

Frequently asked questions about Alcolin Waterproof Glue

1. How can I lengthen the time to assemble my glued furniture?

Apply adhesive to both surfaces. Of the polyvinyl acetate type adhesives, Alcolin Professional has the longest assembly time. Alternatively one must switch to a polyurethane adhesive such as Alcolin Waterproof Glue which offers an assembly time of approx. 20 minutes.

1. What is the best glue for hard/oily wood species?

Alcolin Waterproof Glue being a polyurethane based adhesive is probably the best type of adhesive for hard / oily wood. Alcolin Ultra, Alcolin Professional and Alcolin Fast Set are also very good adhesives for these types of wood species.

2. How can I improve my bonds to hard/oily wood species?

The most important consideration when gluing dense, oily woods is to use freshly machined pieces. Immediately after resurfacing (within 3 hours), the wood should be glued. This will prevent as much of the woods natural oils from interfering with the bond. Another suggestion is to wipe the surface with mineral spirits or acetone. This will help to rid the surface of any oils present. Finally, because of the density of a hard wood it may be necessary to sand the surfaces to be glued lightly before applying the glue (use a fine sand paper > 100 grit). This will help your adhesive “wet” the surface. Applying adhesive to both surfaces will increase drying time which will allow the glue a longer time to penetrate the surface of the wood.

3. Can I thin my Alcolin waterproof adhesive?

No you cannot.

4. How fast does Alcolin Waterproof take to set?

About 2 hours is adequate. Set time will depend on a number of factors, such as temperature, humidity, and moisture content of the wood. Unlike waterbased PVA adhesives, the set time of Alcolin Waterproof is actually accelerated by high humidity and wood moisture content. To increase speed of set, wipe the surface to be glued with a damp cloth.

5. Do I have to clamp my joints?

For the strongest bonds it is best to clamp. This will promote better penetration of the glue into the wood resulting in better mechanical bonding.

6. Can I use cold glue to bond expanded polystyrene?

No. Alcolin Waterproof being a polyurethane based adhesive is ideal for this application.

7. My laminated tabletop set uneven. What is the problem?

The various pieces of wood had different moisture contents, thus on drying to an equilibrium moisture content some pieces shrunk more than others. It is important when making furniture that the different wood pieces have the same moisture content. It is a recommended practice to leave wood pieces to acclimatize for two weeks in workshop before gluing.

8. When I varnish my furniture the varnish shows a different colour along the glue line.

After gluing, never take a cloth to wipe off glue squeeze out as this spreads the glue into the wood grain where it dries invisibly. When you stain the surface the stain will not penetrate the grain that is sealed with glue, resulting in the discolouration. It is best to allow glue squeeze out to start drying, and then take a sharp chisel before the squeeze out has fully dried, and scrape it off. Alternatively place masking tape along the edge of the wood before gluing to prevent glue squeeze out from contaminating the wood.

9. Can I bond different species of wood together?

Different types of wood can be bonded together as long as their moisture contents are similar. Always use an adhesive that will bond the most difficult species of wood.

10. The glue did not set when I bonded varnished wood together.

If water based glues are applied to coated wood it will not dry. The varnish creates two non-porous surfaces, which prevents the water from escaping from the glue line. The best glue to use is Alcolin Waterproof Glue (polyurethane based), which does not require water evaporation to set. In general it is best to remove the varnish before gluing as varnish does not provide a strong surface to glue on i.e. the varnish will easily pull away from the wood resulting in apparent glue failure.

11. Do joints have to be tight fitting?

Always make sure that your joints are tight fitting, otherwise it will not be structurally strong. A thin glue line is stronger than a thick one. Be cautioned however that joints that are too tight may push the glue away from the glue joint resulting in an adhesive starved glue line. Alcolin waterproof does have slight expansion properties ideal for gap filling applications, however be aware that the expanded foam does not impart any significant strength to the joint.

