Welcome to another new edition of the Mannington Professional Installation Handbook. This Guide has been created for installers and specifiers of Mannington floor covering products. It will prove especially helpful to those who require a basic knowledge of products and how to install those products properly.

Our commitment is to provide comprehensive information to assist you in performing the best installation possible. Only by helping you perform at your best can we obtain optimum results and the longest performance life for our floor covering products.

Mannington strongly recommends following all the directions and advice we have so carefully researched and provided for you in this new handbook. We have based all of our instructions on industry-accepted recommendations. Also, regular field testing of our products and their installation systems produces important real-world experience. These kinds of helpful hints have been included for your help.

Talk To Us
We always enjoy hearing from our installers and specifiers. If you have ideas on how we can make this handbook better for you, contact us. Remember, we are trying to help you provide the best installation possible for your customers. We know how important honest, hard work is in today’s business world. You can contact us by calling our Customer Care Department at 1-800-FLOOR-US (356-6787).

Important Notice to Floor Covering Installers

If it becomes necessary to remove any resilient floor covering materials containing asbestos, it is important to recognize that governmental regulations apply. Please also be aware that governmental regulations involving the removal of existing asbestos-containing materials vary from state to state.

Always exercise safeguards to protect yourself and others on the job site.

Mannington recommends that whenever possible, new wood panel underlayment be installed over existing resilient floor covering. Mannington Embossing Leveler is an alternative. Removal of existing floor covering should only be done as a last resort.

**DANGER: Do not sand, dry sweep, dry scrape drill, saw, beadblast, or mechanically chip or pulverize existing resilient flooring, backing, lining felt or asphaltic “cutback” adhesives. These products may contain either asbestos fibers or crystalline silica. Avoid creating dust. Inhalation of such dust containing respirable fibers or crystalline silica may cause cancer and respiratory tract diseases. Smoking by individuals exposed to asbestos fibers greatly increases the risk of serious bodily harm. Unless positively certain that the product is a nonasbestos-containing material, you must presume it contains asbestos. Regulations may require that the material be tested to determine asbestos content.**

For specific instructions on how to remove existing resilient floor covering, consult this handbook, or refer to the Resilient Floor Covering Institute's brochure, *Recommended Work Practices for Removal of Resilient Floor Coverings*. 
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How to use this Guide

We have included many handy features in the Guide to help you find the information you need more quickly and easily. To begin, you will notice a block of grey tabs along the side of each page indicating the name of the chapter. This will be very helpful when you wish to quickly thumb through the Guide to find a particular section.

Throughout the Guide you will also notice three icons. Each denotes the type of message that follows it.

- **NOTE**: A helpful hint or words of wisdom from Mannington to achieve optimum results.
- **CAUTION**: A cautionary direction that should be followed before proceeding with the application or job at hand.
- **DANGER**: A warning of possible danger or bodily harm.

All the information contained in this handbook pertains to Mannington floor covering products. It is based on industry-accepted recommendations established by various trade organizations and on thorough field testing of various products and their installation systems. This information is also based on the most up-to-date technical information available. We are constantly striving to improve, standardize, and simplify all aspects of flooring installation as new products and procedures are developed. As the professional installer or specifier, it is your responsibility to remain current regarding recommendation for suitability of intended use of our floor covering products and their required installation systems. One last advisory note: Always use Mannington recommended adhesives, seam sealers and floor patching products.

As you might understand, it is not possible to cover all situations or conditions relevant to the installation of flooring. Final decisions and responsibility for each specific installation rest with the floor covering contractor. If you encounter any unusual situations or conditions, stop the installation immediately and contact your local Mannington Distributor, Mannington Regional Installation Specialist, or call Mannington Customer Care at 1-800-FLOOR-US.
Introduction

No floor covering material is functional until it is installed into a location. The skill with which this material is fit into the location and the overall condition of the location greatly influences the appearance and the performance of the floor-covering material. Additionally, the type of floor-covering material selected must be appropriate for the intended use. Therefore, it is absolutely critical that sufficient consideration is given to these factors. This is the intent of this *Professional Installation Handbook*. Although this handbook cannot possibly cover every possible situation nor answer every specific floor covering question, it can provide general guidelines and references to enable installers, sales representatives and product specifiers to make solid decisions regarding the floor covering process.

