

Franklin's recommended products

Advantage 405 & 415

Highly water-resistant two-part adhesives that surpass both the ASTM D-5572 wet-use finger joint and ASTM D-5751 wet-use edge glue standards.

Assembly High Tack

Excellent for general assembly as well as edge and face gluing of hardwoods and softwoods for interior use.

Deckbond LS

A two-part adhesive that produces Fruehauf F.E.S. 32 Type I & II waterproof bonds for laminated hardwood flooring (wet-dry and wet-pressure treated flooring).

Multibond 2000 Series

Produces a water-resistant bond recommended for hot or cold press and assembly gluing applications.

Multibond 4000 FF

Formaldehyde-free, water-resistant adhesive that can be hot pressed, cold pressed and used in edge and face gluing.

Multibond EZ-2

Develops a DIN EN 204 D3 water-resistant bond with a very fast set rate, low chalk and low minimum use temperature.

Multibond X-016

A highly water-resistant, two-part adhesive that is recommended for applications requiring ASTM D5572 wet use performance and DIN EN 204 D4 water resistance.

ReactITE EP-925

A highly water-resistant, formaldehyde-free two part adhesive that can be utilized with cold press, hot press or radio frequency press equipment.

Titebond 50

Fast-setting, heat-resistant adhesive, best used in interior edge and face and assembly gluing.

Titebond Imperial

A high performing, heat-resistant adhesive, best used in interior edge and face gluing.

Titebond Regular

With excellent bond strength, this product is ideal for edge and face gluing and general assembly of a wide variety of wood species for interior use.

Titebond Slow Set

Generally used for lamination of stair rails and stringers, this adhesive was designed for applications that require a long time between glue spreading and clamping for interior use.

Technical Leadership

With over 70 years of combined hands-on experience, our technical support team is one of the most recognized and respected in the industry. We welcome your calls and encourage you to contact us if you have any questions or concerns regarding any of our edge and face adhesives.



For additional support, try our pressure point calculators available 24/7 online at www.FranklinAdhesivesandPolymers.com. With our collection of online calculators, you can determine the appropriate settings and costs when using our adhesives on your equipment.

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gluing guide

Adhesives for Edge & Face Gluing



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Edge and Face Trouble Shooting Guide Below is a listing of the most common problems, causes and recommendations.

Adhesives for Edge and Face Gluing

Since the introduction of Titebond aliphatic resin wood glue in 1952, Franklin Adhesives & Polymers has been the industry leader in designing wood adhesives for edge and face applications. Our edge and face adhesives are designed for use in radio frequency machines and clamp carriers as well as hot and cold presses.

Guidelines for proper edge and face gluing

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.

Spread

Generally, 35-50 pounds of adhesive per 1,000 square feet or 170-250 grams per square meter of glue line is adequate. Conveyorized spreaders are commonly used in this application. The use of a wool felt sleeve on the spreader roll can aid in obtaining a desirable spread and reducing excess glue usage.

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.

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. Panel shrinkage may occur resulting in stress cracks or end-joint delamination.

Pressure

Pressure is dependent upon the species or material to be glued and joint preparation. Direct contact of the gluing surfaces is required to obtain maximum strength. The use of a compressometer will aid in accurately measuring the amount of pressure being applied to the gluing area.

Recommended clamping pressures:

Problem	Clamping pressure	Example
Low density wood species	100-150 psi or 7-10 kg/cm ²	Pine, Poplar
Medium density species	125-175 psi or 9-13 kg/cm ²	Rubberwood, Cherry
High density species	175-250 psi or 13-18 kg/cm ²	Oak, Maple

Minimum temperature

Curing temperatures should be higher than the minimum use temperature of the adhesive. This includes the temperature of the stock to be glued as well as the air and adhesive temperatures.

Clamp time

Clamp time is dependent on the adhesive used, species, moisture content, environmental factors and glue-line thickness. Clamp times can vary from 45-90 minutes. Clamp times should be determined under plant conditions.

Consult your account manager for guidance in selecting the adhesive that best suits your operation and equipment.



Problem

Weak joint with little or no wood failure

Possible cause

- Poor stock machining
- Burnished surfaces
- Undercured or frosted joints
 1. Low temperature
 2. Short clamp time
 3. High moisture content
 4. Thick glue lines
- Incorrect edge pressure
- Irregular or burnished surfaces
- Glue line gets very hot

Recommendation

- Check for mechanical malfunction
- Check adjustment of equipment
- Make sure blades are sharp
- Increase feed rate on moulder/jointer
- Sharpen or replace cutter blades
- Raise plant and stock temperatures
- Increase clamp time
- 6-8% moisture content recommended
- Check part fit and increase clamp time
- Check the recommended material pressure
- Check surface preparation
- Check for excessive side pressure

Weak joints with glue failure along glue line

- Grit of abrasive too coarse
- Dull saw blades

- 60 grit or higher recommended
- Sharpen blades



Splits and/or open joints on ends of panels

- High moisture content
- Dry conditions in plant
- Snipes in the staves

- 6-8% moisture content recommended
- 30% minimum relative humidity
- Use end sealer
- Inspect the equipment being used for joint preparation and look for faulty hold-downs
- Reduce gluing inventories to allow pressing to take place within 24 hours

- Sized staves inventoried longer than 24 hours prior to being laminated



Wood failure only over part of surface

- Uneven pressure
 1. Pressure only to top or bottom
 2. Improper clamp spacing
 3. Machining
 4. Uneven glue application

- Apply pressure to top and bottom
- Apply pressure near ends and 8-12" or 20-40 cm apart
- Make sure surfaces are flat and square
- Coverage must be even over entire surface

Black glue lines

- Iron contamination in adhesive

- Isolate and eliminate contact with iron or steel



Burning

- Excessive side pressure
- Too high a power setting for the amount of glue line in the press
- High resin wood such as yellow pine
- Poor machining of the edge to be bonded

- High side pressure can starve a joint and not leave sufficient adhesive to conduct current
- Reduce plate current until burning dissipates, retuning may be required
- Heavy glue line resulting from a snipe or other edging errors can result in burning



Brilliant white on glue squeeze-out and/or glue line

- Low temperature chalking

- Raise temperature of plant, wood and adhesive above minimum use temp



Undercured joint/glue line still wet

- Low plate current setting
- Short cure cycle
- Little or no pressure
- High moisture content

- Increase power to required level or install vacuum capacitor if at max
- Increase cycle time
- Check filler boards for correct gauge pressure
- 6-8% moisture content recommended and if above 8% re-dry wood