



Multibond[®] EZ-1 HV

Wood Adhesives

PRODUCT DESCRIPTION

Multibond EZ-1 HV is a high viscosity version of the Multibond EZ-1 wood adhesive. It is a shelf stable, one component (pre-catalyzed) crosslinking polyvinyl acetate emulsion that is recommended for high frequency and hot or cold press, edge and face gluing and finger joint applications. With its very fast setting rate, viscosity stability and high percent solids, Multibond EZ-1 HV can also be used for a variety of assembly gluing applications. It meets Watt 91 and develops a DIN EN 204 D3 and an ANSI/HPMA 1994 Type II water-resistant bond with a light-colored glue line.

PHYSICAL PROPERTIES

Chemical Family Description: Crosslinking polyvinyl acetate emulsion adhesive

Appearance: Cream colored liquid

Specific Gravity: 1.09

Weight Solids (%): 45.0 – 50.2

Typical Viscosity (cps): 9,500 - 11,500

Suggested Minimum Use Temperature: 15°C

pH: 2.0 - 3.4

Freeze/Thaw Stable: Yes

APPLICATION GUIDELINES

Moisture Content: Six to eight percent is the recommended moisture content for the gluing stock. High moisture content will dramatically increase the clamp time needed. Additionally, panel shrinkage may occur resulting in stress cracks or end joint delamination.

Stock Preparation: The preparation of the stock to be glued is extremely important. Joints cut from rip saws should be free of saw marks. They should also be straight and square. Moulded or jointed stock should be free of knife marks. Glazed or burnished joints will prevent adhesive penetration and should be guarded against. When possible, glue joints should be prepared and glued the same day.

Tolerances: Gluing stock should be uniform in thickness. Variation in thickness should not exceed ± 0.15 mm. Sanding to thickness should be performed using higher than 50 grit abrasives. Bowing of staves used in edge gluing should be kept to a minimum, typically less than 1.5 mm end to end.

Spread: Generally, 200-245 g/m² of glue line is adequate. Conveyorized spreaders are commonly used in edge-gluing applications. The use of a wool felt sleeve on the spreader roll can aid in obtaining a desirable spread and reducing excess glue usage.

Assembly Time: Assembly time can vary greatly depending on the adhesive used, glue spread, porosity and moisture content of stock, environmental conditions, etc. A small bead of adhesive squeeze-out around the perimeter of the panel when cold or hot pressing is desirable. A small bead of squeeze-out on the ends of edge-glued panels is desirable. Generally accepted assembly time is 5-10 minutes.

Pressure: Pressure is dependent upon the species or material to be glued and joint preparation. Direct contact of the gluing surfaces must be made to obtain maximum strength. Suggested pressures for various wood densities are: low 7.0-10.5 Kg/cm²; medium 8.8-12.3 Kg/cm²; high 12.3-17.6 Kg/cm². Clamps for edge gluing should be spaced 20-40 cm apart and 5 cm from the end of the panel to evenly distribute pressure along the entire length of the glue line.

Press Time: Press time is dependent on the adhesive used, gluing stock type, moisture content of the stock and environmental conditions. Typical press times range from 30 minutes to two hours. Press times should be determined under plant conditions. The speed of set indicator on Franklin Product Data Sheets is the best starting point for determining the time that should be allowed for pressing/clamping and assembly. As a general rule of thumb, the higher the number, the shorter the press/clamp and assembly time should be. The lower the number, the longer the press/clamp and assembly time can be.



Post Press Conditioning: After a minimum clamping period, the panel will develop enough handling strength to permit it to be removed from the press. An overnight cure is recommended prior to machining. A storage period of 3-4 days may be required to eliminate sunken joints caused by residual moisture in the glue line.

Clean up: To easily remove Franklin adhesive from your equipment while it is still wet, use water. Warm water will soften dried glue; however steam will soften it more rapidly. Cleaning clamps, jigs, press platens and fixtures is much easier if equipment is regularly coated with a glue release agent, wax or soap before using it. These release agents prevent the adhesive from sticking to the equipment and will help dried glue to flake or chip off quickly and easily.

PERFORMANCE PROPERTIES

Meets or exceeds the following industry standards:

- European Standard DIN EN 204 D3 (formerly DIN 68602 B3)
- European Standard DIN EN 14257 2006-09 (WATT 91)
- European E-1 formaldehyde emission standard

Block Shear Strength:	lb/in²	wood failure%
25 °C	3,700	75
65 °C Overnight	1,800	05

Room Temperature Speed of Set: 1.25 (Very Fast)

RELATED PRODUCTS

Multibond EZ-1 HV is designed for use in general assembly applications including edge-gluing in cold press, hot press and radio frequency. Multibond EZ-2 HV is similar to Multibond EZ-1 HV. However, Multibond EZ-2 HV may be used under colder plant conditions where ambient curing is used. Multibond EZ-1 and EZ-2 are similar products with lower viscosity. Lower viscosity adhesives may yield thinner, less visible glue lines in applications with large joint surface areas and those where it is difficult to apply the recommended clamping pressure.

STORAGE AND HANDLING

Store in tightly closed original container. Protect from freezing. Storing at temperatures above 25°C will reduce the maximum storage time. If thickening, separation or settling occurs, the adhesive should be thoroughly mixed and will then be ready to use again.

IMPORTANT NOTICE TO CUSTOMER:

The recommendations and data contained in this Product Data Sheet for use of this product are based on information Franklin believes to be reliable. They are offered in good faith without guarantee, as conditions and methods for use of our product by Customer and are beyond Franklin's control. Customer must determine the suitability of the product for a particular application before adopting it on a commercial scale. Discoloration and checking of wood veneer materials may occur with use of the product. These occurrences range in appearance, color and may also vary depending upon the species of wood veneer to which the product is applied. Such discoloration and checking may appear during or after the manufacturing process which utilizes the product. Environmental conditions in some manufacturing plants and end-use locations can contribute to discoloration and checking. Because such discoloration and checking are attributable to conditions beyond Franklin's control, Franklin cannot assume any responsibility or liability for any discoloration and/or checking problems that might occur. ©Copyright 2009. All rights reserved. Franklin International. Revised 09/10/09.