

# HOW TO STORE, HANDLE, FINISH, INSTALL AND MAINTAIN WOOD DOORS

## UNLOADING, CARE AND INSTALLATION AT JOB SITE

To preserve the fine qualities of wood doors and a lifetime of superior service, proper storage, handling, finishing and installation is very important. The following guidelines will help to maintain the high quality products supplied by wood door manufacturers. Doors must be individually inspected & approved or rejected prior to signing delivery receipt.

**DO NOT ACCEPT DOORS IF DAMAGED.** Denton Door Co. **WILL NOT BE LIABLE** for damages incurred during shipping.

## STORAGE AND HANDLING

1. Store doors flat on a level surface in a dry, well-ventilated building. Doors should not come in contact with water. Doors should be kept at least 4 in. (102 mm) off the floor and should have protective coverings under the bottom door and over the top. Covering should protect doors from dirt, water and abuse but allow for air circulation under and around the stack.
2. Avoid exposure of interior doors to direct sunlight. Certain species (e.g., cherry, mahogany, walnut, teak) in an unfinished state are more susceptible to discoloration if exposed to sunlight or some forms of artificial light. To protect doors from light damage after delivery, opaque wrapping of individual doors may be specified.
3. Do not subject interior doors to extremes of heat and/or humidity. Do not allow doors to come in contact with water. Prolonged exposure may cause damage. Building where humidity and temperature are controlled provide the best storage facilities (recommended conditions 25%-55% RH and 50°F-90°F (10°C to 32°C)).
4. Do not install doors in buildings that have wet plaster or cement. Do not store doors in buildings with excessive moisture content – HVAC systems should be operating and balanced.
5. Doors should always be handled with clean dry hands or while wearing clean dry gloves.
6. Doors should be lifted and carried when being moved, not dragged across one another.

## FINISHING

1. Wood is hygroscopic and dimensionally influenced by changes in moisture content caused by changes within its surrounding environment. To assure uniform moisture exposure and dimensional control, all surfaces must be finished equally.
2. Doors should not be considered ready for finishing when initially received. Before finishing, remove all handling marks, raised grain, scuffs, burnishes and other undesirable blemishes by block sanding all surfaces in a horizontal position with 120, 150 or 180 grit sandpaper. Solid core flush doors, due to their weight, naturally compress the face veneer grain while in the stack. Therefore, sanding of the overall surface will be required to open the veneer grain to receive a field applied finish evenly. To avoid cross grain scratches, sand with the grain.
3. Certain species of wood, particularly oak, may contain extractives which react unfavorably with foreign materials in the finishing system. Do not use steel wool on bare wood, rusty containers or any other contaminant in the finishing system.
4. A thinned coat of sanding sealer should be applied prior to staining to promote a uniform appearance and avoid sharp contrasts in color or a blotchy appearance. Door manufacturers are not responsible for the final appearance of field-finished doors. It is expected that the painting contractor will make adjustments as needed to achieve desired results.
5. All exposed, unfinished wood surfaces should be finished and the top and bottom rails sealed. Cutouts for hardware in exterior doors and doors located adjacent to areas where high moisture is expected, should be sealed prior to installation of hardware.
6. Dark colored finishes should be avoided on all surfaces if the door is exposed to direct sunlight, in order to reduce the chance of warping or veneer checking.
7. Water-based coatings on unfinished wood may cause veneer splits, highlight joints and raise wood grain. If used on exterior doors, the coating should be an exterior grade product. When installed in exterior applications, doors must be properly sealed and adequately protected from the elements. Please follow the finish and door manufacturer's recommendations regarding the correct application and use of these products.
8. Be sure the door surface being finished is satisfactory in both smoothness and color after each coat. Allow adequate drying time between coats. Desired results are best achieved by following the finish manufacturer's recommendations. Do not finish doors until a sample of the finish has been approved.
9. Certain wood fire doors have fire retardant salts impregnated into various wood components that make the components more hygroscopic than normal wood.

