COATINGS SOLUTIONS

Superior Coatings for Superior Results

The Missing Element In Energy Efficiency

As an HVAC company, you are on the front line in your customer's concerns for energy savings. Coatings Solutions is uniquely position to help you change how your customers approach energy usage efficiency and the maintenance of their buildings.

The Scenario

When the cooling costs of operating a business become economically uncomfortable, the first people who get the call is the HVAC company. They inspect the current climate control system and it appears to be in good condition and working order. After all, air conditioning systems are designed to cool the interior spaces of a building that are insulated from the exterior environment.

The next people to be called in is the insulation company. The building is inspected and probably passes on all of the normal parameters. The interior insulation is not deemed to be the problem. The insulation is a relatively permanent and passive component in the building. It is designed to slow down the movement of heat from the exterior environment to the interior space. The insulation effectiveness is based upon the progression of heat through an air space. Sooner or later, the heat will get through the insulation and affect the interior living or working places.

The Problem

The way most buildings are constructed the idea is to rely on interior insulation to slow down the heat penetrating into the interior spaces for long enough, until the sun goes down. Then, once the exterior heat load eases during the night, the insulation space slowly cools down by dumping all the heat into the interior which is cooler than the exterior (heat goes to cold). The A/C must run into the evening to cool the released heat from the mass type insulation in the walls and laid or blown into the attic. In hot climates, the afternoon sun goes down 7:30 – 8:00pm and rises around 5:30am. If the ambient temperature never drops into the 70s, the A/C temperatures in a home are set around 72F to 78F (at the highest), keeping the A/C units running nearly constantly. When the sun comes up the next day, the heating cycle begins once again. During the night, the air conditioning system works overtime to cool the insulation. Every day is the same cycle repeats. Heat up, cool down, with no relief. There is a better way!

The Solution

Here is the new way to think about a complete insulation picture. **Stop the heat at the exterior surface, before it even gets into the building.**

Back in the 1970's, NASA was preparing for the Space Shuttle project. It was determined that the best method of protecting the craft from the massive heat of atmospheric re-entry was to line the bottom with ceramic tiles. It was known that certain blends of ceramic materials had the ability to block the loading of heat. The underside of the Space Shuttle had a heat shield of thousands of ceramic blocks. Years later, Superior Products International perfected a blend of 4 powdered ceramic materials in a durable water based coating. The new coating became known as Super Therm®. Here is what you need to know.

Super Therm® is made with four ceramic compounds. One ceramic blocks heat transfer, two block heat load on the surface of the coating from UV and Visual light radiation. The fourth ceramic compound is designed specifically to match the size of the IR radiation wave from the sun (IR is 57% of the radiation heat).

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The ability to block and repel heat off the surface is referred to as emissivity, which is becoming a well-known heat blocking method.

In recent years, coating the roof of buildings with white paint has been a popular idea for reflecting light and attempting to control heat buildup. However, when conventional white paint becomes dirty, weathered or stained, it stops working as a light reflector. If the color white was all you needed, then a white car hood sitting in the driveway would not burn your hand when you touch it. For the complete solution, you have to stop the heat at the surface, before it can penetrate inside!

White paint alone does not have the proper ceramic compounds to perform any of the main heat blocking requirements. Therefore, blocking all three heat waves is the critical. Since the ceramics do not load the heat, it does not matter if the coating surface becomes dirty or weathered (as testified by a 32-year test roof in Western Kansas). For most applications, the coating works extremely well at only 10 mils of dry thickness. The long service life of Super Therm® represents another huge maintenance savings in the extended life of a roof.

Super Therm® has been tested in the US, Europe, Mexico, Asia, Canada and Russia for reflectivity ability to a 95% average efficiency. Reflectivity is the main reason to use a white coating. However, that is only one part of the answer.

Coating the roof of most buildings with Super Therm® will produce very significant energy savings. That way, the interior insulation and the air conditioning can do their jobs, not get overwhelmed and your operating costs come into control. Plus, you are not paying to cool down the insulation at night. The return on investment is quite rapid compared to any other product or method. Ceramic coating is the 21st century answer to operating cost savings, sustainability and efficiency.

Coatings Solutions, a Houston, Texas company, is looking for HVAC companies to partner with in order to bring the Super Therm® energy savings to your clients.

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