

# What glue will stick to what?

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## Glue or Adhesive?

What is the difference between a glue and an adhesive? Only vocabulary, although often Glue is the term used for DIYers and Adhesive for professionals -- or for some Glue is liquid and Adhesive is gunned from a tube with a caulking gun or applied with a notched trowel. Whether you call it a glue or an adhesive it is a chemical mixture made to stick things together.

## Why so many choices?

Ever wondered why they sell so many different types of glue in the reno store? Aside from the occasional marketing scam of putting the same thing in three different tubes, it is true that some glues stick better to some things than others. But reading all of that fine print can be tiring, and more and more there is a long list of all the things you can adhere to with any given glue -- but no indication as to how well it will stick to each of those materials.

What is important is to know what you want to glue to what, for your glue needs to stick to both. You need to know if the final joint will be rigid or flexible, for a ridged glue in a flexible joint will crack, and a flexible glue in a ridged application will let it move or creep. You also need to know if you have a tight fit or do you need a glue that is capable of filling the gap. And it could be important to know if you need a slow setting glue to give you time to get things in place, a fast setting glue to get on with the job quicker or even a "quick grab" glue that will itself hold everything in place while it sets, great for wall moulding.

## The What sticks to What Glue Chart

Some time ago LePage put out a nifty little chart that really helped to choose the right glue for the right job, of course only limited to their own glues, but non-the-less, very useful. It was useful because it actually gave a rating for how well each type of glue stuck to each type of material, allowing you to really judge what works best for the job at hand. I have reproduced that chart here. Copy and print it and hang it up in your workshop.

In this segment of the TV show I took on the task of gluing leather to glass, two very different materials. If you look at the Leather row, you will see that there are three glues that stick very well to leather: Household cement, solvent based contact cement and water based contact cement. When we look at the glass row we see it too has three best glues: Super Glue, regular and fast epoxy. Woops, no "best" matches between glass and leather. In fact there are not a lot of choices for leather, but there are more for glass. So decent adhesion can be had on glass with two of the glues that are best for leather: household cement and solvent based contact cement. Take your choice, both will do the job.

The second graphic gives you the whole chart. Where is #2? That was a non-toxic children's glue that they removed from the chart but since all the other packaging already had numbers, they didn't renumber everything. I first published this entry in 2001, and all the glue packages from all the manufactures have changed since then -- but the general categories of glue and materials are still valid. They seem to have reduced the variety of offerings and some great glues have disappeared, like China glue which was rumoured to be just too good for sniffing.

## Hiding what is in the glue

Another new tendency in marketing is to hide the reality of what is in some "miracle" glue, which doesn't help us at all to choose the best glue for each application. People often ask me if the highly advertised "Gorilla Glue" is really that good? Gorilla Glue is liquid polyurethane adhesive. PL Polyurethane, thick and gunned from a cartridge is one of the best construction adhesives available,

and liquid polyurethane can be a very strong glue -- BUT. Ya -- BUT. It requires a bit of moisture or humidity to react and cure, so under extremely dry conditions it doesn't set well. On the other hand, if there is plenty of moisture and the glue is not constrained, it foams up and then cures into a very weak honeycomb structure, so it has absolutely no gap filling capacity -- where the gunned polyurethane is a great gap filler. Gorilla Glue also leaves a strong brown coloured glue line -- not too exciting for a pine table top. So the answer is yes, it can be a great glue, with more side issues than most glues.

I have found in 2014 that I can't always find the glue I want at the renovation stores, so I buy a portion of my glues in specific places, like WetBond only in Home Hardware or on the web, some others on the web like PascoFix and some I have to buy in the states and carry across the border myself, like Plastex, because the powerful and very effective plastic solvent can't be shipped in Canada. So despite the wide choice we do have, there are some things that just do the job better.

#### Working with the glue

Picking the right glue is the first step. Using it properly is the second. Simply look up the keyword "Glue" on the search page and you will find a lot of useful reading. Let me point out a few that deal specifically with techniques:

General tips for gluing in woodworking

Spreading Glue

Special Tops for Glue Bottles

Glue in tight places

Flashing glue for vinyl and fiberglass

Working with contact cement

Priming contact cement

Working with & un-gluing instant glues

Underwater Epoxy

Extending the working time for Epoxy

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