



PROPER SELECTION AND INSTALLATION OF APA PLYWOOD UNDERLAYMENT

One of the keys to good performance in floors is the right combination of subfloor, underlayment and finish flooring. While APA Rated Sturd-I-Floor is an excellent base for carpet and pad, a separate layer of plywood underlayment is recommended for some types of finish flooring (see Table 1).

1. Selecting Underlayment.

Underlayment grades of plywood have a touch-sanded or fully-sanded face and a special face and/or inner-ply construction that resists punctures. Applied as recommended, plywood underlayment also provides excellent dimensional stability and smoothness. If a resilient floor covering such as sheet vinyl or vinyl tile is to be installed, use plywood grades recommended in Table 1. Where floors may be subject to unusual moisture, use Exterior type panels.

2. Handling Underlayment. Always protect plywood underlayment from moisture or damage prior to installation. Allow underlayment panels to adjust to atmospheric conditions by standing them on edge for several days in the rooms where they will be installed.

3. Installing Underlayment. Inspect the subfloor for evenness along joints and flatness between joists. When necessary, sand the subfloor near joints; install extra blocking and re-fasten the subfloor to flatten uneven areas. Also check the subfloor for squeaks and re-fasten as necessary before installing the underlayment. Install plywood underlayment smooth side up, on a dry subfloor. To avoid damage to the surface, install underlayment immediately before laying the finish flooring. For maximum stiffness, install underlayment with the face grain perpendicular to floor joists. Stagger end joints of underlayment panels. All joints of the underlay-

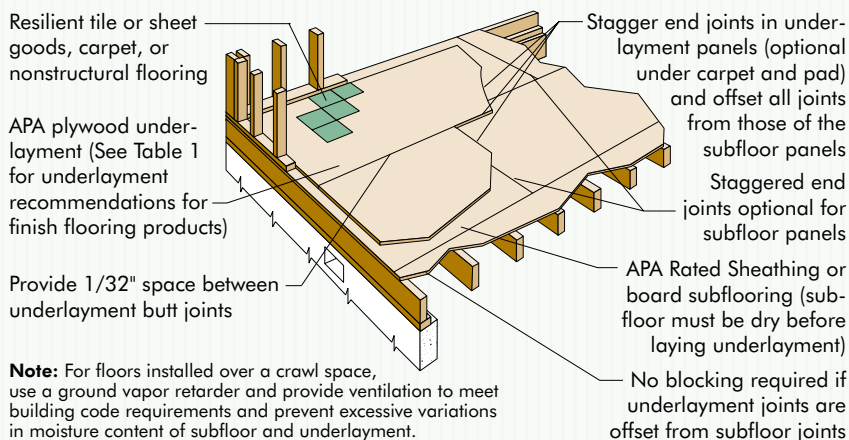
ment panels should be offset from the joints of the subfloor panels a minimum of two inches unless otherwise recommended by the finish flooring manufacturer. Space underlayment panels 1/32 inch at ends and edges.

4. Fasteners and Fastening Schedules.

Recommended fasteners and schedules are given in Table 2. Begin installing fasteners at an edge and move toward the opposite edge, making sure the panel lies flat. Do not overdrive or underdrive fasteners. Overdriving can result in “telegraphing” fastener or panel joint location through resilient tile or sheet flooring, fasteners pulling through underlayment panels if later exposed to moisture, or floor squeaks due to movement between underlayment and subfloor panels. Check to insure that fastener heads are flush with, or slightly below the panel surface. Avoid gluing the underlayment to the subfloor with construction adhesives to prevent installation or appearance problems with certain types of resilient sheet flooring products.

