

Solar Reflective Coatings

Q: What is a Solar Reflective Coating and what does it do?

A: As the name implies, the coating reflects the spectrum of light which generates heat, all the while keeping the pavement cooler. Albedo is a measure of solar reflectance. These are high-albedo coatings which are often light gray or white in color and reflect more of the sun's energy. This keeps the pavement at consistently cooler temperatures both at the surface and below.

Q: Why are Solar Reflective Coatings (SRC) considered environmentally friendly?

A: SRC's have several environmentally friendly benefits that result from cooler pavement temperature. The most prominent feature is a reduction in the "Urban Heat Island Effect." There are secondary benefits as well. These include reduced lighting requirements at night, since more of the light is being reflected back, plus some studies have shown a decrease in certain pavement defects, such as rutting, in cooler pavements.

Q: What are Urban Heat Islands?

A: While there are many potential causes, the concept of Urban Heat Islands involves the amount of dark surfaces (such as roads and roofs) in a typical urban environment which absorb and release solar energy in the form of heat. This can lead to increased temperatures, requiring more energy to cool the indoor environment. In Chicago alone, more than 35% of the area has been paved, so use of SRC's in conjunction with other cool pavement strategies can have a dramatic effect on the environment.

Q: Are there any other strategies besides Solar Reflective Coatings which can be employed to reduce heat islands?

A: Porous pavements can also be used to reduce pavement temperature or even something as simple as having more natural coverage of paved surfaces, such as using trees.

Q: Are Solar Reflective Coatings eligible for LEED credits?

A: Yes. While each project must be independently certified through the USGBC, the uses of SRC's are recognized strategies. For a product to qualify, it must have a solar reflectivity index (SRI) number above .29, which would apply for SS Credit 6.1: Heat Island Reduction, Non-Roof Surfaces. Please visit www.usgbc.org for more information.

Q: How many products exist which are considered SRC's?

A: There are several products which exist currently and, due to increasing demand and improved research, more are in development. Like any new technology or product it is important to examine all the benefits and monitor them over time, which is why many are just now becoming more marketable, even if they have been in existence for an extended period of time.

Q: Are there particular products you recommend?

A: There are several products we currently work with and several more that may become available in the near future. Even the raw materials being used can vary. But there are several factors which can guide the decision including budget, condition of the pavement, desired longevity, and usage. Rather than promote one product and take a “one-size-fits-all” approach, we prefer to provide a customized solution based on the needs of the customer and the site.

Q: How are these SRC’s different from traditional pavement maintenance coatings?

A: Depending on the solution there are many differences. The most obvious being the color and the affect they have on Heat Islands since most traditional products are black. Since many SRC’s were designed to be eco-friendly, they are often non-toxic or low VOC and do not contain the PAHs associated with coal tar sealers. Most have a lifespan exceeding the normal range for traditional products and can vary from 2 to 5+ years.

Q: What is the cost difference for SRC’s compared to traditional seal coats?

A: The upfront costs tend to be higher, for many reasons such as cost of raw materials or limited production, but the overall lifecycle cost can be equal or lower.

Q: Where can I find more information about Solar Reflective Coatings or Heat Island Effect?

A: There is a wealth of information available online, especially for the heat island effect, but we are always interested in continuing the discussion and providing more specific data. Just contact Rose Paving at (888) 773-ROSE and ask to speak with a member of the “Green Team.”