

Design: Tips for Durable Exterior Wood Construction

Key Point	Don't, for example:	Do:
Wood exposed only to humidity will not decay. Liquid water is needed for decay to start.	Use untreated non-durable wood exposed to rain unless a short service life is acceptable and replacement is easy.	Design to minimize contact of precipitation with untreated wood.
Condensation on wood outdoors is rare except in areas of prolonged fog.	Don't use untreated wood outdoors in areas with prolonged fog.	Use naturally durable or treated wood outdoors in areas with prolonged fog.
Wood does not decay if it gets wet. It decays if it stays wet.	Trap dead air in, or under untreated wood structures. Mould loves dead air.	Allow for ventilation to both sides of untreated wood. Or use durable or treated wood.
Wood wets up less if the duration of exposure to liquid water is short.	Create funnels, cups, troughs, ponds etc. Don't drop fence boards into a trough made from a 2 x 4 and two 1 x 1s.	Design structures to shed water. Nail bottoms of fence boards to a 1 x 4 on one side.
	Put sleepers for a deck directly onto slab and put a fascia board at the edge of the slab impeding drainage.	Support sleepers on pieces of closed-cell foam. Extend sleepers beyond slab edge and nail fascia to them.
	Nail laminate boards together and expose upper edge	Use spacers or cover upper surface.
Wood takes up liquid water most rapidly via end grain.	Support outdoor wood columns directly on a moisture retaining material or within a water-trapping metal shoe.	Bolt columns to supports with a minimum air gap of 10mm underneath, or recess metal plinth in routed space in base.
	Leave column and post tops unprotected. Don't, cut at an angle, which exposes more end grain.	Cut flat and add an angled cap or cut at an angle and cover with metal flashing or wooden board.
	Use joints that create end-grain exposure.	Nail or screw board to board. Use caps to shelter end-grain.
	Abut end grain to another surface and then paint after.	Prime or apply preservative to end-grain before assembly.
	Cut factory finished siding and leave ends uncoated.	At least prime all end grain before assembly.
	Drill large holes in horizontal surfaces for connection etc.	Put fasteners and penetrations on sides, if possible
The 2 nd most rapid uptake of liquid water is via cracks in the top surface.	Use untreated wood with a wide horizontal surface exposed.	Flash top surface or use durable or treated wood.
The 3 rd most rapid uptake of liquid water is via angled cracks in the sides.	Expect flashing on the top of beams to fully protect the sides.	Apply surface treatment and depot treatment, or use durable or treated wood.
The 4 th most rapid uptake of liquid water is via surfaces without cracks.	Leave fence panels fully exposed to rain.	Attach a sloped wide cap rail of durable or treated wood.
Ground levels rise.	Use untreated wood within 150mm of the ground.	Use treated wood in places where soil may later pile up.

For more detailed information see www.durable-wood.com

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