12. What are the differences between Alcolin Ultra and Alcolin Waterproof?

Alcolin Ultra is a water based, solvent free adhesive. It is extremely easy to use, being non-foaming, water cleanable, and does not stain hands. It is faster setting than polyurethane and can be used at lower temperatures. It forms a completely waterproof bond, suitable for almost all applications as long as there is not continuous exposure of the glue line to water (i.e. below water line application).

Alcolin waterproof adhesive on the other hand is polyurethane based. Polyurethane adhesive are moisture curing and as a result offer exceptional good water resistance and durability to the extent that they are suitable for applications requiring continuous exposure below the water line. They are also extremely versatile in that they can bond a variety of different porous and nonporous surfaces e.g. metal, polystyrene, glass, etc. However, polyurethane adhesives also have their pitfalls in that they are difficult to work with because they foam, stain the skin and are difficult to clean after use. Polyurethane adhesive also contain isocyanates that can cause skin sensitization and irritation in a number of individuals.

13. What adhesive is best for cutting boards?

Alcolin Ultra or Alcolin waterproof are ideal due to their excellent water resistance

14. Can Alcolin Waterproof be used for applications requiring continuous use below the waterline?

Yes, it is suitable for these applications

15. What is the best adhesive for stressed joints requiring flexibility (decks, stairs, etc)

Alcolin Waterproof Glue. Alcolin Professional is too brittle.

16. How does Alcolin Waterproof Glue set?

This product is a polyurethane based adhesive and contains no water or solvent, so it does not set by loss of water or solvent. They cure by a reaction initiated by moisture in the air and on the wood surface. Dampening the wood surface with a wet cloth will enhance the setting speed and bond strength of these products.

17. How do I get Alcolin Waterproof Glue off my hands?

Wet glue should be removed immediately with a solvent like thinners, turpentine or benzine. Once it has dried on your hands, you will have to allow the glue to exfoliate naturally from your hands over a day or two. The amount of adhesive can be reduced with a pumice stone. Be careful not to rub your hands raw! We recommend the use of latex or rubber gloves when working with these products.

18. Is Alcolin Waterproof Glue suitable as a structural construction adhesive (e.g. stairways, bridges, roof trusses)?

Yes and No. In Europe, polyurethane adhesives are approved for structural applications. In South Africa, the SABS has yet to approve these adhesives. Melamine Urea Formaldehydes are traditionally used for this application; however, these adhesives have a formaldehyde content, which is banned in Europe due to toxicity.

19. I used Alcolin Waterproof Glue and the glue joint failed?

There are generally two reasons for failure. 1. due to insufficient moisture either on the surfaces to be joined, or in the air (remembering that these products require moisture to achieve a strong set). Use a damp cloth to moisten the surfaces to be joined. This opens up the pores of the wood and speeds up the setting time. 2. Poorly fitting joints are another cause of failure.

20. Why did my joints push apart when using Alcolin Waterproof Glue?

Alcolin waterproof is a moisture curing polyurethanes. These products cure by a chemical reaction which causes the glue to foam and expand. It is therefore important to clamp or strap parts that are being glued with Alcolin waterproof to hold them together while it cures.

21. What is the best way to resurface your wood?

Using a planer is best; however a fine sand paper (grit 360) can also be used.

22. Which is the best wood glue for furniture?

While all our wood glues can be used for furniture assembly, Alcolin Professional is the best because of its extremely tough glue line, which prevents creep of the glue joint.

If water resistance is required, then Alcolin Ultra or Alcolin Waterproof Glue should be used.

23. Which is the best wood glue for outdoor conditions?

Both Alcolin Ultra and Alcolin Waterproof Glue have excellent water resistance. Alcolin Waterproof Glue being a polyurethane based adhesive meets European EN204 D4 water resistance standards and offers the highest water resistance and should be used if the joint will be stressed and the glue line directly exposed to constant water e.g. wooden decks. Ultra is the preferred recommendation if one is looking for a water based adhesive, easy to clean and safer to use, and if the joint will be protected from direct, constant water.

