

An abstract graphic design featuring a vertical blue gradient bar on the left side of the page. Overlaid on this bar and extending into the white background are several thick, blue, geometric lines. These lines form a series of horizontal and vertical segments, some of which are angled, creating a stepped or architectural appearance. The lines vary in length and position, creating a sense of depth and structure.

Basic  
Hardboard  
**Products**

## APPLICATION INSTRUCTIONS FOR GENERAL CONSTRUCTION PANELS

General purpose construction panels consist of Standard, Tempered, Service, and Tempered Service grade hardboards, and they are covered by American National Standard, ANSI/AHA A135.4-1982. These construction panels have a variety of uses in the house, basement, garage, and out-building such as paneling, cabinets, ceilings, linings, dog houses, etc. These instructions are limited to the application of panels to open studs, solid backing, or furring. However, the information presented in the various sections will be useful in considering other construction uses of hardboard.

The following recommended application instructions represent the best judgment of the industry as to the minimum requirements for the application and finishing of general construction panels. Where building codes or manufacturer's installation instructions are more stringent than these recommendations, the applicable code requirements or manufacturer's installation instructions should be followed. On applications not covered by these recommendations, it is important that the manufacturer be consulted prior to beginning the project.

Read all instructions before starting the installation. If you have any questions, ask your dealer for help.

### CUTTING AND WORKING

General Construction Panels may be cut and worked with ordinary carpenter's tools, using standard woodworking methods. A cross-cut saw is the most suitable for making straight cuts. A coping or compass saw may be used for cutting irregular, curved or inside edges. Power saws are desirable for greater speed or extensive cutting. Beveled or rounded corners for an edge treatment may be obtained with a carpenter's plane, by sanding or with special level-

ing tools which are available for this purpose. Patterns and designs may be cut into the surface with a scoring tool. Circular holes may be made with a twist drill or brace and bit. Rough edges and irregularities may be dressed down with fine sandpaper.

### APPLICATION AREA

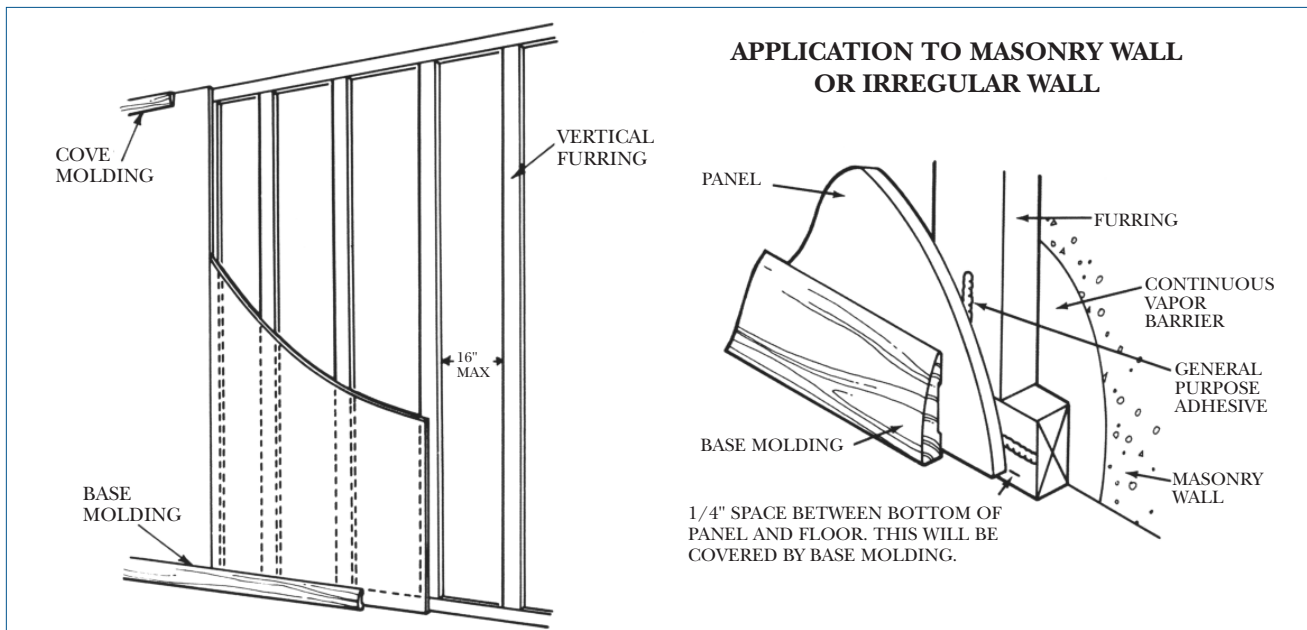
Abnormally damp areas above grade, such as in new construction where there is moisture from wet plaster, newly laid masonry or similar temporary wet conditions, must be thoroughly dried out before paneling is applied. When paneling is applied to exterior walls or masonry walls, either above or below grade, use a continuous vapor barrier such as polyethylene film between paneling and wall. (See illustration on application to masonry wall.) A dehumidifier must be used to control moisture levels if the area of application is unusually damp.