Mannington Mills, Inc. is a manufacturing company that offers a full array of flooring products that provide alternatives and solutions for both residential and commercial flooring customers. The utmost care and sophisticated process control systems are incorporated into our manufacturing activities. In fact, both the commercial Inlaid and VCT plants in Salem, NJ are ISO 9001 certified, and our laminate plant in High point, NC is also ISO 9001 certified. This ISO certification carries a requirement that the manufacturing processes from raw materials through finished inventories be routinely audited as a provision for maintaining this ISO certification. In addition, both our commercial and residential operations in Salem, NJ and our Carpet plant in Calhoun, GA are ISO 14001 certified. These certifications ensure our Environmental Management Systems are part of everyday business from design through manufacturing of our products. We are constantly exploring ways to improve our products and manufacturing technologies to reduce our environmental footprint, increase resource efficiency, cut waste, and improve the use of recycled materials.

This commitment to quality and the environment in manufacturing should be evident in the floor covering products we supply.

We expect these flooring products to be installed with the same commitment to quality. The professional installer should ultimately be the last inspector of the quality of any finished flooring products and should never install a product with a visible defect.

Additionally, professional flooring installers should abide by the following guidelines:

- Conduct their business as professionals and secure all required licenses, permits, insurances and applicable tax identification numbers.
- Present themselves as professionals, in both appearance and deed, to all business associates.
- Follow all Mannington- and industry-established recommendations regarding installation requirements and work practices.
- Install products and perform installation techniques with which they are knowledgeable, trained and truly competent.
Basic Guidelines

Regardless of the type of hard-surface flooring product being installed, the following basic guidelines should be considered to insure a successful installation. In the event that there is a flooring complaint, more often than not, one or more of these six essential guidelines was ignored or not properly completed.

1. Proper storage, handling and transporting of materials
   - Interior storage location – protected from the weather
   - Do not overstack – protect from forklift traffic
   - Fully support product during transportation

2. Job site conditions
   - Interior locations only (Exception – thru body Porcelain)
   - Permanent HVAC, operational and regulated
   - Dry, secure; all windows and doors installed and operable

3. Subfloor selection and preparation
   - Clean, dry and structurally sound
   - Concrete subfloors tested for moisture (MVT)
   - Wood subfloors covered with appropriate underlayment

4. Product cutting and fitting
   - Material layout is aligned in correct position and balanced
   - Appropriate tools and equipment are available and maintained
   - Craftsmanship is exhibited and evident in fit and function

5. Securing the flooring
   - Correct adhesives are selected and applied in correct amounts
   - Fasteners are of sufficient length and specifically designed for this purpose
   - Proper moldings and transitions are used (even in “floating” installations)

6. Seam alignment and treatment
   - By definition – a seam is a line of junction
   - All flooring products have the probability of seams
     - Tile products – tight, square and true
     - Wood and Laminate – tight, straight and properly positioned
     - Porcelain – fully grouted and sealed
     - Resilient – Strategically placed and properly sealed
   - Minimize complexity of design and layout
These guidelines are relevant for all types of floor coverings. Although there may be some specific requirements detailed for specific product categories, the information provided in this section should be considered before beginning any flooring installation.

**Storage**

All floor covering products require care during storage and handling. It is important to store flooring products in a dry, temperature-controlled interior area. The temperature range should be between 65º F and 100º F, and the relative humidity should be controlled and maintained between 30% to 70%. If it is not possible to provide these storage conditions, you must make provision to have the material conditioned for at least 48 hours before beginning the installation.

Roll sheet goods must be stored tightly rolled, face-out on a sturdy cardboard core. Resilient products 12’ wide must be stored horizontally and fully supported across their entire width. Six-foot wide rolls may be stored standing on edge in a protected area. It is important to comply with these storage recommendations to prevent compression or distortion of the rolls.

Flooring materials that are shipped in cartons must also be stored properly. These cartons must be kept squarely positioned on the pallet to prevent distortion of the contents and to be fully supported. Stored cartons are to be protected from forklift and other traffic that can damage carton corners. Never double-stack pallets of flooring products. Check specific product instructions to determine maximum carton stacking on pallets.

