



ROOF SHEATHING

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.

Particle board is not a good substitute; any exposure to water will cause it to swell and crumble in a fairly short period of time. Nor should you use 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.

A rough (not sanded smooth) exterior grade plywood (CDX) makes an excellent replacement deck. It's a stronger material, and it's much more forgiving of moisture than OSB or particle board. When the old sheathing is completely removed to the rafters, four-ply (4 layers of veneer) 1/2" CDX is permitted by code. 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. 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.

There are a few important rules for a strong plywood roof deck:

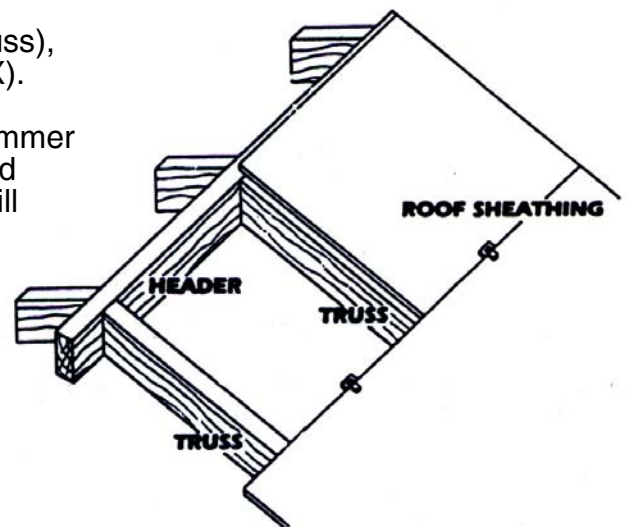
1. Any rotted or deteriorated rafters should be replaced or repaired (by “sistering” a new rafter alongside the old,) so the plywood can be securely nailed.
2. The long grain of the sheet should cross the rafters.
3. The sheets should be placed in a staggered pattern (*see illustrations*), with the short 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).



Plywood clip

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.

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.



(continued)

