

Sizing....

When machining a low density wood (softwoods or hardwoods) or a medium to dense hardwood with substantial amounts of reaction wood, wood fibers may be so weak that they are pushed over instead of cut off. This is especially obvious when sanding--the wood develops very fine "peach fuzz." Although this may be the effect of dull sandpaper or a dull knife, it can often be remedied with glue size. Glue size is used to stiffen and strengthen wood fibers so that they can easily be sanded or lightly planed off.

Glue size is also applied to the porous edges of particle and fiber boards to prevent over-absorption of glues and finishes. This helps fill the grain and give the wood more even coloration and surface quality.

Because many of the materials used for glue size become soft and will flow when heated, it is necessary to avoid high temperatures caused by the friction of aggressive sanding. It is also important to keep the temperature controlled during curing of the finishes.

Most of the time, commercial glue size formulas are better than homemade. Glue size is most commonly made of a watered-down, water-based, PVA adhesive. If you do plan to make your own, try something on the order of 10 parts (or a little less) water to one part white glue. Keep experimenting if this doesn't work out right (it will vary with species).

Get good results gluing end grain joints.

Although good joint design minimizes the need for gluing end grain, sometimes end grain joints are unavoidable. The strength of end grain joints can be improved if the "open" end grain is first sized. A sizing mixture may be made by mixing one part to two parts water to one part glue. Place the sizing mixture on the end grain. Let it soak in for no more than two minutes, and then continue with a regular application of glue.

Prevent sunken joints in your projects.

Water-based wood glues such as Titebond Original or Titebond II build strength in a joint as they lose moisture into the surrounding wood. This moisture causes the wood on both sides of the bondline to swell slightly. If the project is planed or sanded before this swelling disappears, the high moisture wood near the joint will continue to dry and will shrink slightly compared to the rest of the wood. Allow your project to dry for several days before sanding or planing.