**Handling**

Flooring products can be heavy and bulky. Always use proper material-handling equipment when moving these products. Always use proper lifting techniques and never lift more than you can safely handle. Fully support products during transportation. Distribute the load as evenly as possible in the truck.

Flooring products can be damaged by rough handling before installation. Exercise care when handling and transporting these products.

**Pre-Installation Checklist**

Before starting the job, always check the flooring materials to ensure they are the correct pattern, style and color. Also make certain that the correct amount of product is available to complete the job.

Remember to thoroughly inspect all materials for visible defects. **Mannington Mills, Inc will not pay labor charges on claims filed for materials installed with obvious visible defects.** If you discover visible defects, do not proceed with the installation; contact your material provider for assistance.

Be certain to thoroughly understand the requirements of the installation with regard to seam placement, product layout, plank direction, etc. before starting the job.

Be certain to have all necessary and correct adhesives, seam treatments, moldings and trims available on the before beginning the job.

Be certain to have a thorough understanding of the scope of the project and the expectations of time of completion before starting the job.
Job Site Conditions

The environment and condition play a very important role in assuring a successful flooring product installation. If the job site is not climate-controlled or structurally sound, the chances for a successful flooring installation are dramatically reduced. All Mannington products are designed to be installed in climate controlled interior locations.

Temperature and Humidity Requirements

Do not install floor covering products until the work area can be climate controlled. The recommended temperature range for starting the installation is no cooler than 65º F and no warmer than 100º F. This acceptable climatic condition must be maintained for at least 48 hours before, during and after the installation. This requirement can seldom be fulfilled with temporary space heaters or air conditioners. A permanent, operational heating or cooling system should be operational before proceeding with the installation of the flooring products.

Once the floor covering is installed, the temperature of the location should not be allowed to fall below 55º F or exceed 100º F for the life of the floor covering. Failing to maintain a climate-controlled interior environment will adversely affect the performance of the flooring products and/or the adhesives.

Structural Requirements

The structural integrity of the job site is a critical component to the performance of the floor covering. The type and method of construction, the grade level, the subflooring system, and composition all impact the installation of flooring products. Many times local building codes establish only minimum requirements and these construction practices may not result in sufficient rigidity, flatness or smoothness.

Structural subflooring systems are constructed of either concrete (or cement-like materials) or wood. The description of each of these subfloor constructions that are referred to in this handbook are provided to give professional flooring installers enough information to make intelligent decisions regarding the suitability of the subfloor systems they may encounter. For comprehensive information, contact The American Concrete Institute or The American Plywood Association about their respective products.

Subfloor Recommendations and Preparation

Concrete Subfloors

New and existing concrete subfloors should meet the requirements prescribed in the latest edition of ASTM F 710, “Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring.” Although this practice specifically addresses preparing the concrete substrate to receive resilient flooring, the requirements are appropriate for all Mannington floors.

Concrete subfloors must be permanently dry, clean, smooth, flat and structurally sound. Concrete subfloors on or below grade must have an acceptable vapor retarding membrane to isolate the concrete from the soil. Newly poured concrete, regardless of grade level, must be given ample time to cure and fully dry. Drying times for concrete slabs vary greatly depending on mix, atmospheric conditions, construction practices and location of slab.

Concrete subfloors must have a minimum compressive strength of 3000 PSI and a dry density of at least 100 pounds per cubic foot. The concrete surface must be free of surface defects or surface contaminants. Surface defects include cracks, holes, flaking or dusting of the concrete surface. Surface contaminants should be considered as any substance that will interfere with the bond of the floor covering to the subfloor, such as curing or parting compounds, paints, oils, solvents or existing adhesives.

Surface defects must be corrected before installing any finished flooring product. Low spots, cracks, holes and other irregularities can be patched smooth using a latex Portland cement compound designed for this purpose.
Mannington MVP-2023 patching compound is ideal for this type of surface preparation. If the surface of the concrete is found to be flaking or dusting, these conditions must be mechanically removed and the concrete then re-surfaced with an appropriate compound. All surface contaminants that may interfere with bond must also be mechanically removed and then be re-surfaced before installing any flooring product which requires a direct glue-down procedure. Mannington does not recommend using any chemicals or solvents to remove concrete surface contaminants.

