

Safe Installation of Efficient Recessed Lighting

BY JAMES DULLEY

DEAR JIM: I like recessed lights, but I hear they are leaky and inefficient. Are there new types that are more efficient? How do I install one properly in an insulated ceiling? — Drew H.

DEAR DREW: Recessed lights have been popular for decades and are still the lighting fixture of choice for overhead lighting. As with any product, some recessed fixtures are more energy efficient than others. Some similar-looking efficient ones can use 80 percent less electricity than inefficient ones.

From a conservation standpoint, air leakage is not an issue when installed in the first floor ceiling of a two-story house. However, if they are installed in an insulated ceiling under an attic, a hole is created from the conditioned living area to the attic.

There are newer designs of energy efficient recessed light fixtures that meet ENERGY STAR (www.energystar.gov) standards. These fixtures are airtight and use fluorescent or LED light sources to reduce electricity consumption. The inside surface of the new fixtures is more reflective to reduce the amount of light energy that gets trapped inside the fixture.

There are two types of recessed light fixtures—IC-Rated (insulation contact) and non-IC-Rated. IC-Rated fixtures are typically a can-within-a-can design which seals against the ceiling. Insulation can be placed against the IC-Rated fixture without creating excessive heat buildup and potential fire hazard.

As a safety note, if you already have old non-IC-Rated recessed lighting fixtures under an attic, check to be sure they are not covered by insu-



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lation. Insulation should be kept at least 3 inches from the housing. Cut small pieces of drywall to make a side barrier box to permanently keep the insulation away.

Electrical codes now require that any recessed fixture exposed to outdoor air must be IC-Rated and airtight. This is to keep moisture from condensing in the fixture during cold weather. Condensation inside the fixture can damage the drywall and create electrical hazards. The best option is to just replace any old recessed fixtures under an attic with airtight IC-Rated ones.

When installing recessed lights yourself, first determine your lighting goals. To brighten up an entire room, downlighting is effective. In a normal-height ceiling, a 4-foot spacing of the recessed light fixtures provides an even lighting pattern at floor level. Typical 6-inch-diameter fixed vertical

fixtures would work well for downlighting.

Approximately 20 lumens per square foot is adequate ambient brightness for most

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