When exposed to high moisture conditions, these salts will concentrate on exposed surfaces and interfere with the finish. Before finishing the treated wood, reduce moisture content below 11% and remove the salt crystals with a damp cloth followed by drying and light sanding.

## INSTALLATION

1. The utility or structural strength of the doors must not be impaired when fitting to the opening, in applying hardware, in preparing for lites, louvers, plant-ons or other detailing.
2. Use two hinges for solid core doors up to 60 in. (1524 mm) in height, three hinges up to 90 in. (2286 mm) in height or portion thereof. Interior hollow core doors weighing less than 50 lbs. (23 kg) and not over 90 in. (2286 mm) in height may be hung on two hinges. Use heavy weight hinges on doors over 175 lbs. (79 kg). Pivot hardware may be used in lieu of hinges. Consult hinge or pivot hardware manufacturer with regard to weight and size of hinges or pivots required.
3. The maximum clearance between the top, hinge edge and lock edge to the frame and meeting edge of pairs of doors, is 1/8 in. (3.2 mm).
4. All hardware locations, preparations and methods of attachment must be appropriate for the specific door construction. Templates for specific hardware preparation are available from hardware manufacturers or their distributors.
5. When lite or louver cutouts are made for exterior doors, they must be protected in order to prevent water from entering the door core.
6. Pilot holes must be drilled for all screws that act as hardware attachments. Full threaded screws are preferable for fastening hardware to non-rated doors and are required on fire-rated doors. Self-tapping or combination wood/metal screws are not to be used on wood doors.
7. In fitting non-rated doors for height, do not trim top or bottom edge by more than 3/4 in. (20 mm) unless accommodated by additional blocking. Trimming of fire-rated doors must be in accordance with NFPA 80.
8. Doors and door frames should be installed plumb, square and level.

## CLEANING AND TOUCHUP

1. Inspect all wood doors prior to hanging them on the job. Repair noticeable marks or defects that may have occurred from improper storage and handling.
2. Field repairs and touchups are the responsibility of the installing contractor upon completion of initial installation. Field touchup shall include the filling of exposed nail or screw holes, re-finishing of raw surfaces resulting from job fitting, repair of job inflicted scratches and mars and final cleaning of finished surfaces.
3. When cleaning door surfaces, use a non-abrasive commercial cleaner designed for cleaning wood door or paneling surfaces, that does not leave a film residue that would build up or affect the surface gloss of the door finish.

## ADJUSTMENT AND MAINTENANCE

1. Insure that all doors swing freely and do not bind in their frame. Adjust the finish hardware for proper alignment, smooth operation and proper latching without unnecessary force or excessive clearance.
2. Review with the owner/owner's representative how to periodically inspect all doors for wear, damage and natural deterioration.
3. Review with the owner/owner's representative how to periodically inspect and adjust all hardware to insure that it continues to function as it was originally intended.
4. Finishes on exterior doors may deteriorate due to exposure to the environment. In order to protect the door it is recommended that the condition of the exterior finish be inspected at least once a year and re-finished as needed. Both exterior and interior finishes will change color over time.

## FIRE DOOR INSTALLATION INSTRUCTIONS

- 1) Tampering or removal of metal label will void the rating of the door
  - 2) Mortised butt hinges must be attached with threaded-to-the-head #12 x 1-1/4 steel screws. Pre-drill 5/32 x 1-1/8 pilot holes for all screws.
  - 3) Jobsite modifications are restricted to function holes for mortise locks, holes for labeled viewports, maximum 3/4" undercutting of book height doors, protection plates, and preparation of surface applied hardware.
  - 4) Install locks and latches using not less than no. 8 threaded-to-the-head steel screws with constant diameter wood thread. Pre-drill 1/8" diameter pilot holes for no. 8 screws.
  - 5) Surface mounted hinges, closers, holders and exit devices must be attached with steel through bolts.
  - 6) For further information refer to the latest edition of NFPA-80.
- Failure to use proper hardware or pre-drill correct pilot holes will void the certification and warranty.*