Home Repair Resource center

HOMEOWNER REPAIR GUIDE

ROOF SHEATHING

Replacing the wood deck beneath your roofing

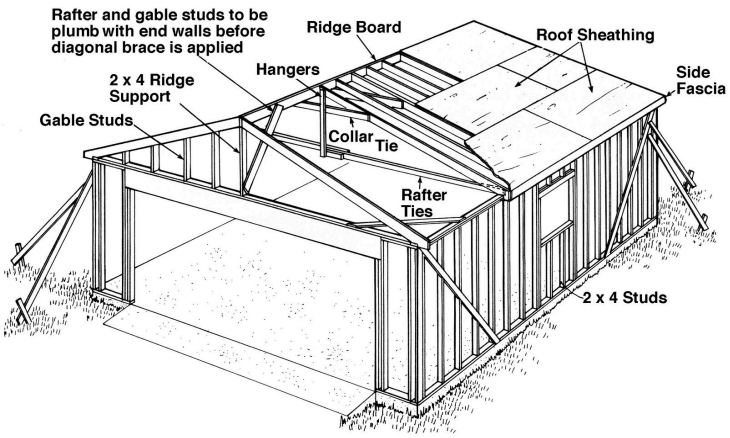
Water damage to a leaking roof can be so extensive that you must replace not only the roofing material, but also the entire wood deck or sheathing beneath the roofing. In older garages, the sheathing is usually made of "1-by" planking (1 x 6, 1 x 8, 1 x 10, or 1 x 12 #2 grade pine). The high price of wood planking will probably have you looking for a less expensive alternative for this job.

CHOOSING A SHEATHING MATERIAL

MATERIAL	SUITABILITY
Particle board	Not a good substitute; any exposure to water will cause it to swell and crumble in a fairly short period of time.
Oriented strand board (OSB)	Sometimes called "waferboard" or "flakeboard." Although it is more water-resistant than particle board, it will weaken quickly if it remains wet.
Exterior grade plywood (CDX)	A rough (not sanded smooth) exterior grade plywood makes an excellent replacement deck. It's a stronger material, and it's much more forgiving of moisture than OSB or particle board.

PLYWOOD THICKNESS

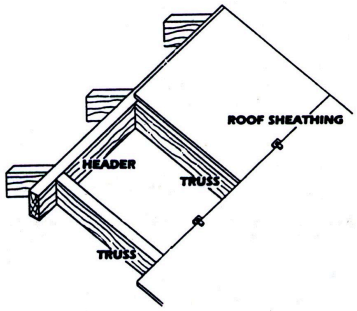
THICKNESS	WHEN TO USE IT
1/2" CDX (four-ply)	Permitted by code when the old sheathing is completely removed to the rafters (four-ply = 4 layers of veneer).
3/4" CDX	If you are patching areas where there is still some "1-by" planking, you'll probably have to use 3/4" CDX to match the thickness of the old deck.
3/4" CDX (walk-on)	For any "walk-on" deck (like a flat porch roof with access via a window or door), you'll need 3/4" CDX for adequate strength.



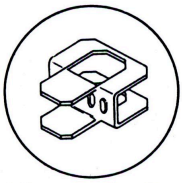
Garage roof framing: rafters, ridge board, collar ties and roof sheathing

RULES FOR A STRONG PLYWOOD ROOF DECK

1. Any rotted or deteriorated rafters should be replaced or repaired (by "sistering" a new rafter alongside the old), so the plywood can be securely nailed.
2. The long grain of the sheet should cross the rafters.
3. The sheets should be placed in a staggered pattern *(see illustrations)*, with the short sides (cross-grain end) of the sheets meeting over a rafter.
4. Metal plywood clips should be used along the long unsupported joints, midway between each rafter (truss), to keep the panels aligned (especially with 1/2" CDX).



Roof sheathing laid across the trusses



Plywood clip

Plywood clip

FASTENING THE SHEATHING

Plywood sheathing can be nailed by hand with a hammer or with a pneumatic nailer. You can also use galvanized decking screws driven by a screw gun (or an electric drill with a Phillips-head bit). The screws or nails should be about 6" apart along the length of each rafter.

DON'T LEAVE IT EXPOSED

The bare sheathing should not be left exposed. If you can't complete the roofing job immediately, at least cover it with roofing felt or a tarp until you are able to install the remaining materials.

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Home Repair Resource Center empowers homeowners to maintain their homes for sustainable and diverse communities.

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