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ABSTRACT:

Understanding that if you do not take steps to ensure the subfloor and underlayment are installed and prepared properly then installing your resilient flooring over them will be like putting lipstick on a pig.

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KEYWORDS:

Underlayment, subfloor, plywood, resilient flooring, filler, fasteners, APA, adhesive, The Engineered Wood Association.

REFERENCES:

The Engineered Wood Association:
APA L335 - Data File: Installation and Preparation of Plywood Underlayment for Resilient Floor Covering
APA R340 - Builder Tips: Proper Selection and Installation of APA Plywood Underlayment
APA E30FLOOR - Engineered Wood Construction Guide: Floor Construction.

APA documents are available as free downloads. Visit www.apa.org. Registration is required to download documents.

Resilient Flooring Underlayment

By Justin Lane CSI, SCIP

Background

Resilient flooring materials such as VCT, vinyl sheet, linoleum are relatively thin and pliable. Subflooring imperfections will telegraph through the finish flooring, potentially damaging the flooring and certainly affecting the appearance. Plywood underlayment helps minimize wood subfloor imperfections and provides a surface suitable to receive resilient flooring materials.

Plywood underlayment is designed to resist dents and punctures from the concentrated loads typical residential furnishings better than typical plywood. So underlayment provides a durable substrate helping finish flooring maintain its original appearance for many years. For areas where resilient floor coverings are to be installed use underlayment grades recommended by The Engineered Wood Association and the resilient flooring manufacturer. The type of underlayment selected will also depend on roughness and loads applied to the surface.

Available Underlayment

APA - The Engineered Wood Association recommends several plywood grades for use as underlayment. Only three of those are identified as Underlayment in the APA trademark stamped on the plywood. APA underlayment is available with Exposure 1 or Exterior

1 durability classifications. Available thicknesses range from 1/4 inch to 3/4 inch. Exposure 1 underlayment with water resistant glue is suitable for most floors. Exterior 1 underlayment with waterproof glue can be used for added protection in usually dry applications and where occasional wetting is expected.

APA Sturd-I-Floor is a special plywood subfloor with a sanded face designed to serve as an underlayment. This product is a combination structural subfloor and underlayment in one. Flooring manufacturers may accept Sturd-I-Floor as a substrate without additional underlayment.

Lauan plywood is another type of plywood underlayment. Lauan is made from various tropical southeast Asian trees, commonly referred to Philippine mahogany. There is a wide variety of quality because of the various species used to manufacture lauan. Lauan is not available as an APA rated underlayment. Some flooring manufacturers caution against using lauan due to discoloration, indentation, loss of bond and delamination with resilient flooring materials.

You can find more acceptable types of underlayment at [The Engineered Wood Association](http://www.theengineeredwoodassociation.com) website and by discussing acceptable underlayment with resilient flooring manufacturers.

Protection

Be sure to protect underlayment from damage and water before, during, and

after installation. Like all wood products, underlayment can be damaged by water. Acclimatize underlayment panels in the room(s) where they will be installed by standing them on edge and separated for air circulation around the panels for several days.

Verification

If there is a crawl space, verify a ground vapor retarder is installed and the crawl space is properly ventilated in accordance with applicable code to eliminate ground moisture's affect on the subfloor, underlayment, and finished flooring material.

Prior to installing the underlayment, inspect the subfloor surface for evenness and flatness. Repair defects before installing the underlayment. Replace water damaged subflooring. Sand the joints, add blocking, and refasten the subfloor if required to produce a smooth surface.

Underlayment Installation

Install underlayment immediately before installing the finish flooring. Do not allow the underlayment to be subject to unnecessary construction traffic that could contaminate the finish flooring bond surface. Offset underlayment end joints from the subfloor end joints by at least one joist space. Offset edge joints at least two inches. Space butted underlayment joints 1/32 inch.

Attaching the Underlayment

When fastening the underlayment to the subfloor a ring shank nail is recommended. The rings help prevent the nail from backing out and

damaging the flooring. The nail should be set flush with the panel, not countersunk. Fasteners driven improperly may result in defects "telegraphing" through resilient flooring. Use a fastener length equal to the total thickness of the underlayment and subfloor. Avoid coated fasteners which may stain the finish flooring. Check with the flooring manufacturer to verify acceptable fastener types.

Adhesives are not recommended for attaching underlayment. Some construction adhesives can stain resilient flooring, and solvents can distort finished flooring.

Final Preparation

Verify the need to fill the underlayment panel joints with the finish flooring manufacturer. Some flooring manufacturers suggest lightly butting the underlayment panels without filling the joints. They indicate that filling joints may increase tunneling and ridging at the joints that will telegraph through the finish flooring.

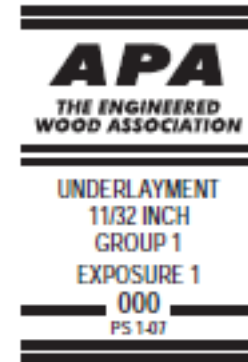
The Engineered Wood Association recommends filling underlayment panel joints with a material that dries hard, does not shrink, and is quick setting. Fill all edge gaps, splits, damaged areas and rough spots in the underlayment. After the filler is fully cured, sand the surface with a heavy-duty sanding machine to remove imperfections and produce a smooth even surface to receive the finish flooring.

Now you are ready for your resilient finished floor covering.

Summary

Always check the finish flooring manufacturer's recommendations for

acceptable substrates and surface preparation. Inspect the subfloor surface for uneven surfaces, ridges, bumps, and staining which may affect the finish flooring. Insist on properly installed plywood underlayment to provide an acceptable substrate for resilient flooring materials, otherwise flooring failure is the likely option. And look for the APA underlayment trademark similar to that shown below during installation.



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