

Technical Bulletin

Warped Doors / Job site Conditions

Wood doors can be considerably affected by climatic conditions and jobsite circumstances beyond the control of the manufacturer or distributor. Doors stored improperly (standing or leaning doors against the interior walls) and or exposure to direct sunlight can influence the quality of the veneer and/or the overall performance of a wood door. Project compliance (reference WDMA job site storage & handling) is often jeopardized due to accelerated completion schedules and or excessive moisture introduced to the environment during construction.

Drywall finishing, painting, installation of floor coverings and open or exposed buildings can all contribute to higher than normal humidity on job sites. Heavy seasonal rains; snow and severe heat or cold can affect atmospheric conditions on site. Depending upon the time of the year, the relative humidity in a building can be significantly influenced by the HVAC (heating, ventilation & air conditioning) system. Improperly balanced systems or the introduction of dry air (typical in colder winter months if no moisture or humidity is added to the system) can significantly impact wood doors and millwork.

Typical industry warranties for architectural flush doors (including industry organizations such as WDMA & AWI) stipulate the "relative humidity to be not less than 25% or greater than 55%". Doors installed within this range will slightly react or move, adjusting to the conditions and require time to stabilize or acclimate to the environment. The time required for proper acclimation is predicated on site conditions and frequently requires a period of six months to one year. Unfinished doors (not properly sealed prior to delivery) delivered and/or installed in these environments are even more susceptible to warping. Periodically door performance or operating issues are directly related to the jobsite environment. Due to varying circumstances, wood doors are often delivered and/or exposed to problematical site conditions jeopardizing or nullifying factory warranties. To better eliminate potential problems, verify job site storage, handling and atmospheric conditions prior to delivery of doors and millwork.

PLEASE REFER TO THE FOLLOWING STEPS TO PROPERLY MEASURE A DOOR FOR WARP:

- Place a 7' straightedge or pull a string, diagonally from the adjacent corners of the deflecting surface. If needed measure both sides of the door to determine if a door is out of tolerance.
- Measure the distance of the gap between the surface and the straightedge or string. (Be sure to measure from both adjacent corners).
- ANSI/WDMA I.S.1-A-1997 denotes warp tolerance for 1-3/4" doors as any deflection greater than 1/4" in any 3'6" x 7'0" section of the door, or the actual width and/or height of the door if it is less than 3'6" x 7'0".
- Verify relative humidity and temperature (log information from various site locations).
- Doors deflection may be well within industry tolerance, however due to other factors the opening may not function properly. Be sure to inspect the frame and installation of the opening. Frames should be installed square and plumb (In addition, check for proper alignment and racking of the frame).