

User's Manual

STORAGE AND HANDLING OF PANELS

Proper handling and storage of panels will help you maintain the high performance level of Uniboard products.

RECEIVING

Receiving your panels is the first step in your production process. To help you keep the products in good condition:

- . Always unload the material in a sheltered protective area. If the unloading takes place outdoors, make sure the material is placed under a covered area as soon as possible. Avoid outdoor unloading during periods of inclement weather;
- . Make sure that forklifts have enough space to assure proper handling of panels;
- . Always inspect the material when it is received and unloaded. Check to see if there is any breakage, dirt or water damage.
- . Always note any problems on the bill of lading in the presence of the truck driver. If the order is shipped by railway, have an inspector with the railway company know of any problems so that he or she may report on the damage.

HANDLING

- . When a forklift is used in handling, it is important to avoid bumping packages against one another or against the forks. Also avoid any rubbing of the forks against the surface of the panels and any breakage or shifting of the metal straps or spacers.
- . Always make sure that manual or automatic handling equipment is kept clean, with nothing protruding.

STORAGE

General Pointers

- . Never store panels outdoors;
- . Storage areas must be clean, dry, well ventilated, and isolated from production areas that generate dust, dirt or other airborne contaminants;
- . Always store panels on clean, dry spacers of same thickness. Spacers should be spread evenly, a maximum of 42 inches apart. Missing spacers should be replaced by others of same thicknesses. Make sure spacers are well aligned when several packages are stacked together;
Make sure the floor in the storage area is level;
- . Do not stack packages more than 5 high. Never put packages of different sizes in the same stack.

Inventory Control

- . Although panels are resistant to the effects of time, always be sure to rotate all material in storage. This will minimize the risk of breakage or contamination linked to long-term storage.

Storage Environment

- . Contaminant Control : Contaminants can create problems for the finish of your panels. To minimize the impact of contaminants:
 - . Isolate storage areas from production lines;
 - . Always use a cleaning apparatus (such as a cleaning brush) at the start of each production line.
- . Atmospheric Environment Control:
 - . The moisture level of panels should be between 6% or 9%;
 - . Keep the storage area at a relative humidity of 35% to 45% and at a temperature of 21 C (70 F). The conditions should apply to the panels and to any other materials to be combined with them;
 - . Avoid storage, handling or work on panels in conditions of extreme heat or cold;
 - . Allow sufficient time for panels to reach a uniform condition (minimum one week, ideally two weeks);
 - . Keep boards at temperatures of 18 C to 26 C (65 F to 79 F) throughout any work process.

SUMMARY OF STORAGE AND HANDLING:

- . Never store material outdoors. Avoid getting it wet;
- . Store in a dry, well ventilated area isolated from production lines;
- . Handle with care to avoid any damage;
- . Do not place panels directly on the floor;
- . Use spacers of same thicknesses and make sure they are well aligned in any stack;
- . Limit any stack to a height of five (5) packages;
- . Keep the storage area clean;
- . Avoid extreme temperatures during storage and use;
- . Condition the material at a relative humidity of 35% to 45% and a temperature of 21 C (70 F);
- . Give the panels enough time to reach a uniform condition matching their environment before using them (minimum one week, ideally two weeks).

CUTTING, DRILLING AND MACHINING OF PANELS

CUTTING

The cutting of panels can be carried out with various types of teeth:

- . Flat top teeth:
This type of tooth may be used to cut panels into bundles. It is not recommended for cutting one panel at a time.
Source: CRIMBO, Wood Machining, May 1995
- . Alternate top level teeth (above and facing):

This type of tooth may be used to cut panels into bundles or one at a time with a scoring saw.
Source: CRIMBO, Wood Machining May 1995
- . Triple chip teeth:
This type of tooth may be used to cut panels into bundles or one at a time if a cutting blade is used. This type of tooth is generally recommended for a scoring saw.
Source: CRIMBO, Wood Machining May 1995
- . Gouging teeth:
This type of tooth is perfectly suited for cutting panels one at a time without a scoring saw.
Source: CRIMBO, Wood Machining, May 1995

