OUR LIMITED WARRANTIES CONSTITUTE THE ONLY EXPRESSED WARRANTIES FOR THE PRODUCT PURCHASED.

What is excluded from this warranty? (Continued)

- YOUR EXCLUSIVE REMEDY AND MANUFACTURER'S SOLE LIABILITY OF ANY CLAIM, WHETHER IN TORT, CONTRACT, OR BREACH OF WARRANTY, SHALL BE LIMITED TO THE REPAIR, REPLACEMENT, OR REFUND OF THE APPLICABLE PURCHASE PRICE OF THE DEFECTIVE GOODS AS SPECIFIED HEREIN. IN NO EVENT AND FOR NO CAUSE WHATSOEVER, INCLUDING ANY BREACH OR DEFAULT BY NEGLIGENCE, SHALL MANUFACTURER HAVE ANY OTHER LIABILITY (INCLUDING WITHOUT LIMITATION INCIDENTAL, CONSEQUENTIAL, OR PUNITIVE DAMAGES) OR ANY MONETARY LIABILITY TO YOU IN EXCESS OF THE CONTRACT PRICE OR PRICES OF THE PERTINENT PRODUCTS IN QUESTION.
- FOR CERTAIN PRODUCTS ANY OR ALL DISPUTES ARISING OUT OF MANUFACTURER'S TUFFCORE FLOORING PRODUCTS OR THIS WARRANTY SHALL BE SUBJECT TO MANDATORY AND BINDING ARBITRATION IN LOS ANGELES, CALIFORNIA, PURSUANT TO THE RULES OF AMERICAN ARBITRATION ASSOCIATION. ANY TRIALS BY JURY ARE EXPRESSLY WAIVED.
- THIS WARRANTY DOES NOT APPLY TO DISCONTINUED ITEMS, CLOSE OUT ITEMS, OR ITEMS SOLD "AS IS." ALL SUCH PRODUCTS ARE SOLD "AS IS" AND SHALL NOT HAVE ANY WARRANTY OF ANY KIND, INCLUDING, BUT NOT LIMITED TO, ANY EXPRESS WARRANTIES, IMPLIED WARRANTIES, WARRANTIES OF MERCHANTABILITY (EXPRESS OR IMPLIED), WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE (EXPRESS OR IMPLIED), OR ANY OTHER WARRANTIES REQUIRED BY LAW OR FACT.
- SOME JURISDICTIONS DO NOT ALLOW EXCLUSION OR LIMITATIONS OF INCIDENTAL OR CONSEQUENTIAL DAMAGES OR LIMITATIONS ON HOW LONG IMPLIED WARRANTY LASTS, SO THE ABOVE LIMITATIONS OR EXCLUSIONS MAY NOT APPLY TO YOU.
- THESE WARRANTIES GIVE YOU SPECIFIC LEGAL RIGHTS, AND YOU MAY ALSO HAVE OTHER RIGHTS WHICH VARY FROM JURISDICTION TO JURISDICTION.

What should the consumer do if there is an issue with their TuffCore floor?

In the event of a claim please contact the retailer where the TuffCore flooring products were purchased. The retailer will fill out all claim forms and notify National Flooring Products. Claims may take up to 90 days to process. A National Flooring Products representative will contact the homeowner to schedule any inspections and repair work if the manufacturer deems the claim warranted.

Please keep all your pre-installation and post-installation receipts including but not limited to your sales receipt, pre-installation moisture test, photos, installer's name, phone number, and license number. Information regarding the claimed defect, date, and proof of purchase must be provided.

END



National Flooring Products

WEBSITE DISCLAIMER

General Disclaimer

National Flooring Products INC. has attempted to be the best of its ability to provide accurate information on this website. To our knowledge, the information contained on the website is correct. By exploring and using this website, you agree not to hold National Flooring Products INC. liable for anything that may come out of the information contained in this website. National Flooring Products INC. shall in no way be held liable for any damages resulting from, coming out of, or in relation to the use of the information. Pictures and related documents may contain technical inaccuracies or typographical errors. National Flooring Products INC. reserves the right to make changes, additions, and removal of any documents, information, or graphics in this website at any time without notice. All information provided on this website is copyrighted and may not be reproduced without written consent. © 2012

Product Disclaimer

TuffCore is a natural product with resulting variations in graining, color, tone, hardness, sheen levels, and texture. National Flooring Products does the best it can to provide reliable representation of these features, but cannot be held liable for these variations. National Flooring Products INC. has provided pictures as a courtesy to our customers and due to the nature of photography and digital representations we cannot guarantee that the physical product will look exactly like the pictures contained within this website. It is recommended to obtain an actual sample of the product prior to ordering. It is the customer's responsibility to inspect all flooring prior to installation for any visible natural variations or pre-installation manufacturer defects. Installations of the flooring with any visible defects constitutes acceptance of these defects and cannot be claimed under any warranty after installation. All warranties are provided solely by the manufacturer of the product, not all products are manufactured by National Flooring Products INC. In the event of a claim, National Flooring Product's customer service team will assist the customer, but it is ultimately between the customer and the manufacturer to resolve. All transitions, vents, stair treads, and risers have a one year finish manufacturer warranty from the date of purchase. Any transitions, vents, or special items that are installed or altered in any way are not eligible for return or credit. All sales of special order items are final.

END



National Flooring Products

WEBSITE LAUNCH



NFP | BROWSE BETTER...

Our new website features search filters that make finding the perfect floor quick and easy!

A New Resource Just For You!

National Flooring Products just launched a newly developed website loaded with valuable resources. The new site allows you to browse our large selection of products, scan through our stunning collections, or even download this book! We are dedicated to providing quality products and excellent customer service. This site makes this possible by providing end users with important information about our products. Our website allows access to beautiful room scenes, all from a mobile friendly platform. "Browse... Better!"