

Before the gluing job

Adhesive

- ✓ Select adhesive based on species, type of components and service conditions
- ✓ Check expiration date (don't use if expired)
- ✓ Rotate stock and use oldest material first
- ✓ Stir adhesive thoroughly before using

Wood

- ✓ Wood should be **KNIFE-PLANED WITHIN 24 H OF ADHESIVE SPREADING** (validate with supervisor)
- ✓ Wood surface inspection
 - Surface should be smooth, flat, and free of machine marks and surface irregularities (e.g. planer skips and crushed, torn, or chipped grain)
 - Surface should be free of burnishes, exudates, oils, dirt, and debris
- ✓ Measure wood moisture content (MC) of each component with a calibrated moisture meter
 - Wood moisture content should be within 10 to 12%
 - Don't use wood that is green or high in moisture content (above 14% MC)
 - Wood moisture content should be slightly below that desired for the finished product

During the gluing job

Occupational health and safety

- ✓ Gloves and safety goggles are usually recommended
- ✓ If ventilation is not sufficient to effectively prevent build-up of vapour/mist/fume/dust, appropriate respiratory protection must be worn.



✓ Safety Goggles



✓ Working Gloves



✓ Mask (when using glues that contain VOC)



✓ Mask

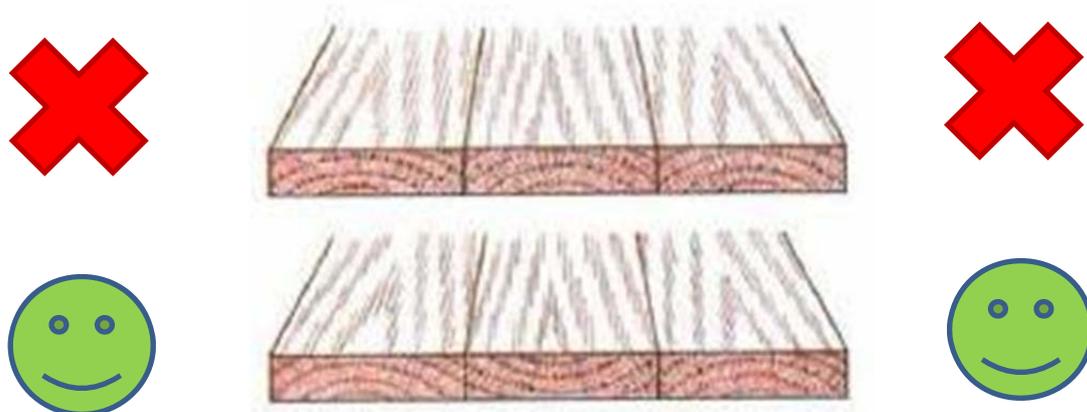
Components to be glued

- ✓ Avoid gluing wood components where the grains are not parallel unless necessary
- ✓ Avoid large differences in MC between adjacent components (**OPTIMUM: 2% OR LESS**)



Delamination caused by large difference in moisture content between adjacent components

- ✓ When many pieces are to be glued together, have them ready in the order of assembly
- ✓ Make sure wood surfaces are parallel and flat
- ✓ Alternate wood arrangement when panelling



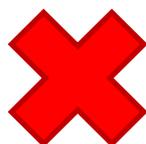
Adhesive operating conditions

- ✓ Follow gluing specifications as prescribed by the manufacturer of the adhesive
 - Consider pot life
 - Consider adhesive mixing directions (if applicable)
 - Consider conditions for applications of the adhesive (rate of spread or thickness of film, applied to one or both surfaces, etc.)
 - Consider assembly conditions (room temperature, length of time)
 - Curing conditions (amount of pressure, length of time)

- ✓ Spread the glue and close the joint as soon as possible
 - Spread evenly the adhesive onto the surface
 - Avoid thick gluelines - Slide surfaces together back and forth to evenly thin the glueline down to a minimum
 - Proper spread is important - Too little results in starved joint and a poor bond & too much results in wasteful and messy squeeze-out

Pressing

- ✓ Adjust pressing pressure to the density of the wood (specific gravity of 0.3 to 0.7 = 0.70 to 1.70 MPa = 100 to 250 psi; higher density up to 2.0 MPa or 300 psi)
- ✓ Record start and end pressing time on the board
- ✓ Ensure that small amount of glue is squeezed out on every glue line. Moderate squeeze-out of glue in the centre glueline indicates proper spread of glue



After releasing pressure

- ✓ Scrape squeezed glue from the board
- ✓ Handled glued boards with care as glue is not completely cured at this stage (trimming and rough sanding can be done after overnight pre-aging in ambient conditions)
- ✓ Don't expose the board to direct sunlight. Avoid too much air circulation and heat.

After the gluing job

- ✓ Clean up rollers
- ✓ Don't return unused adhesive to original container
- ✓ Dispose of adhesive and packaging that cannot be cleaned in accordance with local and national regulations (don't empty into drains, surface water, ground water)

Handling and storage

- ✓ Keep adhesive containers closed when not in use
- ✓ Keep containers in cool and dry place away from heat and direct sunlight