



CONSIDERATIONS IN COATING ASPHALT SHINGLE ROOFS

E•las•tek™ reflective roof coatings offer significant advantages to shingle roofs, and pose several important concerns. Advantages may include:

- Extended shingle life
- Reduced rooftop and attic temperatures
- Reduced cooling costs
- Increased resistance to wind damage
- Coatings add very little weight to the roof (1 to 1.1 pounds per 100 square foot per coat)
- Coatings offer exceptional adhesion to stable granulated surfaces.

Concerns include:

- Any coating applied to shingles is likely to void the shingle manufacturer's warranty, if one exists.
- If a coating is applied to fully seal all shingles (explained below), a membrane is created. The roof's ability to breathe through the shingles is reduced, unless the roof is otherwise properly vented.
- Moisture buildup in the roof system can damage roof and decking materials.
- **Only shingle roofs that have good attic or under-roof ventilation should be considered for seal coating.**¹
- Good ventilation requires air intake vents located on the down slope edge of the roof and exhaust vents located at or near the roof ridge line.
- The home must be checked for evidence of proper venting before coating.
- Net Free Vent Area (unobstructed vent openings) should equal or exceed 1 square foot of vent area per 300 square feet of attic floor space (1/300 rule).²

TWO WAYS TO COAT SHINGLES

Please read and consider the options carefully before coating. More specific instructions can be found in the *Guide to Coating Shingles* section below.

Method #1. Surface Coating

Two to three coats of E•las•tek elastomeric roof coating are applied to the exposed shingle surface, in a controlled manner, to AVOID sealing shingle tabs and seams with coating. The 3-dimensional surface of asphalt shingles makes this easy to do.

The breathing ability of the shingle is not affected, the protective mineral granules are glued to the shingle long term, and the outline of the seams and tabs are retained, the appearance of a shingle roof is maintained.

The surface temperature and the below deck temperatures can be dramatically reduced (assuming a white E•las•tek coating), and roof life will be extended.

Wind resistance is improved.

Method #2. Seal Coating

The entire shingled area is fully coated with two coats of E•las•tek elastomeric roof coating, including tab and seam edges. This is the traditional manner in which shingle roofs have been coated. The roof's surface becomes a waterproof membrane.

Wind resistance, UV protection, and heat reduction are maximized, but good roof venting is essential to prevent moisture damage in the roof and deck systems.

The shingle "look" is reduced.

CONSIDERATIONS

Climate

Coating shingles should only be considered for warm, dry climates, as we have not performed tests on coated shingles in climates where moisture, snow, and roof ice could be factors.

Renewing the Coating

Shingles can be recoated periodically to sustain roof protection, cooling, and to extend roof life.

Coating with Color

White is the most reflective and energy efficient coating color. E•las•tek Energy Tan™

provides very good reflectivity without the glare. Desert Tan and other darker colors will be much less heat reflective.

Unlike other coatings, E•las•tek Solar Tek Extreme™ has a special feature that minimizes dirt pickup allowing it to maintain its reflectivity for an extended time.

Leaky Roofs

Properly installed shingle roofs normally will be leak-free until they deteriorate due to age and weather. We strongly recommend that roofs in deteriorated condition (tabs that are curled, cracked or broken, or have lost much of their granule protection), or roofs that appear to leak **should not be coated.**³

New Shingle Roofs

We do not recommend coating new shingle roofs. New roofs should be given a year or more to settle, allow solvents to vent, and permit the anti-lifting asphalt under the tab to become well adhered. Shingle grades (quality and life expectancy) and warranties vary and should be considered by customers before coating.

GUIDE TO COATING SHINGLES

Know your shingles before you start.

Look at your roof carefully. Is it a minimum pitch, sloped roof? Are the shingles asphalt-based with a mineral granule topping? Our instructions apply only to this style of shingle. The shingles must lie flat, but do not nail them flat. Thin shingles are easier to seal coat; thick shingles are easier to surface coat.

Roofs with damaged, curled, split, or broken shingles are not suitable for coating and must be avoided.

Safety

Working on sloped roofs introduces potential fall hazards. Homeowners should consider hiring a contractor to apply coating. Steeply pitched roofs are impractical to coat.

CONTINUED ON BACK

APPLICATION TECHNIQUE FOR SURFACE COATING

Use a ½" nap roller cover, heavy-duty frame, and pole handle. Pour roof coating into a paint tray or use a bucket grid to put a thick, even layer of coating on the roller. If the roller is overloaded, it may fill in seams and tab edges. Practice application techniques on a less visible part of roof first. Beginning at the top or ridgeline, apply the coating using a *downward stroke only*. Upstrokes may seal the tabs.