FIGURE 1

APA PLYWOOD UNDERLAYMENT



TYPICAL UNDERLAYMENT TRADEMARKS

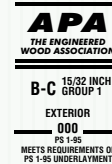
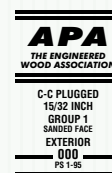
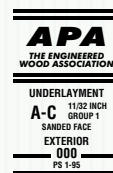


TABLE 1

QUICK GUIDE TO FLOOR CONSTRUCTION

Finish Flooring	Subfloor ^(a)	Underlayment
Carpet & pad	APA Rated Sturd-I-Floor	Optional
Adhered carpet	APA Rated Sturd-I-Floor or APA Rated Sheathing	Recommended grades: Underlayment with sanded face or C-C Plugged with sanded face; plywood or Com-Ply® Sturd-I-Floor (19/32" or thicker) with sanded face; Underlayment A-C; Underlayment B-C; Marine EXT; or sanded plywood marked "Plugged Crossbands Under Face," "Plugged Crossbands (or Core)," "Plugged Inner Plies," or "Meets Underlayment Requirements"
Resilient sheet goods and tile	APA Rated Sturd-I-Floor or APA Rated Sheathing	
Ceramic tile ^(b)	APA Rated Sturd-I-Floor or APA Rated Sheathing (Two layers)	Optional
Hardwood	APA Rated Sturd-I-Floor or APA Rated Sheathing	Optional

(a) Edges of subfloor panels must be supported by tongue and groove joints or solid blocking unless covered with underlayment, lightweight concrete, or wood strip flooring.

(b) Refer to recommendations of Tile Council of America (see *APA Design/Construction Guide: Residential and Commercial*), to determine minimum requirements for subfloor and underlayment.

5. Finishing and Filling. Before installing the finish flooring, fill all edge gaps, splits and damaged areas in the underlayment with a hard, nonshrinking quick-setting filler. (This step may not be necessary under some carpet and structural flooring products – check manufacturer’s recommendation).

6. Installing Finish Flooring. When resilient sheet flooring is installed, consider “loose-laid,” perimeter-attached flooring products to minimize exposure of plywood underlayment to moisture from water-based adhesives used for installing flooring; or choose premium-quality flooring adhesives with higher solids content and reduced water content and allow maximum “open” time within manufacturer’s recommendations before installing flooring. For other types of finish flooring, follow flooring manufacturer’s recommendations for installation.

TABLE 2

RECOMMENDED FASTENING SCHEDULES FOR APA PLYWOOD UNDERLAYMENT^(c)

Application	Minimum Plywood Thickness (in.)	Fastener Size and Type	Maximum Fastener Spacing (in.) ^{(a)(e)}	
			Panel Edges ^(d)	Grid Pattern
Over smooth subfloor	1/4	3d (1-1/4 in.) ring- or screw-shank nails, min. 12-1/2 gage (0.099 in.) shank dia. ^(b)	3	6 each way
Over lumber subfloor or uneven surfaces	11/32		6	8 each way

(a) Space fasteners so they do not penetrate framing.

(b) Use 4d (1-1/2 in.) ring- or screw-shank nails, minimum 12-1/2 gage (0.099 in.) shank diameter, for underlayment panels 19/32 in. to 3/4 in. thick.

(c) See APA Form E30 for underlayment recommendations under ceramic tile.

(d) Fasten panels 3/8 in. from panel edges.

(e) Fasteners for 5-ply plywood underlayment panels and panels greater than 1/2 in. thick may be spaced 6 inches on center at edges and 12 inches each way (grid pattern).

We have field representatives in most major U.S. cities and in Canada who can help answer questions involving APA trademarked products. For additional assistance in specifying engineered wood products, contact us:

APA – THE ENGINEERED WOOD ASSOCIATION HEADQUARTERS

7011 So. 19th St. • P.O. Box 11700
Tacoma, Washington 98411-0700
(253) 565-6600 • Fax: (253) 565-7265

(International Offices:
Bournemouth, United Kingdom;
Mexico City, Mexico; Tokyo, Japan.)



www.apawood.org

PRODUCT SUPPORT HELP DESK

(253) 620-7400
E-mail Address: help@apawood.org

The product use recommendations in this publication are based on APA – The Engineered Wood Association’s continuing programs of laboratory testing, product research, and comprehensive field experience. However, because the Association has no control over quality of workmanship or the conditions under which engineered wood products are used, it cannot accept responsibility for product performance or designs as actually constructed. Because engineered wood product performance requirements vary geographically, consult your local architect, engineer or design professional to assure compliance with code, construction, and performance requirements.

Form No. R340G/Revised June 2002/0010