Here are several suggestions for a clean cut without chipping or flaking:

- . It is preferable to use carbide tipped tools;
- . Although Uniboard panels may be cut with or without a scoring saw, the use of a scoring saw is strongly recommended;
- . Make sure your tools are clean, well aligned and well sharpened;
- . Make sure the main blade and the scoring saw are perfectly aligned ;
- . Make sure the collars are well adjusted and clean;
- . Make sure the panel is held firmly in place – avoid vibrations;
- . Avoid too high of a projection of the blade. A blade projection of about 12 mm, or ½ inch, is sufficient;
- . Handle cutting tools with care. Damaged tools will not give as satisfactory a result and may be dangerous;
- . Replace cutting tools regularly to minimize chipping;
- . Finally, your supplier of cutting equipment and tools is your best advisor in questions such as the speed of cutting and feed, as well as cutting angle and other adjustments relating to your operations.

DRILLING

Panels can be drilled with any standard woodwork drill or any high-speed drill. Carbide-point bits are strongly recommended for high-volume operations. Standard sized bits are available in the market. Your equipment supplier can guide you in the proper choice of drilling tools.

MACHINING

Carbide tools are recommended for machining raw or laminated particleboard. For Panfoil panels (laminated with decorative paper), the use of diamond tools gives a cleaner cut. Diamond tools are also recommended for machining Panfibre fibreboard. Speak with your tool supplier to determine the type of tools that can give you the best results.

To be sure of getting good machining quality, it is important to adjust the advance speed and the revolution speed, in keeping with the type of tool being used, to obtain an adequate number of strokes per inch. For particleboard, 16 marks per inch is the recommended minimum. For fibreboard, a minimum of 20 marks per inch is recommended.

As with cutting, certain suggestions should be observed:

- . Make sure the tools are well sharpened;
- . Make sure that the number of marks per inch is sufficient for the material used;
- . Make sure the equipment and the tools are clean and well adjusted;
- . The use of an ammeter is an effective technique to determine wear on the tools. A variation of 10% in the amperage shows that the tool is beginning to wear out and needs to be replaced;
- . If possible, avoid machining pieces at depths going more than halfway into the board's thickness or at a distance from the edge equal to less than half this thickness. This will minimize the risk of the board breaking from a weakening of the lower layer;
- . Your equipment and tool supplier can help you define the necessary adjustments to your equipment or the use of particular tools.

ASSEMBLY

Most standard assembly systems used in the industry can be applied to Uniboard panels. Here are recommendations for some of them:

DOWELS

The resistance of this type of assembly increases with the diameter and length of the dowel. In no case should the diameter of the dowel exceed half the thickness of the panel. A typical assembly will contain four (4) dowels for an 18-inch-long assembly.

For particleboard (Forpan, and Panval):

- . Bore holes at exact diameter;
- . Bore holes to the insertion depth plus 1/16 inch (1.5mm)

For fibreboard (Panfibre);

- . It is best to use spiral or grooved dowels;
- . For the edges, drill to the diameter of the dowel plus 0.005 inch (0.13mm);
- . For surfaces, drill to the exact diameter of the dowel.

SCREWS

- . Always predrill a pilot hole before inserting the screws;
- . The diameter of the pilot hole should be 85% to 90% of the diameter of the screw root diameter;
- . Avoid over-tightening;
- . The screw holding increases more with length than with the root diameter.

FINISHING EDGES

The edges of Uniboard panels may be finished with different materials, including bands of PVC or polyester, solid wood, wood veneer or moulding (wood, plastic or metal). Uniboard distributors can obtain edge bands from certain manufacturers that match various Uniboard colours. Customers are advised to examine samples of these materials carefully before accepting any match. For more information, please contact Uniboard or one of its distributors.

CLEANING AND MAINTENANCE OF PANELS

PANVAL AND PANFIBRE LOW PRESSURE MELAMINE SURFACED PANELS:

The cleaning of Uniboard panels following their use in fabrication operations can be done with the help of paint thinner or solvents for varnish or for contact glue. It is very important to avoid any abrasive substance that could damage the surface of the panels. Never use acidic or alkaline products.