# To Strip or Not to Strip?

by Henry Spies

## Shingling Over Tar and Gravel

**Q.** *I would like to replace a tar and gravel roof with asphalt shingles. What is the best way to strip off the old roof? Or can I avoid stripping the roof and sheath over the tar and gravel?*

**A.** The best way to remove the old roofing would be with a "power spudder." But if the roof is steep enough for asphalt shingles (3/12 or more) this machine would be too dangerous to use. In this case, you might try scraping off as much of the gravel as possible and installing a new roof deck — either plywood or OSB — over the existing roof. This sheathing should be nailed to the rafters, unless a thick, solid wood deck was originally installed. Asphalt shingles can then be installed over the sheathing. First, find out if the roof framing can support the added weight. But if a lot of gravel is removed, the weight of the new roof may not increase the load enough to matter.

## Stripping Time

**Q.** *How soon can concrete forms be stripped from a foundation wall? Can we build on them as soon as they're stripped?*

**A.** The forms should remain in place for at least 8 to 12 hours after the wall is poured, if the temperature is above 50° F. You can begin laying your sills and joists, and building light frame walls, immediately thereafter. But avoid backfilling or other work that places a lot of stress on the foundation walls, for at least seven days after the pour. By this time, the concrete should reach 80% of its ultimate strength. If the concrete is placed in cold weather, you should wait longer before building and backfilling to compensate for the delay in the setting reaction.

## Design Values For Site-Made Beams

**Q.** *How do you calculate the load-carrying capacity of plywood strips in a site-laminated plywood and lumber header or beam?*

**A.** The performance of a site-made beam depends on how the beam is constructed. Plywood and lumber box beams or I-beam headers perform very differently from ganged timbers spaced with plywood laminations. If you make an effort to closely follow established design guidelines for glue-nailed, built-up beams, you can count on the plywood to increase the capacity of the beam. But if you are simply nailing a 1/2-inch layer of plywood between two 2x12s to get a flush-fitting beam, you can only claim the design values for the solid-sawn timbers.

The strength of a composite plywood and lumber beam relies primarily on the shear strength of the glue lines in the plywood and in the laminated joint. This is not always controlled on site as closely as it ought to be. In addition to the allowable stress limits of the wood itself, such factors as the size and spacing of the fasteners, the type and amount of glue, the temperature at which the glue cures, the placement of plywood joints, and the grade and condition of the plywood play a role in the strength of the beam. The National Association of Home Builders *Beam Series* (15th and M Sts. NW, Washington, D.C. 20005; 800/368-5242) describes this fabrication process for built-up beams, and provides span tables for different beam configurations. ■

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