### CONDITIONING PANELS

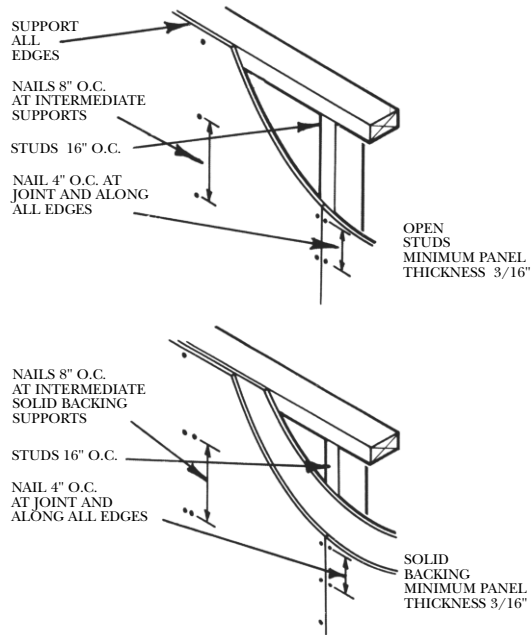
As with all wood paneling, condition panels by standing them individually on long edges around room for 48 hours prior to application, with screen or back side out. This allows panels to adjust to existing room conditions before being applied.

### FRAMING AND FASTENING

Framing members to which panels will be fastened should be straight, in the same plane and have adequate nail holding power. Wall framing studs or furring strips should be spaced not more than 16" on center. In all cases, the edges of all panels should



## NAILING DETAIL



bear on a continuous support. Solid backing is required for panels less than 3/16" thick.

## Nailing

In applying panels, do not butt tightly together, but bring to moderate contact. Fasten panels at the center and work toward the edges.

Drive nails perpendicular to the surface. Space 8" apart on intermediate supports and 4" apart around all edges. Do not toenail. Nails should be annular ring shanked and long enough to penetrate into the nailing base at least 3/4". If you wish to conceal nail heads, countersink the nails slightly below the surface and fill the nail holes with a putty or similar material before priming. When fastening with screws, predrill.

Nailing is not recommended for panels less than 3/16" thick.

## Adhesive

Application with panel adhesive is the most desirable for speed of installation and is required for panels less than 3/16" thick. When applying panels with adhesive to paperclad gypsum or wallpapered walls, the paper surfaces must be sealed or painted prior to panel installation. Refer to illustrations for application with adhesive for additional details.