Many concrete slabs will have joints designed in to them. Expansion and isolation joints are designed to allow the concrete slab to expand and contract. These expansion joints must never be filled with patching or leveling compound nor covered with hard surface flooring products. Expansion joint covers are available and designed to be used with specific types of floor covering products. Other types of concrete joints such as construction, control and/or saw cuts can be smoothed and leveled using an appropriate Portland cement patching compound like Mannington MVP-2023.

### Moisture Testing

Regardless of the time in place or the grade level, all concrete subfloors must be tested for moisture and alkalinity before covering with flooring products. Although nearly each product type in each product category has a different tolerance for permissible moisture vapor emissions, it is important to have a quantitative reading to be able to resolve any potential problems before, rather than after the fact. The most common quantitative moisture test is the Anhydrous Calcium Chloride test. This test must be performed in accordance with ASTM F 1869-04, “Standard Test Method for Measuring Moisture Vapor Emissions Rate of Concrete Subfloor Using Anhydrous Calcium Chloride.” According to the ASTM, the moisture emissions from the concrete floor shall not exceed 3 lbs/1000 sq. ft./24 hours. At least one test kit should be used in areas up to 1000 sq. ft. Additional kits should be used in larger areas. Certain Mannington Flooring products can tolerate up to 8 lbs of moisture vapor emission. The acceptable moisture tolerance rates for Mannington flooring products are:

<table>
<thead>
<tr>
<th>Flooring Product</th>
<th>RH%</th>
<th>MVER</th>
<th>RH% / M-Guard Adhesive</th>
<th>MVER/M-Guard Adhesive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Residential Cushioned Vinyl</td>
<td>≤75%</td>
<td>3 lbs.</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>Adura Luxury Vinyl Homestead</td>
<td>≤75%</td>
<td>5 lbs.</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>Laminate Floors w AquaBarrier II</td>
<td>≤75%</td>
<td>5 lbs.</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>Hardwood –fully adhered with UltraSpread – floated over AquaBarrier II</td>
<td>≤75%</td>
<td>5 lbs.</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>Fine Fields; Magna</td>
<td>≤75%</td>
<td>5 lbs.</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>CustomSpec; Insight</td>
<td>≤75%</td>
<td>3 lbs.</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>VCT &amp; PT products. Essentials: Designer Essentials; Inspirations; Brushworks; Solid Point; Color Point Safewalks</td>
<td>≤75%</td>
<td>5 lbs.</td>
<td>≤ 85 %</td>
<td>≤ 8 lbs. M-Guard V-11</td>
</tr>
<tr>
<td>BioSpec; Lifelines: Relay RE; Assurance II; Assurance Squared; Natures Paths Realities; Primus</td>
<td>≤75%</td>
<td>3 lbs.</td>
<td>≤ 80 %</td>
<td>≤ 8 lbs. M-Guard V-68</td>
</tr>
</tbody>
</table>

Calcium Chloride Test Kit
Another quantitative moisture test method is the In Situ Relative Humidity test. This test measures the relative humidity level within the concrete slab. This test must be performed in accordance with ASTM F 2170. The relative humidity of the slab must not exceed 75%. If the relative humidity in the slab exceeds 75%, do not install any Mannington Floor Coverings. (Unless an approved moisture resistant adhesive is used.)

Moisture Meters

There are many manufacturers of quality moisture reading devises. However, there is no standard correlation between the meter reading and the calcium chloride or the relative humidity test methods. Each meter is calibrated to its own scale and must be interpreted as directed by the manufacturer.

Concrete Curing, Hardening, Sealing and Parting Compounds

Often, various compounds will be added in the concrete mix or applied to the surface of the freshly placed concrete to assist in the curing process. These compounds may interfere with the bond of any fully-adhered flooring product. If any of these surface compounds is suspected to remain on the surface, they must be removed by grinding, scarifying or bead blasting.

Alkali Testing

A pH test should be conducted on all concrete floors, regardless of the age or the grade level. The test is performed using a wide range pH paper and distilled water. Puddle the water on the surface of the concrete for a minimum of 60 seconds and then dip the pH paper into the water. The acceptable pH range is between 5 to 10 on the pH scale. If the pH is greater than 10, it must be reduced before proceeding with any fully-adhered flooring product installation.

