Wood Door Finishing Instructions

Stain-and-Clear Finish

The recommended process for finishing wood doors is a 3-step process. Step 1: application of a wood conditioner. Step 2: application of a stain. Step 3: application of at least three topcoats of a clear finish. When selecting the finishes for these three steps, select products that have been designed to work together.

A wood conditioner prepares the wood to accept finish uniformly and helps to spread the finish evenly. When selecting a wood conditioner, the type of conditioner needs to match the stain. For example, a water-based conditioner for a water-based stain or an oil-based conditioner for an oil-based stain.

Stains are available in a wide range of colors. Whatever color you select should have an alkyd-resin base. Under no circumstances should a lacquer-based finish system be used on exterior doors.

The three (minimum) topcoats may be a solvent-borne (oil-base, alkyd resin-base, polyurethane resin-base) or a water-borne (acrylic resin-base) clear finish. See notes (1) and (2) below.

The advantages and disadvantages of solvent-borne vs. water-borne clear finishes are as follows:

1. Solvent-Borne Advantages: Cures faster, harder and more water resistant. May be applied under variable weather conditions. Disadvantages: Subject to ultraviolet degradation and not as flexible or durable as water-borne clear finish.
2. Water-Borne Advantages: Very flexible, greater ultraviolet resistance, and good exterior durability. Disadvantages: Cannot be applied below 50ºF, long curing period required, and may not fully cure for several weeks. Water-sensitive until cure is complete.

NOTE: Do not sand between coats of clear acrylic. All stain-and-clear finishes will perform measurably better if protected from the direct effects of sunlight and weathering, and refinishing will not be required as frequently.

Paint Finish.

Either oil-based or acrylic resin-based exterior grade paints may be used with success on panel doors. Oil-based paints offer more resistance to the passage of water (liquid and vapor) than acrylic resin-based paints, but the latter have better durability and color retention.

Doors should be sealed with a good quality oil-base primer followed by two topcoats of either an oil-base or acrylic resin-based paint. Of course, both primer and topcoat should be made by the same manufacturer.

Preparation for Finishing

1. Before applying the first coat of finish, remove all handling marks, raised grain and other undesirable blemishes by sanding all surfaces with 180 grit sandpaper. For doors with shaker sticking, lightly ease the outside edge of the sticking with sandpaper. To avoid cross-grain scratches, sand with the grain. Note: small amounts of grease, oil, or pitch can be wiped clean with denatured alcohol or turpentine.

2. Adjust or align components, if necessary, before finishing. Wood panels “float” and may be knocked into alignment with a wood block and hammer. Be careful not to damage the door.
3. After sanding, clean the door thoroughly with a cloth to remove all dust or foreign material. Do not use caustic or abrasive cleaners.
4. Hang door before finishing, and then remove to finish properly. Doors must be properly sealed prior to installation of hardware and exposure to moisture or weather. Properly finish door immediately before prolonged storage.
5. All surfaces of the door must be properly finished. The edges (top, bottom, and sides) should be coated with each coat of finish that is applied to the exterior surface of the door. Doors must be dry before finishing.
6. On doors that are glazed with clear glass, the finish used should flow from the wood slightly onto the glass. This will provide assurance against water leakage and protect the glazing compound “putty” from drying out.
7. **NOTE: It is the finisher's responsibility to protect glass prior to and during finishing**. If using tape, conduct a test of the tape being used on a small area of the glass before applying to a large surface. After finishing, remove the tape as soon as possible.
8. On doors that have plastic film protection on glass, removal of plastic film protection immediately after applying the finish is required. Failure to remove the plastic film at this time may cause harm to the glass and will create difficulty in removing the film later. **Do not use razor blades or sharp objects to remove the film or clean the glass.**