

CONDUCTION or SOLAR REFLECTIVITY & THERMAL EMISSIVITY?

"What is the R-Value?" Always the first question. The traditional, well-known approach to insulating buildings is to install batt insulation under the roof (or behind the walls). The goal is to reduce the rate of heat transfer by reducing the **conduction** of heat to the interior. The materials that do this are called **RESISTORS**. The ability of these materials to slow down the heat transfer is measured by the R-Value. The more material used, the greater the R-Value.

Our ceramic based coatings, rather than fighting back the heat already absorbed by the roof or wall substrate, **reflect** the Solar Radiation away from the material, resulting in substantially cooler roofs and walls. Additionally, the small amount of heat that is absorbed is **emitted**, or rapidly dissipated. Our Ceramic Coatings keep the surface temperature considerably lower than other types of coatings and materials. Extensive studies, evaluations and test results confirm that the coating's properties, called **reflectivity** and **emissivity**, the essences of effective thermal radiation control, are as reliable as the R-Value ratings of the traditional, bulky materials. By controlling heat through reflection at the source (i.e. by substantially reducing the absorption of heat by the roofing substrate), the need for conventional R-Value rated insulation materials is greatly reduced or eliminated all together.

What is the R-Value for the Coating and/or the Coating System?

This "state-of-the-art" technology exhibits resistance to heat flow through the substrate to which it has been applied. This is the result of the combination of the reflective, non-conductive and other thermo-physical properties mentioned above. The **R-Factor (Index to measure resistance of the heat flow by conduction)** of the coating, if applied at a 1" thickness, has incredible value compared to other materials, sometimes 6 or 7 times more effective. However, as our coating is typically applied at only **15 to 20** mils, the effects of slowing down the conduction of heat (R-Factor) at that thickness is not significant enough to be considered. At 15 to 20 dry mils thickness, **CRICSSM** will have an "**R-EQUIVALENT or RELATIVE R-VALUE**" of R-19 to R-24 when exposed to solar heat.

THINK ABOUT IT!

If a roof could be shaded with a large canvas during all daylight hours, the damaging effects of U.V. Rays would be eliminated. The greatly reduced temperature of the roof would minimize damage from expansion and contraction cycles, extending the life of the roof and lowering maintenance costs. Due to the shading, less fiberglass or foam insulation under the roof would be required AND any condensation problems would be reduced or eliminated. *PROTEK-USA's Coatings and Coating Systems provide such shade for your roof (or exterior walls). Reflecting heat back and rapidly dissipating it is the answer for today's applications, rather than ONLY slowing down the conduction of the heat absorbed with traditional insulation!*

- Do you know what the R-Factor is of a waterlogged fiberglass blanket or polyurethane foam?
- Did you know that 80% of the water penetration of insulation is caused by failure of seams of the roof membrane due to thermal stresses (expansion and contraction cycles)?
- Do you know that the average roof fails in some areas, because of the materials not being able to handle the expansion and contraction (thermal shock)?
- Do you know that only 15 % of the people in charge of making decisions related to building maintenance, including roofing, know or have heard "something" about Ceramic Insulating Coatings?
- Are you among the 15%?