Bond Testing

If the surface of the concrete shows any evidence of contamination, or if the history of the concrete is unknown, a bond test should be performed before beginning the flooring installation. To conduct a bond test select approximately a 3' X 3' piece of the exact flooring product specified for the job and adhere it to the subfloor with the exact adhesive that will be used during installation. On large installations, conduct several bond tests. After 72 hours attempt to remove the test sample. If sufficient force must be used to remove the sample, you may consider the concrete suitable for installation.

Residual Adhesive

Completely remove all residual adhesives on a previously covered concrete underfloors or cover them with a cementitious underlayment intended for this purpose. Never use solvent-based adhesive removers. Complete removal of all residual solvent is very difficult. Any remaining on the surface of the concrete will prohibit satisfactory bond of the new adhesives. Complete removal of asphalt cutback or asphalt emulsion adhesive from a concrete underfloor is nearly impossible. Wet-scrape these adhesives from the concrete. Then cover the concrete with a minimum of 1/8” of a trowelable or self-leveling cementitious underlayment intended for this purpose. Mannington MVP 2023 may be used to cover residual adhesive stainants on concrete underfloors.

DANGER: Older asphalt adhesives may contain asbestos fibers. Do not use power devices that create asbestos dust in removing these adhesives. The inhalation of asbestos dust may cause bodily harm. Smoking by individuals exposed to asbestos fibers greatly increases this risk.
General Installation Guidelines

Wood Underfloors

All wood subfloor systems should be suspended at least 18” above the ground with adequate cross-ventilation. Cover the ground surface of crawl spaces with a suitable vapor barrier. All wood subfloors must be structurally sound, dry, and in compliance with local building codes. Wood subfloors should be of double-layer construction at least 1” in total thickness, solidly fastened to appropriately spaced floor joists.

CAUTION: Wood subfloors directly fastened to concrete or built using sleeper construction, either with on- or below-grade concrete subfloors, are not satisfactory for the installation of fully-adhered floor covering products. This non-ventilated construction practice will result in deterioration of the wood subfloor system.

Double Plywood Subfloors

Double-layered plywood subfloors should have a first layer at least 5/8” thick and a second layer at least 3/8” thick, with staggered panels and overlapping joints. Install the long dimension of these panels perpendicular to the floor joists. Panels that carry the American Plywood Association (APA) performance rating of Sturd-I-Floor were designed as combination subfloor/underlayment panels. Field experience, however, has determined these panels are rarely satisfactory for direct installation of Fully Adhered resilient products. In most instances, construction traffic and weather exposure damage the Sturd-I-Floor surface before the finished flooring can be installed. If you encounter this situation, Mannington recommends installing 1/4” underlayment panels.

UNDERLAYMENT CHART

<table>
<thead>
<tr>
<th>Type</th>
<th>Manufacturer</th>
<th>Thickness</th>
<th>Dimensions</th>
<th>Warranty</th>
<th>General Comments</th>
<th>Availability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accuply</td>
<td>Capitol U.S.A.</td>
<td>6 mm</td>
<td>4’ x 5’</td>
<td>Limited lifetime warranty</td>
<td>Solid core 5-ply birch. Additional Info: (888) 322-5753</td>
<td>Canada, USA</td>
</tr>
<tr>
<td>APA underlayment, APA CC</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>plugged, APA underlayment CC</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>plugged, APA AC, BC, AD &amp; BD,</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>APA underlayment AC or BC</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Varies</td>
<td></td>
<td>1/4&quot;</td>
<td>4’ x 8’</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>11/32&quot;</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>15/32&quot;</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>APA-rated Sturd-I-Floor</td>
<td></td>
<td>19/32&quot;, 5/8</td>
<td>4’ x 8’</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>with sanded face</td>
<td></td>
<td>23/32&quot;</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td></td>
<td>3/4&quot;, 1&quot;</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>11/8&quot;</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Halex HU 845</td>
<td>Halex Corp.</td>
<td>6 mm</td>
<td>4’ x 5’</td>
<td>10-year limited warranty</td>
<td>Solid core arctic birch. Additional Info: (800) 576-1636</td>
<td>Canada, USA</td>
</tr>
<tr>
<td>Lauan-Type I Ext.</td>
<td></td>
<td>Min. 5.2 mm</td>
<td>4’ x 8’</td>
<td>Check with supplier</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(facegrades-OVL, CC, BB)</td>
<td>Varies</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td>(usually imported)</td>
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</tbody>
</table>