For application of panels less than 3/16" thick on solid backing, where persistent high moisture conditions will exist, a tile board cement is recommended. Spread the adhesive over the entire back of the panel, making sure the adhesive application instructions are followed. A 3/16" notched trowel is used to apply the adhesive. Do not use excessive adhesive. Scrape the panel firmly with the notched trowel so as to leave only the "ridges" of adhesive. Place the glued panel into position and press the panel tight-

ly against the wall to aid the adhesive in making complete contact. It may be necessary to later check the in-place panels to make sure complete adhesion is maintained. In areas where humidity conditions are normal, cartridge paneling adhesive can be used. Apply continuous adhesive bead 1/2" from all edges around the perimeter. Inside the perimeter apply 3" long adhesive beads intermittently on 6" centers and in an offset arrangement. A few nails help hold the panel in place until the adhesive sets.

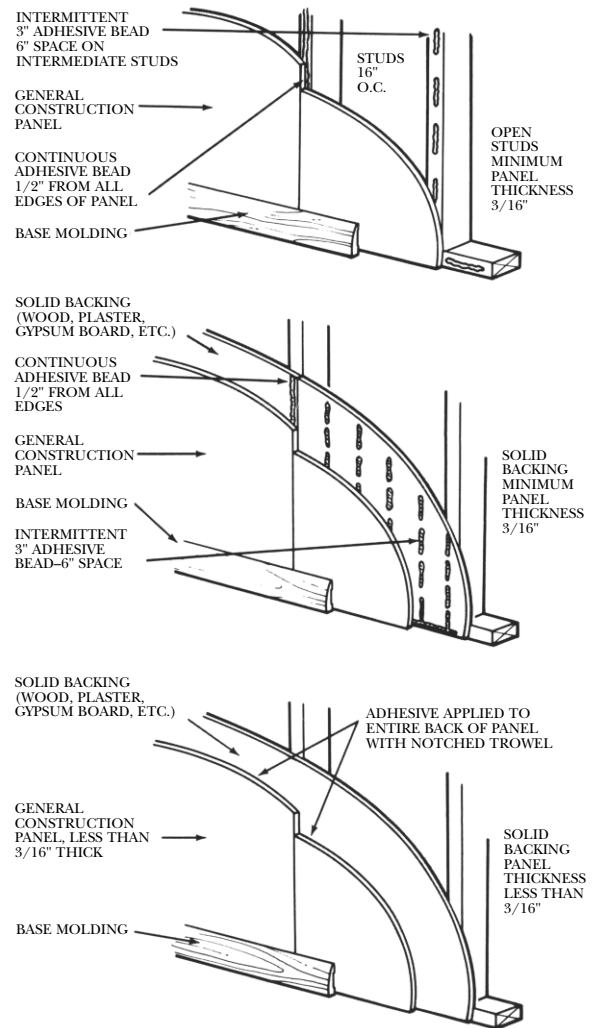
## FINISHING - Preparation

Be sure all surfaces are clean and dry. If the panels have become soiled, use warm water and a mild soap to clean them.

## PRIMERS AND SEALERS

In finishing, the importance of the first coat cannot be overstressed. Be sure this initial coat, which may be clear or pigmented, will be compatible with subsequent top coats. Use only quality products and follow the manufacturer's directions.

## ADHESIVE INSTALLATION



# APPLICATION INSTRUCTIONS FOR HARDBOARD UNDERLAYMENT

Hardboard underlayment is designed for application over wood or plywood sub-floors or old wood-finish floors. It should never be applied directly to concrete. It provides an excellent base for the application of various floor coverings. Underlayment panels come in 3'x 4' and 4'x 4' sizes and have a uniform thickness of not less than .200 inches.

The following recommended application instructions represent the best judgment of the industry as to the minimum requirements for the application of hardboard underlayment. When building codes or manufacturer's installation instructions are more stringent than these recommendations, the applicable code requirements or manufacturer's

installation instructions should be followed. On applications not covered by these recommendations, it is important that the manufacturers be consulted prior to beginning the project.

Before starting the installation, read and understand the entire procedure. If you have any questions, ask your dealer for help.

## PRELIMINARY WORK

Examine the floor over which underlayment is to be laid to be sure that it is securely fastened, dry, clean, and free of protruding nails.

