

Titebond® III Ultimate Wood Glue

PRODUCT DESCRIPTION

Titebond® III Ultimate Wood Glue is an Advanced Proprietary Polymer adhesive. This premier adhesive has excellent creep- and heat-resistance, superior solvent-resistance, very low minimum use temperature, and excellent bond strength. **Titebond® III Ultimate Wood Glue** is an excellent choice for edge and face gluing as well as general assembly of a wide variety of wood species.

PHYSICAL PROPERTIES¹

Chemical Family Description: Advanced Proprietary Polymer

State: Liquid

Appearance: Tan coloured liquid

Dried Film: Light Brown

Freeze/Thaw Stable: Stable

Flash Point: >200°F

Calculated VOC (less water): 5.6 g/L

Solids (%): 52

Viscosity (cps): 4,200

pH: 2.5

Chalk Temperature²: Approx 47°C

APPLICATION GUIDELINES

Edge or face gluing of solid lumber stock can present a unique challenge for adhesives. The adhesive must be rigid enough to withstand the applied stresses found under variable service conditions. Additionally, properly prepared adhesive joints are very important to successful gluing.

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, 140-245 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.

APPLICATION GUIDELINES (continued)

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

Block Shear Strength⁴:

	lb/in ²	wood failure%
25°C	3,510	81
65°C Overnight	3,120	61

- Passes ANSI/HPVA Type 1 water resistance
- Waterproof formula that cleans up with water
- Superior strength – strong initial tack
- Designed for interior and exterior applications
- Longer opening assembly time
- Lower application temperature
- Unaffected by finishes
- FDA approval for indirect food contact
- Conforms to ASTM D-4236

Room Temperature Speed of Set⁵: 1.00 (Moderately Fast)

¹ All numerical values represent typical properties.

² Chalk temperature indicates the lowest recommended temperature at which the glue, air and materials can be during application, to ensure a good bond.

³ Measured by Franklin's film formation test. Gluing conditions will affect minimum use temperature.

⁴ Performed according to ASTM D-905 on hard maple.

⁵ Measured by Franklin's torsion speed of set tester on hard maple.

HANDLING AND STORAGE

Shelf Life: 12 months at 20°C Store in closed containers.



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