

Cool Roof, Cool Trailer

STORY AND PHOTOS BY H. KENT SUNDLING

Summer is fast approaching, the perfect time to hook up your trailer, and head out to trail-riding destinations near and far.

But imagine you're your horse. It's August, and you're in a metal trailer. You're hot, and your head is just below the hottest part of the trailer. Plus, the heat is causing the trailer roof to expand making popping noises that set you on edge.

Now, imagine the trailer is 20 to 30 degrees cooler, and is quiet. That's the idea behind Temp-Coat ceramic-liquid insulation from Innovative

Green Solutions.

Product Description

Temp-Coat is made from air-filled ceramic and silicon beads, making it impervious to mold and mildew. It's also an acoustic dampening barrier and flame retardant.

The light, thin insulation has an elastic finish that moves with your roof. An aluminum trailer roof is hard to seal, because the metal expands and contracts, causing stretching around rivets, bolts, and sealant.



Left: Brian Jaeger, president of Innovative Green Solutions, applying Temp-Coat on H. Kent Sundling's aluminum-roofed horse trailer. inset: Wire sensors were added to test the product's cooling properties.

When an aluminum trailer isn't completely sealed, the metal surface oxidizes, creating black streaks that roll down the trailer's sides. Temp-Coat seals the roof, preventing corrosion.

Temp-Coat is a Materials Analytical Services, Inc. (www.mastest.com), Certified Green product. It's nontoxic, contains no volatile organic compounds (VOCs), and has the pH balance (between acid and alkaline) of water.

The product was first developed by NASA to provide an insulated coating for the Space Shuttle. It's also used by the United States Navy and the U.S. Coast Guard.

Product Testing

Brian Jaeger, president of Innovative Green Solutions, applied Temp-Coat on my aluminum-roofed horse trailer. He washed

my trailer, scuffed the surface, and applied paint tape to delineate the application area. Then he applied two coats of Temp-Coat with a total thickness of 40mm, with **R20 insulation equivalent**. (The R-value is a measure of thermal resistance.)

When the second coat was applied, it looked like my trailer roof was painted. It took two hours to dry.

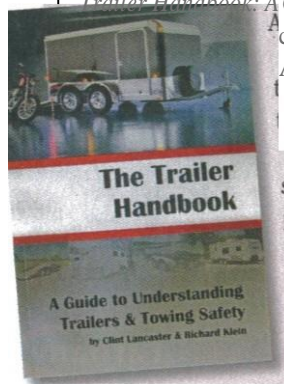
To test the product's cooling properties, we split the roof in half; the front half was above the dressing room, and the second half above the horse stalls.

We attached an Omega data logger, which collected data from four sensors: two wire probes outside and two inside, on both the treated and untreated portions of the trailer.

Both rooftop sensors were exposed to direct sunlight. The wire on untreated aluminum was open, with the majority of the untreated roof shaded by my deck. If the

untreated portion had been uncovered, the heat would've built up even more.

When we tested the product in May, I recorded an average of 20 to 25 degree drop in temperature. Testing in the heat of summer has shown an average of 20 to 30 degrees, the difference air-conditioning makes. **/.TTR**



I know how hard it is to find a good trailer book, so I'd like to recommend *The Trailer Handbook: A Guide to Understanding Trailers and Towing Safety*, by Clint Lancaster and Richard Klein. The authors both work for the National Association of Trailer Manufacturers, also the book's publisher.

At just 124 pages, the book isn't long. But trailers can get technical, so the specs and glossary alone are worth the price of the book.

The book covers everything from how to select a rig, understanding hitches, and loading your trailer for balanced weight placement to electrical wiring, using your trailer, and trailer care. The appendix includes driver behavior, instructions, warnings, resource, and a glossary.

Cost: \$19.95

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H. Kent Sundling (a.k.a. Mr. Truck; www.mrtruck.com) is a well-known automotive journalist reviewing trucks, trailers, and accessories for magazines and websites. He travels the country test-driving new trucks, towing trailers, and reviewing horse-trailer manufacturing facilities.



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