Underlayment will bridge small cups, narrow gaps, and cracks, but where the floor is irregular over large areas, low portions should be filled or the high spots sanded to provide a solid base. Joint fillers are not recommended. If humidity conditions are close to normal, stand panels separately on edge around the room for a period of at least 48 hours prior to application to permit them to stabilize to existing conditions before they are applied.

If the atmosphere is abnormally damp due to wet plaster, wet concrete, or similar temporary conditions in the building, wait until the room has dried out before installing the underlayment, and then proceed as described above. If the installation is directly over a damp basement or unheated crawl space, apply a suitable vapor barrier over the subfloor (see Fig. 1) or old wood-finish floor (see Fig. 2) before installing underlayment.

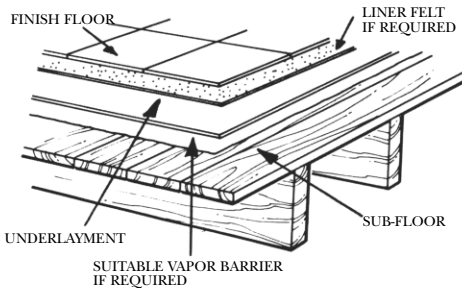
At times it is desirable to build up the new floor to the height of an adjacent floor to avoid a step down where the two join. Where normal traffic and average loads are anticipated, asphalt impregnated fiberboard of the required thickness (1/2") may be used as a filler between the sub-floor and underlayment (as shown in Fig. 3). Where required, depending upon the particular installation, apply a vapor barrier over the fiberboard. All joints in the vapor barrier should be lapped 2". If heavy, concentrated loads are expected, use a denser filler, such as additional layers of underlayment. Fasten the filler material to the sub-floor and then use at least 1 1/4" long underlayment nails for fastening the underlayment.

## APPLICATION OF HARDBOARD UNDERLAYMENT

Either surface of the underlayment may be up, and should afford an excellent bond with the finish floor covering or liner felt if one is required by the flooring manufacturer. Some floor covering manufacturers recommend that their covering be applied to the smooth face as opposed to the planed or sanded face, or vice-versa, and their recommendations should be followed.

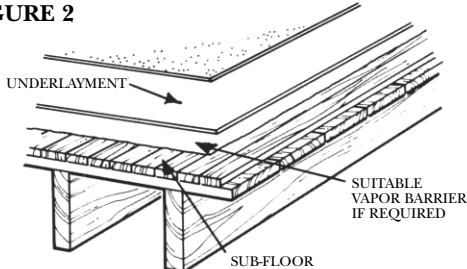
Begin laying panels in one corner of the room, allowing 1/4" space between wall or base and the underlayment (this gap will later be covered by the shoe for the base). Avoid placing an underlayment joint directly over a sub-floor or fiberboard joint. Fasten panels securely using 1 1/4" ring grooved underlayment nails or 4d cement coated sinker nails. Drive nail heads flush with the surface of the board.

**FIGURE 1**  
**TYPES OF APPLICATION**  
**OVER WOOD SUB-FLOOR**



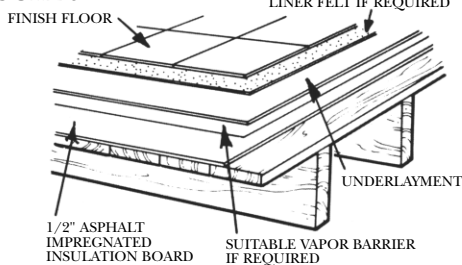
**OVER OLD WOOD-FINISH FLOOR**

**FIGURE 2**

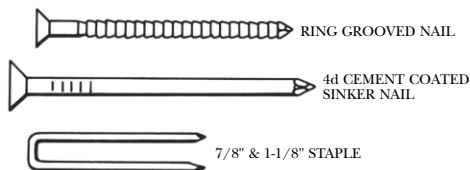


**OVER FILLER**

**FIGURE 3**



### UNDERLAY FASTENERS



## APPLICATION OF HARDBOARD UNDERLAYMENT (continued)

Nails should be spaced not more than 6" on center each way over the entire area of each panel and should not be closer than 3/8" to the panel edge. Always start nailing at the center of the panel and work toward the edges. Nail edges last. To fasten with staples, use 7/81' long chisel point plastic coated staples. Staples should be spaced not more than 6" on center throughout the body of the panel, 3" on center around the edges, and not closer than 3/8" to the edge of the panel. When installing underlayment over old floor covering, use 1-1/8" staples. Start at the center and staple toward the edges.