24. Why should I resurface/sand my wood before gluing?

When gluing soft and medium density wood species, the surface of the wood to be glued should be resurfaced within 24 hours of gluing.

Resurfacing is important because it opens up the wood cell structure allowing the glue to penetrate deeper into the wood making for the strongest glue joint. When gluing hard, oily, or resinous woods, it is very important that one resurfaces within 3 hours of the gluing operation. Resurfacing also smoothes surface unevenness caused by moisture changes. It is best to resurface by planing however, sanding with a fit grit sand paper also works well.

25. Will applying more glue to a joint give a stronger bond?

No. The strongest glue joint requires intimate contact of the parts – applying too much glue will result in a thick glue line preventing the necessary close surface contact.

For this reason, the thinnest glue line is generally the strongest. Apart from costing you more, applying more glue will increase the drying time of the glue and require a longer clamp time slowing down your work time.

26. What is the Assembly Time?

The Assembly Time refers to the time lapse between glue spreading and application of pressure. The time between glue spreading and closing the assembly is Open Assembly Time. The time between closing the assembly and pressure application is called the Closed Assembly Time. It is recommended that only the amount of adhesive that can be used within this time be applied at any one time. The Assembly Time is influenced by the glue spread-rate, environmental conditions and wood species and moisture content

27. How can I tell if I exceeded the Assembly Time?

A neat little trick is to observe the glue squeeze out from the joint. If no glue squeeze out is observed as the clamps are tightened, this can usually mean that the Assembly Time was exceeded. Be cautioned though, it can also mean that too little adhesive was used.

28. What is glue starvation?

This is a condition whereby insufficient glue is found along the glue line, which results in a weak joint or delamination.

There are three primary causes of this problem:

- Applying too little glue.
- Applying too much pressure when clamping causing excessive glue squeeze out from the glue line.
- Gluing wood that is too dry may result in all the glue being absorbed into the wood.

29. Can I glue a panel of wood to a supawood board?

Yes it can be done, but with difficulty, and there is no method that will guarantee success.

The reason for this is that the two substrates differ in dimensional stability, so the glued laminate will technically be an unbalanced design. The supawood is dimensionally stable, whereas the wood will expand and contract with changes in environmental humidity.

The first step for such a job is to ensure that your wood is conditioned to the correct moisture content as this will reduce post assembly dimensional movement in the wood.

A recommended method of doing the above job is to cut saw lines (approx 2 – 3 mm wide) at 40mm intervals along the length of the board. This surface is then glued onto the supawood. These grooves will reduce the impact of any movement in the wood.

As a post treatment, one must varnish all the surfaces of the laminate to reduce moisture movement into and out of the board.

30. What should the moisture content of wood be?

Successful gluing depends on the proper moisture content of the wood.

Eight to twelve percent is recommended for general South African conditions, however it is strongly recommended to consult an equilibrium moisture content chart to determine the exact recommended moisture content for a particular geographical area.

31. What problems may arise if my wood moisture content is incorrect?

Lower moisture content may result in starved glue-line due to excessive absorption of the glue into the wood. Higher moisture content will result in longer setting times and too high may cause the glue not to set. Moisture content higher than the equilibrium moisture content result in wood shrinking and may lead to joint delamination, wood splitting and or distortion in shape. If the individual parts making up a laminate had differing moisture content, a condition known as stepped joints may arise.

32. With what do I seal the ends of chipboard to make it waterproof?

Alcolin Woodmate, Alcolin Acrylic Sealant, Alcolin Silicone Sealant, or Alcolin Permabond.

33. What is the shelf life of Alcolin Waterproof?

9 months, if stored in a cool, dry place in its original moisture tight container.

34. What adhesive can I use to glue polystyrene?

Alcolin Waterproof Glue is a polyurethane adhesive and is ideal, in particular if polystyrene is to be glue to itself or any other substrate. Silicone adhesive also works well, and Alcolin Fix All can also be used if it is being bonded to a porous surface.