The roller will require rewetting frequently as the shingle granules soak up coating. Use enough roller pressure to work the coating into the surface. Two coats and some touch-ups are needed to achieve a consistent appearance.

Touch-up and filling in uncoated areas can be done using the roller working side-to-side across the shingle with a light load of coating on the roller.

The surface coating approach will leave a few tiny gaps around granules that are not coated white. A perfect coating is not required.

If a shingle edge is inadvertently sealed, allow the coating to dry then open the seam with the tip of a shop or putty knife.

APPLICATION TECHNIQUE FOR SEAL COATING

Use a ¾" nap roller cover, heavy-duty frame, and pole handle. Dip the roller cover and frame directly into the coating pail and apply as a thick coat.

Beginning at the top or ridgeline, apply the coating using up and down strokes, pushing coating into the seams and tabs. The roller will need rewetting frequently as the shingle granules soak up coating.

Use enough coating so that all exposed shingle edges are visibly sealed with coating. Two coats are recommended.

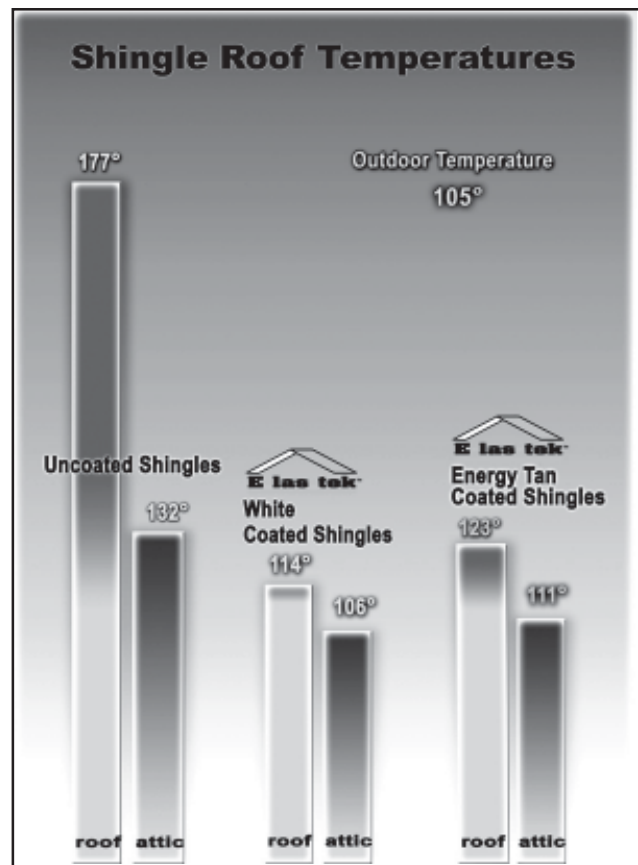
Check all seams and tabs when the coating has dried. Any gaps can be closed with coating using a paintbrush.

Results

Compared to the surface coating method, a full-seal coating of shingles seems to reduce roof surface and attic temperatures just several more degrees. This is due to more complete and thicker coating coverage of the full-seal coating method.

Caution

Uncoated shingles become very hot in the sun, so do application in the cool of the morning or when the sky is overcast. See pail label or product information sheets for additional application instructions.



RESEARCH RESULTS

Our test roof was coated on a sunny morning in late August. Temperature readings were taken the day before and the day of coating. White coating used was E-las•tek Solar Tek Extreme. Comparable results are shown using Solar Tek Extreme coating tinted in Energy Tan and Desert Tan.

FOOTNOTES

¹ *Vaulted or cathedral ceilings* create special ventilation problems that require continuous ridge and soffit vents to prevent moisture accumulation between rafters. Such ceilings are very common in manufactured homes. Do not apply coating to such roofs unless special venting, such as ridge vents, is in place. More information on roof ventilation can be found on the Internet or from a professional roofing contractor.

² The number of square feet of intake and exhaust vent area should be about equal. Extra venting area is okay unless in falls between the upper and lower vents, compromising exhaust flow. Exhaust vents and intake vents are specialized and must be used for their intended function. Three vertical feet should separate intake and exhaust vents. See *FHA Guidelines* or *Home Ventilating Institute Guidelines* (HVI) for more information.

³ Roof leaks may actually be an indication of inadequate ventilation, when warm moist air from within the home rises to condense on the underside of the roof deck in cool weather, and the resulting water drips on the ceiling giving the impression of a roof leak. Coating such roofs will make the problem worse.