Lay the next panel so that the continuous underlayment edges are perpendicular to the direction of the boards in the sub-floor or old floor. Leave 1/16" spacing between panels (a penny or 3d nail is a

good spacing guide). Fasten securely as directed above and continue across the room. The panels in subsequent rows are layed such that the underlayment joints are staggered. Never force panels into place. Care should be taken to insure proper fitting of panels around fixtures, etc. Joint fillers should not be used.

After the underlayment has been installed, the room should be swept clean and the installation checked for smooth, flush joints. Rough edges should be removed with sandpaper or a block plane and the room again swept clean.

The finish floor covering should be applied in accordance with the manufacturer's instructions. Joints in surface covering should not fall directly over joints in the underlayment.

## APPLICATION INSTRUCTIONS FOR PERFORATED HARDBOARD

Perforated hardboard is frequently used on work room, recreation room, and garage walls where it is desired to hang tools, equipment, displays, etc. Your building supply dealer has a variety of hangers designed to fit most requirements. Use 1/8" perforated hardboard in most residential and display applications or wherever the hanger load is not great. Where the load on the hangers is unusually high, use 1/4" perforated hardboard.

The following recommended application instructions represent the best judgment of the industry as to the minimum requirements for the application and finishing of perforated panels. Where building codes or manufacturer's installation instructions are more stringent than these recommendations, the applicable code requirements or manufacturer's installation instructions should be followed. On applications not covered by these recommendations it is important that the manufacturer be consulted prior to beginning the project.

Read all instructions before starting the installation. If you have any questions, ask your dealer for help.

### CUTTING AND WORKING

Perforated hardboard panels may be cut and worked with ordinary carpenter's tools, using standard woodworking methods. A cross-cut saw is the most suitable for making straight cuts. A coping or compass saw may be used for cutting irregular, curved, or inside edges. Power saws are desirable for greater speed or extensive cutting. Beveled or rounded corners for an edge treatment may be obtained with a carpenter's plane, by sanding, or with special beveling tools which are available for this purpose. Patterns and designs may be cut into the surface with a scoring tool. Circular holes may be made with a twist drill or brace and bit. Rough edges and irregularities may be dressed down with fine sandpaper.

### APPLICATION AREA

Abnormally damp areas above grade, such as in new construction where there is moisture from wet plaster, newly laid masonry, or

similar temporary wet conditions must be thoroughly dried out before paneling is applied.

When panels are to be applied to masonry walls above or below grade, the use of a continuous vapor barrier such as polyethylene film between the wall and the paneling should be employed. In addition to the vapor barrier, dehumidification equipment may be needed.

### CONDITIONING PANELS

Where humidity conditions are normal, such as in above grade living areas, condition panels by standing them separately on their long edges around the room for a period of at least 48 hours prior to application. This procedure permits panels to stabilize to existing moisture conditions before they are applied.

### FRAMING AND FASTENING

Framing members to which panels will be fastened should be straight, in the same plane, and have adequate nail holding power. Wall framing studs or furring strips should be spaced not more than 16" on center. In all cases, the edges of all panels should bear on a continuous support.

In applying panels, do not butt tightly together, but bring to moderate contact.

Refer to illustrations for application with adhesive or nails.

### NAILS

Drive nails perpendicular to the surface. Space 8" apart on intermediate supports and 4" apart around all edges. Do not toenail. Nails should be long enough to penetrate into the nailing base at least 3/4" and should be ring shanked. If you wish to conceal nail heads, countersink the nails slightly below the surface and fill the nail holes with a putty or similar material after priming. When fas-

tening with screws, predrill. Fasten panels at the center and work toward the edges.

