

# ALTERNATIVE FASTENERS RESOLVE ISSUES, COST LESS

Lag screws and bolts aren't the only ways to attach deck ledgers. Alternative systems offer advantages in speed and cost, and they can be used where conventional bolts and lag screws would require additional engineering. Structural screws are the most common alternative; they mount faster than hot-dipped

galvanized (HDG) lags and cost less. Here's a look at some structural screws on the market and their relative cost based on manufacturers' spacing requirements along a 16-ft. ledger for a typical deck (a 12-ft. joist span connected to an SPF rim joist with a 40-psf live load).



**HDG LAGS** • Cost: ½ in. by 4 in., \$2.17 • Spacing: 15 in. on center • Total cost (15 lags with washers): \$32.55

**Wide spacing, but higher cost.** Lag screws require lead and clearance holes, which take about 30 seconds to bore for each screw. This balances with the extra time it takes to drive the number of structural screws (about twice as many) required for the same ledger. Lags and washers cost up to twice the price of structural screws.

## Structural screws mount ledgers fast

Structural screws are smaller in diameter than lag screws and don't require lead or clearance holes through the rim joist or ledger. They zip right in with an impact driver or drill-driver and have a coating that is compatible with ACQ and other wood treatments.

Several manufacturers publish screw-spacing tables that are similar to the IRC fastener table, so it's easy to calculate quantities needed and to plan the layout. Other manufacturers list the technical specs for their screws, so you have to calculate the spacing yourself based on the deck load.

Follow the same best practices when installing structural screws as you would for lag screws: Don't countersink heads, make sure that the screw tips penetrate to the inside of the rim joist, and locate the screws on the ledger and rim joist according to the code figure and to manufacturer requirements.

**FASTENMASTER LEDGERLOK** [www.fastenmaster.com](http://www.fastenmaster.com) • Cost: 3<sup>5</sup>/<sub>8</sub> in., 55¢ (box of 250) to 68¢ (box of 50) • Spacing: 6 in. on center • Total (34 screws): \$18.70 to \$23.12



**Specifications include higher loads.** LedgerLoks come in 3<sup>5</sup>/<sub>8</sub>-in. and 5-in. lengths. A technical bulletin for deck ledgers outlines proper installation procedures, screw-placement requirements, and a fastening-pattern table similar to the IRC table but limited to 14-ft. joist spans. Where the IRC table limits live loads to 40 psf, the LedgerLok table includes rows for 60 psf and 100 psf, useful for regions with heavy snow or with local codes requiring greater live-load limits. LedgerLoks can be used when fastening a ledger to 1-in. or thicker engineered wood (LVL, LSL, PSL).

**GRK RSS** [www.grkfasteners.com](http://www.grkfasteners.com) • Cost: 5/16 in. by 4 in., 48¢ (coated) to 78¢ (stainless) in boxes of 100 • Spacing: 7 in. on center • Total (30 screws): \$14.40 (coated) to \$23.40 (stainless)



**Available in a multitude of sizes.** GRK's ledger-board technical bulletin specifies spacing for joist spans up to 14 ft. for the 5/16-in. by 4-in. RSS in both stainless-steel (PHEinox) and coated (Climatek) versions for use with treated lumber. Refer to the "wet-use in-service" tables in the bulletin for deck ledgers. The tables have rows for different wood species and specific gravity and for both 40-psf and 60-psf live loads. RSS screws can be mounted into solid-sawn 2x and engineered rim-board materials provided they are a minimum of 1½ in. thick.

**STRONG-DRIVE SDS, SDWH, SDWS SCREWS** [www.strongtie.com](http://www.strongtie.com) • Cost: 50¢ (coated) to \$1.33 (stainless) in boxes of 50 to 100 • Spacing: 6 in. on center • Total (34 screws): \$17 (coated) to \$45.22 (stainless)



SDS



SDWS

**Detailed technical information.** SDS ledger screws are ¼ in. dia. and come in 3½-in., 4½-in., and 5-in. lengths in corrosion-resistant coated steel and stainless steel; the new SDWH and SDWS screws have double coatings and come in lengths of 3 in., 4 in., 6 in., 8 in., and 10 in. The SDWS's flat star-drive head minimizes conflict with joists and hangers, but still presents a problem for hanger nails. Simpson's technical bulletin is detailed, with corresponding code provisions and separate spacing requirements based on the rim-board material and 40-psf and 60-psf live loads. Tech letters for the new screws parallel that of the SDS, making it easy to determine fastener spacing based on joist depth. Pricing is also comparable.