35. Is it true that glue will blunten the planer blades if a glued-up board is run through it?

Some very hard and brittle glues, like epoxy resins, filled PVA adhesives and urea formaldehyde types, will. Generally unfilled PVA, hide glues and polyurethane types don't. All Alcolin wood adhesives are formulated to minimize any wear on the blades.

36. Several days to a week after I glue up 2 pieces of wood with PVA adhesive, it appears that the glue line has oozed out, even though I sanded it smooth shortly after the glue had "set". The glue line seems to be 'raised'. What is the problem?

The glue often becomes rigid after 24 hours, which causes problems. The wood pieces that you glued together must be a little too wet, either at the time of gluing or after you have sanded them, the wood then subsequently shrinks down a little-as rule of thumb, 1% shrinkage for 2% moisture content (MC) change for oak (a very high shrinking wood) to 1% shrinkage for a 4% MC change for pine and other lower shrinking woods. However, the glued area resists shrinking because the glue adds rigidity. The glue joint area stays the same size even though the wood around it is shrinking, hence the bump that you see. Another cause could be that a thick glue line is compressed by expanding wood that was too dry prior to gluing. The solution in both cases is to ensure that the wood is at the correct moisture content prior to gluing. Refer to a chart on Relative Humidity vs Moisture content of wood to ensure that the wood is dried adequately for the geographical area.

37. What is best adhesive and preparation for dowel joints in an oily hard wood e.g. teak?

Teak can be difficult as it is oily and the natural oils interfere with glue's ability to bond. We recommend using a freshly machined surface and wiping it with a solvent just prior to gluing. The cleaner the dowel holes the better the bond will be. Also ensure that the dowel hole is slightly deeper than the length of the dowel. Try Alcolin Professional, Ultra or Alcolin Waterproof which tend to be less affected by oily woods than most of the traditional cold glues adhesives. For exterior applications, Ultra or Waterproof would be best due to their improved water resistance properties.

38. Can surfaces which have been painted or stained be bonded using Alcolin Waterproof?

Alcolin Waterproof can be used, however it is important to remember that the overall bond will only be as strong as the bond between the paint and the wood. The glue will not bond to the wood through the coating. We recommend that all substrates be clean of any type of paint, stain or sealer prior to gluing.

39. Can you undo glue joint glued with Alcolin Waterproof? I am looking for ways to break the glue joint to refinish the job.

Unfortunately pieces glued with other Alcolin waterproof cannot be disassembled without ruining the wood.

40. Since bamboo is not a true wood fiber, but a grass, what is the best glue to use with bamboo?

Grass and wood are all cellulose fiber. Any wood adhesive will also bond bamboo.

41. What are polyurethane glues for woodworking projects?

There are two kinds of reactive polyurethane's available to the general woodworking market. The first, a reactive polyurethane in hot melt form, is used in a wide range of applications. It is especially suited for assembly projects as well as edgebanding and profile wrapping.

The other reactive polyurethane on the market is one part liquid. Its available under a variety of labels such as "Gorilla Glue", or "Alcolin Waterproof Glue". This kind of adhesive works very well in a wide range of applications but, as with all adhesives, there are both positive and negative aspects to their performance. On the positive side, reactive polyurethane's are strong, water resistant and have the ability to bond to a wide range of substrates. They are well suited to exterior applications like sign building and outdoor furniture construction. On the negative side, they are expensive (relative to PVA), can be difficult to work with due to their foaming on cure, and difficult to clean up.

42. Will Alcolin Waterproof adhesive hold up to weather when used to make outdoor furniture?

Being a polyurethane adhesive, it will work exceptionally well. Polyurethane adhesives actually use water when curing to form a tough durable bond. Assuming your joints are square, tight and clean and the moisture content of you wood is between 8-12%, Alcolin Waterproof will be ideal for this application. Next to resorcinol type adhesives, polyurethane is one of the most durable exterior adhesives available.