## ADHESIVE

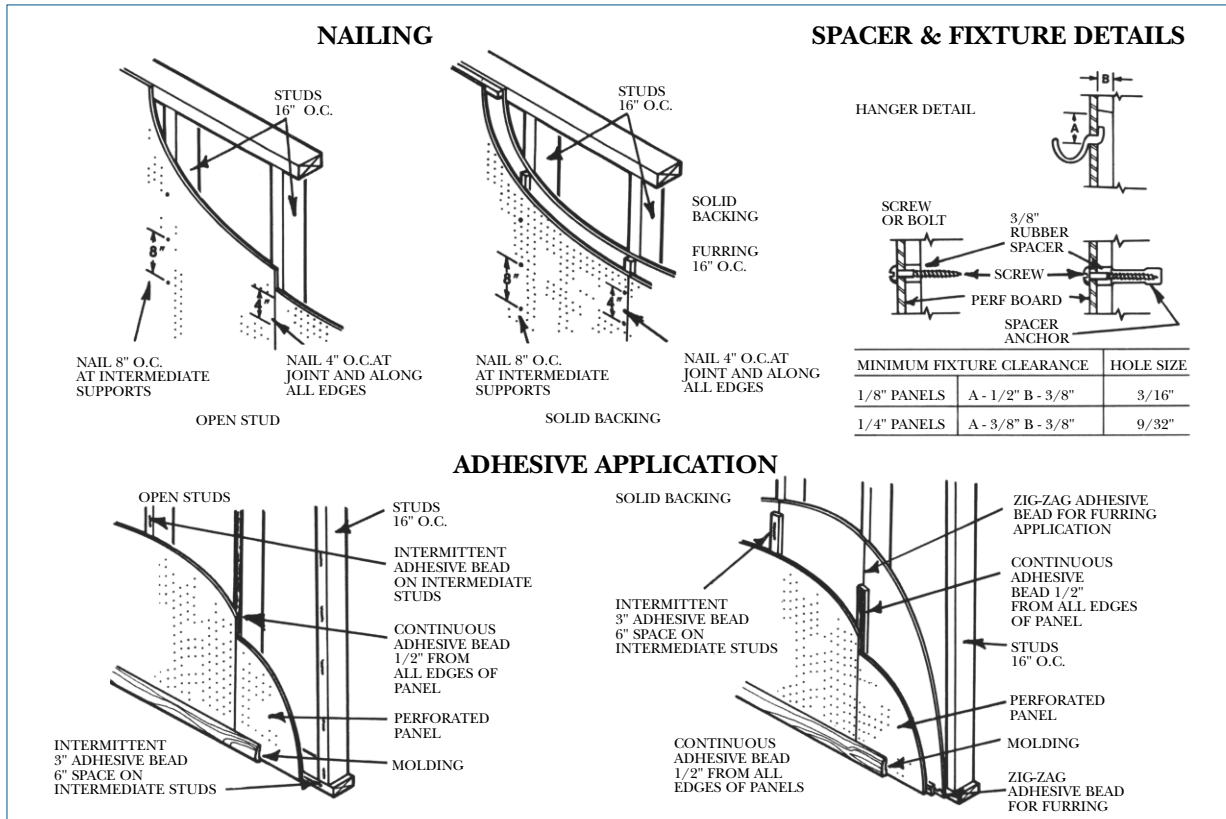
The application with panel adhesive is the most desirable for speed of installation. The panel or construction adhesive is available from your building supply dealer.

## FINISHING - Preparation

Be sure all surfaces are clean and dry. If the panels have become soiled, use warm water and a mild soap to clean them.

## Primers and Sealers

In finishing, the importance of the first coat cannot be overstressed. Be sure this initial coat, which may be clear or pigmented, will be compatible with subsequent top coats. Use only quality products and follow the manufacturer's directions.



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