

## WHY YOU SHOULD BE SPECIFYING CERAMA-TECH

Whether you are a homeowner, a business owner, the manager of a plant or simply the one in charge of paying the utility bills, you all have one thing in common; You are responsible for seeking out any and all ways of reducing and controlling your heating / cooling energy costs and the maintenance costs associated with them.

There is no big secret to attaining substantial energy savings in the warmer months. It is simply a case of knowing and understanding what the *proprietary surfaces* of the structure are and their levels of *solar reflectivity*.

The proprietary surface of a wall, roof or piece of equipment is simply whatever the material is on the very outside. Anything you can do to increase the level of solar reflectivity on those proprietary surfaces will result in a reduction in heat transfer into the structure and the resulting reductions in energy requirements / costs.

Every material known to man has it's own measurable levels of;

1. **Solar reflectivity**; the amount of the sun's heat energy that the material reflects away from itself.
2. **Absorption**; the amount of the sun's heat energy the material allows to penetrate into itself.
3. **Emissivity**; the amount of that absorbed heat energy the material emits back out into the atmosphere in the same direction from where it came.

Science and technology have given us the means to measure the reflectivity and emissivity of materials for many years. However, the importance of emissivity and its role in energy conservation has been somewhat overlooked over the years.

When the Energy Star program for roofing materials first began, the requirements for acceptable were defined by reflectivity only. As of 2009 the EPA has wisely added the levels of emissivity of the roofing products to that same list.

Cerama-Tech has undergone independent laboratory testing for reflectivity and emissivity levels by two separate labs. Cerama-Tech has solar reflectivity of 83% and its level of emissivity is 90%. I will try and explain exactly what this means.

Cerama-Tech reflects 83% of the sun's heat energy back into the atmosphere in the direction that it came from. That leaves 17% that actually enters the surface of Cerama-Tech.

This is where the emissivity level comes into the picture. Of the 17% that enters the Cerama-Tech, 90% of that is emitted **back** in the direction from where it came. Let's do the math,  $90\% \text{ of } 17\% = 1.7\%$ . **Only 1.7% of that heat energy actually gets past the Cerama-Tech and enters into the structure.**

My apologies for that description sounding somewhat simplistic. We cannot simply say "Cerama-Tech reflects 98.3% of the heat". We cannot say that because it is not a true and accurate statement. We must explain it exactly as I did, as simplistic as it sounds.

Now I will try and give a few examples of solar reflectivity of some common proprietary surfaces of structures and equipment.

Let's say you build a house and install wood siding on the outside. The wood siding is now the proprietary surface and the reflectivity level of that wall is whatever the reflectivity level of that type of wood is, probably in the 8% to 15% range.

Now let's say you prime then paint that wood siding with regular paint.

Now the reflectivity level of that wall is that of the regular paint, around 12% - 15% (when brand new if you used bright white), much less if tinted to a darker color. The wall is beautiful now but that did little to nothing to help your cooling and heating bill.

Here is where we have the big problem, **REGULAR PAINT WILL FADE AND OXIDIZE IN JUST A FEW YEARS.** When the paint begins to form that layer of oxidation on the outside surface, that layer of oxidation now becomes the proprietary surface and the oxidation has reflectivity in the **3% to 5%** range. The same numbers apply to bare metal surfaces that have oxidized. The regular paint on that wall has faded and oxidized and your cooling energy bill has gone up because of it.

Now you have to re-paint your building **AGAIN** if you want it to look it's best. That will bring the reflectivity level up to around 12% again. This is the on-going maintenance cost that home and business owners paid until now.

Painting contractors know how long regular paint will last and they expect you to call them back in 4 or 5 years. Repeat business and referrals, that is how they **stay in business** and that is how their entire industry is set up to work.

**CERAMA-TECH NEVER FADES, CHALKS, OXIDIZES, PEELS, CHIPS OR FLAKES! Cerama-Tech carries a 15-year transferable warranty.** We have had more than one painting contractor tell us they will not use Cerama-Tech because "That stuff will put me out of business, I will never get the call to come back and re-paint the place".

They are absolutely correct; they will not get that call, unless the people just get sick and tired of looking at the same colors year after year after year.

So here are your options; re-paint the building every 5 or so years OR have it coated with Cerama-Tech once and *never paint again*. Spend your money on regular paint or invest that money with Cerama-Tech.

Knowing the reflectivity levels of all the materials on the outside of a structure gives you the power to control your cooling bill. Most common materials on the outside of buildings (that make up *their* proprietary surfaces) have a solar reflectivity level in the area of 12%. It does not take a degree in rocket science to figure out that changing that level to 83% is going to make a drastic change in the cooling requirements for the building.

Over the years, the insulation industry has done an excellent job in brainwashing people into believing that the *ONLY* way you can better insulate your home is to add even more R-rated insulation to the walls and attic spaces. R-rated insulation is necessary and it does help, however, to say it is the *ONLY* way is NOT an accurate statement. R-rated insulation is quite ineffective against heat transfer by radiation (radiant heat gain/loss).

### ***OTHER BENEFITS OF CERAMA-TECH***

Let's talk *thermal shock*. Thermal shock, heat expansion and the 'Accordion-effect' it has on walls and roofs. With the exception of a natural or man-made disaster, thermal shock is the biggest threat to the structural integrity of any building.

If the level of reflectivity of the proprietary surfaces of a building are low and the emissivity level of that material is also low, the radiant heat makes that material expand, it experiences **THERMAL SHOCK**.

Thermal shock causes cracks in stucco. Thermal shock causes nails to work themselves loose on exterior siding. Thermal shock causes ripples, bubbles and other raised areas on a commercial flat roof with mineral cap sheet and residential roofs with composition shingles.

Asphalt roofs; the hottest roofs. Black is considered to be ZERO REFLECTIVITY. The oils are baked out of them, they become dry, brittle and they crack. Now you have roof leaks and normally, annual repairs. Cerama-Tech seals the roof and stops any further decomposition of the roof.

**CERAMA-TECH STOPS THERMAL SHOCK.** With reflectivity at 83% and emissivity at 90%, Cerama-Tech stops thermal shock dead, it just doesn't happen!

Cerama-Tech on boilers and steam pipes has resulted in surface temperature reductions from 267-degrees F, down to 155-degrees F, just from a coat of paint! Those temperatures were calculated to be a 35% reduction in heat-loss to the cold outside. That same reduction in heat loss in the cold month is what you can expect from that same layer of Cerama-Tech on the outside of your building.

## ***YEAR-ROUND ENERGY SAVINGS!***

Now, if you own a business, think about increased employee production and reduced sick calls. Who wants to work hard in a building that is uncomfortably hot, who even wants to GO to work in a building like that.

If you have product in your buildings, (Fruit, vegetables, animals etc) that would greatly benefit by cooler temperatures, we have the answer here.

Cerama-Tech is one of the most versatile products in the world. It has SO many uses and does SO well, it is one of those products that sound too good to be true. ***Well, it IS true and we have the energy calculations and the electric bills to prove it.***

If you have a heat problem or simply want to drastically reduce your cooling and heating costs, CALL ***US TODAY***

***20 YEARS EXPERIENCE IN SOLVING  
ENERGY PROBLEMS AND DROPPING  
COOLING AND HEATING COSTS.***

***CERAMA-TECH OF TEXAS***

Hal Skinner  
Cerama-Tech engineering

***CHANGING THE WAY THE WORLD THINKS ABOUT INSULATION***