Introduction
Particleboard has gained wide acceptance among builders as a stepping material when used in conformance with manufacturers’ instructions. This bulletin reflects the general consensus among manufacturers about the recommended methods of installing particleboard stepping for interior stair treads. It includes references to the Use of Materials Bulletin 70B of the U.S. Department of Housing and Urban Development and the Federal Housing Administration.

Particleboard stepping should conform to the American National Standards Institute ANSI A208.1-1993, Grade M-3, except that face screw holding capacity should be 225 lbs. minimum and edge screw holding capacity should be 200 lbs. minimum. Particleboard stepping has no knots or grain, comes with one edge bullnosed, and has been sanded to provide a smooth surface and close tolerances. It can be ordered in specific lengths from some manufacturers or cut on site from standard lengths.
Particleboard Stair Treads Can Be Installed Using Conventional Framing and Fastening Practices

Medium Density Fiberboard (MDF) may also be used for stepping if the manufacturer has received a company specific “materials release” from HUD and the product is certified and grademarked by an independent inspection agency such as the Composite Panel Association.

Installation

Acclimate the stair treads to their surroundings for a minimum of 24 hours before installation of particleboard stepping. Particleboard stair treads can be installed using conventional framing and fastening practices. Structural adhesives should be used in combination with nailing. Each stair tread should be supported at both the front and back by a minimum 3/4” wood or structural grade plywood riser fastened with both nails and structural adhesives. Obtain back support by nailing through the back adjoining riser and into the center of the back edge of the particleboard tread.

Particleboard stepping should be covered with carpeting or resilient flooring. Stairs near entries subject to wet foot traffic should have the treads protected by a waterproof surface such as vinyl floor covering. When carpeting is used in these areas, the treads should be protected with a suitable moisture resistant coating before installation of the carpet.

Figure 1 is a cut-away view of an enclosed stairway. Figure 2 shows the detail of a staircase using housed stringers. Wedges are used for treads and risers, and nails go through risers into the back of treads at 6 inch intervals. When housed stringers are used, particleboard stair treads should not be routed out to form mortise and tenon joints with the risers. In each case, the front riser is set back 1 1/8” from the edge of the tread.

The HUD 70B UM Bulletin limits spans between stringers to 42 inches. It also requires that particleboard stepping be a minimum of 1 1/16” thick, with a 12 inch maximum width...
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and one edge bull-nosed. The builder can determine this by looking for the grademark which will note whether it conforms to HUD/FHA UM 70B.

Figure 3 shows the CPA grademark stamp. CPA is an approved independent testing and inspection agency whose program for testing and certification of particleboard interior stair treads has been accepted by HUD/FHA. Before the CPA grademark may be used, participating companies must comply with a rigid in-plant testing and quality control program. Compliance is verified by periodic unannounced inspections at the mill and by independent testing of samples.

The CPA stamp notes which mill made the stair tread and the standard to which it was manufactured.

Sawing stair treads generates fine dust, and tablesaws should be connected to a vacuum system. Individuals working with wood products on the job or in the home shop should wear at minimum the following safety equipment: a half-mask respirator (filter) that is NIOSH approved and has a HEPA filter rating printed on the package, side-shielded safety glasses, a long-sleeve shirt and gloves.
The Composite Panel Association (CPA) is the North American trade association for the particleboard (PB) and the medium density fiberboard (MDF) industries, and for other compatible products. The CPA is dedicated to increasing the acceptance and use of industry products and providing for the general welfare of the industry.

Membership in the CPA currently includes 32 of the leading U.S. and Canadian manufacturers of particleboard, MDF and other compatible products. Together, they represent more than 85 percent of total North American manufacturing capacity of these industry products.

The Composite Panel Association was formed in 1997 as a consolidation of the National Particleboard Association and the Canadian Particleboard Association. The new association represents industry on technical, regulatory, quality assurance and product acceptance issues.

An affiliated organization, the PB-MDF Institute, was formed in 1989 to broaden participation in industry educational and promotional programs. Membership in the PB-MDF Institute is highly diverse and includes more than 170 companies worldwide, including all members of the Composite Panel Association. Programs and activities of the CPA and PB-MDF Institute complement each other.