General Installation Guidelines | 10
### UNDERLayment Chart

<table>
<thead>
<tr>
<th>Type</th>
<th>Manufacturer</th>
<th>Thickness</th>
<th>Dimensions</th>
<th>Warranty</th>
<th>General Comments</th>
<th>Availability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Multi-ply Underlayment</td>
<td>Halex Corp.</td>
<td>1/4&quot;</td>
<td>4' x 4'</td>
<td>10-year limited warranty</td>
<td>Premium quality hardwood veneers. Additional Info: (800) 576-1636</td>
<td>Canada USA</td>
</tr>
<tr>
<td>National Particleboard</td>
<td>Varies</td>
<td>1/4&quot; to 3/4&quot; ≤</td>
<td>4' x 8'</td>
<td>No warranty - M-1 grade meets ANSI standard A208.1 underlayment ref. ICBO, SBCCI, BOCA</td>
<td>Particles of wood bonded w/synthetic resins under heat &amp; pressure. Additional Info: (301) 670-0604</td>
<td>Canada USA</td>
</tr>
<tr>
<td>Grade 1-M-1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Mexico</td>
</tr>
<tr>
<td>Proboard Plus</td>
<td>Proboard Ltd.</td>
<td>6.0 mm</td>
<td>4' x 8'</td>
<td>1-year limited warranty</td>
<td>Particles of wood bonded with synthetic resins under heat &amp; pressure. Additional Info: (807) 597-6921</td>
<td>Canada</td>
</tr>
<tr>
<td>Riverside ULAY</td>
<td>Riverside Forest Products Ltd.</td>
<td>6.0 mm</td>
<td>4' x 4'</td>
<td>7-year limited warranty</td>
<td>Specially mfd. plywood panel provides superior underlayment performance for resilient floor covering (250) 545-4411</td>
<td>Canada USA</td>
</tr>
<tr>
<td>Southern Gold A-C Pine</td>
<td>Georgia-Pacific</td>
<td>1/4&quot;</td>
<td>4’ x 8’</td>
<td>No warranty - panels manufactured to industry underlayment standards PS1</td>
<td>Pine plywood with double sanded face. Additional Info: (800) 284-5347</td>
<td>Canada USA</td>
</tr>
<tr>
<td>Plywood</td>
<td></td>
<td>11/32&quot;</td>
<td>4’ x 8’</td>
<td></td>
<td></td>
<td>Mexico</td>
</tr>
<tr>
<td>15/32”</td>
<td></td>
<td>19/32”</td>
<td>4’ x 8’</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>23/32”</td>
<td></td>
<td></td>
<td>4’ x 8’</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Southern Gold Premium</td>
<td>Georgia-Pacific</td>
<td>11/32&quot;</td>
<td>4’ x 8’</td>
<td>No warranty - panels manufactured to industry underlayment standards PS1</td>
<td>Construction &amp; industrial plywood with fully sanded face. Additional Info: (800) 284-5347</td>
<td>Canada USA</td>
</tr>
<tr>
<td>Sturd-I-Floor</td>
<td></td>
<td>15/32&quot;</td>
<td>4’ x 8’</td>
<td></td>
<td></td>
<td>Mexico</td>
</tr>
<tr>
<td>19/32”</td>
<td></td>
<td>23/32”</td>
<td>4’ x 8’</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SurePly Premium Underlayment</td>
<td>Patriot Timber Products</td>
<td>1/4&quot;</td>
<td>4’ x 4’</td>
<td>Limited lifetime warranty</td>
<td>Solid core 5 ply Birch construction 1-800-SUREPLY</td>
<td>Canada USA</td>
</tr>
<tr>
<td>International</td>
<td></td>
<td></td>
<td>4’ x 8’</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TECPLY Brand Plywood</td>
<td>Plywood &amp; Door Manufacturing</td>
<td>5.2 mm</td>
<td>4’ x 8’</td>
<td>10-year limited warranty</td>
<td>5-ply arctic white birch with exterior glue. Additional Info: (908) 687-7890</td>
<td>Canada USA</td>
</tr>
<tr>
<td>Corp.</td>
<td></td>
<td></td>
<td>4’ x 4’</td>
<td></td>
<td></td>
<td>Mexico</td>
</tr>
<tr>
<td>UltraPly</td>
<td>Moreland Co.</td>
<td>5.5 mm</td>
<td>4’ x 8’</td>
<td>10-year limited warranty</td>
<td>Hardwood construction with solid core and exterior glue. Additional Info: (800) 397-7769</td>
<td>USA</td>
</tr>
</tbody>
</table>

