



FINISHING SANDED PLYWOOD

Number J305

January 1984

Introduction

Sanded plywood may be finished with natural finishes, stains, paints or enamels, depending upon exposure and appearance desired. In all cases, always assure that the finishes are formulated for use on wood.

All wood species contain water-soluble materials (extractives) in varying amounts, which can create a staining problem when *water-based light-colored finishes are applied to the bare wood*.

Western red cedar and redwood are two species most generally associated with extractive staining problems, but other species can also create them.

Discoloration, if it develops, practically always occurs when a water-based finish is applied to bare wood. The water in the finish dissolves the extractives and transports them to the surface of the finish where they are deposited as the water evaporates. Additional coats of latex finish just repeat the process and will not cover up any staining that might be present.

The answer to the problem is to tie up, or otherwise prevent, any extractives that might be present in the wood from reaching the surface of the finish coat. This can presently be done in one of two ways:

1. Use a latex primer which contains an extractive stain-inhibiting ingredient (such as Rhoplex MB-23, supplied by

Rohm and Haas Company, or Parcryl 900, supplied by Thibaut and Walker Company, Inc.).

2. Use a solvent-based primer.

Whichever primer system is used, make sure the latex topcoat is formulated as a companion product for use over it. Generally, if a latex primer is used, it will discolor somewhat (depending on whether there are extractives present and in what quantity). However, any discoloration will be confined to the primer and will not move up to the subsequent latex topcoats. The solvent-based primer contains no water, so none of the extractives, if any are present, are dissolved. This primer forms a nonporous barrier coat which prevents the water from subsequent finish coats from reaching the wood surface and dissolving any extractives that might be present.

Finishes For Interior Applications

Since some finishes are formulated for outdoor use only, be sure to select one that is recommended for indoors. When selecting a finish which will allow grain patterns, patches and other surface characteristics to show, the plywood panel should be carefully selected for pattern and appearance. It is also recommended that the selected finish be applied to a representative sample of plywood which contains typical color variations and patches in order to demonstrate the finished appearance.

A wide variety of finishes is available for use on plywood indoors. Some of the types are described below. Check with your finish supplier for other ideas.

Natural Finishes – Various clear finishes and oils can be used on sanded plywood to provide the ever popular “real wood” appearance. For the most natural effect, use two coats of a clear, penetrating sealer. This type of finish will resist soiling and allow easy cleaning. Some sealers can be tinted or used with light stains to add color and produce a variety of pleasing effects. Other clear finishes can also be used. Many finish manufacturers recommend that a sealer be used before applying a film-forming clear finish such as varnish. Regardless of the type of finish used, be sure to follow the finish manufacturer’s recommendations.

Color Toning – Repairs and grain irregularities in sanded plywood can be pleasantly subdued by color toning. Two techniques are provided below. Tones of light gray, brown or tan go well with wood colors and provide the best masking.

The easiest method uses a heavy-bodied nonpenetrating sealer containing nonhiding pigments and companion stains for color. A small amount of sealer is tinted with stains until the desired tone is obtained on a panel sample. Then the same proportions of stain and sealer are mixed to provide enough to do the entire job, and applied by brush or spray. After drying and light sanding, a coat of clear finish is applied to give the desired luster and durability.

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Where more control of the panel color difference is wanted, the surface is first whitened with pigmented resin sealer or diluted interior white undercoat. Before becoming tacky, this finish is wiped off to display the grain desired. Clear resin sealers are then applied and lightly sanded after drying. Light stains, pigmented sealer or tinted undercoat is next applied thinly, and wiped to desired depth of color. After drying and lightly sanding, a coat of satin varnish or brushing lacquer is applied to provide luster and durability.

Semi-Transparent Stains – These popular finishes provide color, but allow the grain and other natural characteristics to show. When light colors are used, only oil-based, semi-transparent stains are recommended in order to prevent discoloration of the finish by natural water-soluble compounds (extractives) in the wood.

Solid Color Stains and Paints (Including Enamels) – These colored finishes are opaque and mask repairs and wood grain patterns. Solid colored stains allow more of the wood's texture to show than do the paints, which provide a smoother surface. Paints are available in either oil base or water base (latex). Both oil base and latex paint systems normally require two coats, a primer or undercoat and a topcoat. The *oil base* and darker colored latex solid color stains often require only one coat. However, lighter-colored *latex* stains usually require an extractive stain-inhibiting undercoat to prevent discoloration of the finish from extractives. Be sure to follow all recommendations of the finish manufacturer regardless of the type of finish used.

Paints are available in a full range of gloss levels, including flat (low gloss), semi-gloss, and gloss. The flat finishes are generally more difficult to clean if they become soiled and, therefore, are normally not used in the kitchens and bathrooms.

Prefinished Plywood – A number of producers make prefinished plywood for paneling. This may be *softwood*, *hardwood faced*, or *grain-printed* plywood. These panels are normally available with washable light stain, natural finishes, or various overlays which are resistant to dirt and fingerprints.

Stippled or Textured Finish – This finish may be used on sanded plywood along with tape to hide the joints in plywood paneling. Stipple-textured panels are usually latex and the plywood must be sized or sealed with the proper stain-resistant primer. The stipple is then applied as recommended.

Multicolor Spatter Coat – Spatter finish is usually a lacquer with a blend of two or more colors of uniform fleck size. When applied with spray equipment, the colors remain separate and distinct, creating an unusual decorative effect. This finish requires an undercoat. It can be applied lightly over a colored background, or fully over primer.

Wall Coverings – Fabric-backed film, such as vinyl, are available in unlimited patterns and textures and these may also be applied to sanded plywood. Joints between panels and openings in the panel surface should be filled with a joint compound and the entire surface sized or sealed if suggested by the wall covering manufacturer.

Finishes For Exterior Applications

Sanded plywood for exterior use should be finished only with an all-acrylic latex house paint system composed of a primer and a topcoat. Primers are formulated specifically for controlled penetration, bonding to the substrate, and minimizing extractive staining. Some acrylic latex systems use an oil or oil-alkyd primer followed by a latex topcoat. Other systems use up to two coats of an extractive stain-inhibiting latex primer and generally

offer superior performance. In any case, select companion products designed to be used together and preferably by the same manufacturer. Two topcoats will give significant improvement in life and performance of the finish.

Oil or oil-alkyd systems (primer and topcoat) are not recommended as they tend to crack prematurely, permitting ingress of moisture and flaking of the finish.

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Form No. J305
Revised January 1984/0100

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