**Note:** This information is provided for reference only. It must not be interpreted as an endorsement or warranty for any listed panel.
Existing Floor Coverings
In some cases, you may install Mannington products over a single layer of existing floor coverings. Installing Mannington Commercial Resilient products over existing resilient can compromise their performance properties. The performance of the new flooring, however, is directly dependent on the condition and continued bond of the existing floor covering.

In any case, the existing resilient flooring should meet the following conditions:

- Be fully adhered (full-spread) and well bonded to a suitable substrate
- Consist of a single layer only
- Be free of all evidence of alkaline salts, hydrostatic pressure, or moisture from the substrate
- Not be a foam-backed or thickly cushioned product
- Not be a perimeter-fastened or loose-laid product
- Not be asphalt tile, self-stick tile, rubber tile, or surface containing residual asphalt-based adhesives

It is the floor covering retailers or installer’s responsibility to determine if the existing floor covering is suitable as an underfloor for the installation of any Mannington flooring product. If there is any doubt about the suitability of the existing floor, remove it or cover it with an appropriate underlayment.

Removal of Existing Floor Coverings

DANGER: Do not sand, dry-sweep, dry-scrape, drill, saw, beadblast, or mechanically chip or pulverize existing resilient flooring, backing, lining felt, or asphaltic “cutback” adhesives. These products may contain either asbestos fibers or crystalline silica. Avoid creating dust. Inhalation of such dust containing respirable fibers or crystalline silica may cause cancer and respiratory tract diseases. Smoking by individuals exposed to asbestos fibers greatly increases the risk of serious bodily harm. Unless positively certain that the product is a nonasbestos-containing material, you must assume it contains asbestos. Regulations may require that the material be tested to determine asbestos content.

Molds and Moisture
If there are visible indications of mold and mildew, the source of the problem must be located and corrected. This includes making any structural repairs that may be necessary. The resilient flooring must not be installed until both problems have been addressed.

For additional information, we suggest you refer to the U.S. EPA website: www.epa.gov/iaq listed under index section titled Molds & Moisture, “A Brief Guide to Mold, Moisture, and Your Home.”

Other Subfloors
Metal Subfloors
You may encounter metal subfloors made of steel, stainless steel, lead, or aluminum. These types of subfloors are typically found in specialized commercial applications. You must thoroughly clean them of all surface contaminants before installing new floor covering. While these underfloors are usually compatible with Mannington flooring products, our recommendation is to always conduct a bond test with the appropriate adhesive and the specified floor covering.
Poured Floors

When working with a poured floor (polyurethane or epoxy-based) make sure it is fully cured and securely bonded to a concrete substrate. Be careful to remove all waxes and finishes and ensure that the surface is completely smooth. Always conduct a bond test using the appropriate adhesive and the specified floor covering before starting the installation.

Terrazzo is a poured cementitious floor with a hard sealer on the surface. Be sure the floor is smooth and free of waxes and dressings. A terrazzo floor can be smoothed out with a terrazzo grinder.

There are several brands of poured polyurethane floor covering products. Mannington Flooring products may be installed directly over these surfaces as long as they are fully and firmly adhered to the substrate. Be sure that all waxes and dressings are stripped off. Sand the surface smooth.

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NOTE: The responsibility for warranties and/or performance of the concrete or poured subfloors as a suitable base for Mannington flooring products, regardless of their type and grade level, rests with the concrete manufacturer or the poured floor manufacturer and not with Mannington Floors, in the event of inherent deficiencies which would affect the bond and performance of Mannington flooring and adhesive.

NOTE: Mannington Floors will not pay labor charges on claims filed on materials installed with obvious visible defects.