



Solar Reflectance Index (SRI) is a measure of a material's ability to reflect solar energy and radiate absorbed heat back into the atmosphere, rather than transferring it into the building or the surrounding environment.<sup>1</sup> SRI values are typically used to assess the energy efficiency and coolness of roofing materials, especially in the context of sustainable and environmentally friendly construction.

A higher SRI value indicates a roofing material that reflects more solar energy and stays cooler in the sun. Cool roofing materials<sup>2</sup> with high SRI values can help reduce the heat island effect in urban areas, lower energy consumption for air conditioning, and mitigate the environmental impact of buildings.

Cool roofing materials, often with high SRI values, are encouraged in green building and sustainability initiatives as they contribute to energy efficiency, reduce greenhouse gas emissions, and promote more comfortable indoor environments. These materials are often designed to have reflective and emissive properties that minimize heat absorption and improve building energy performance.

Within the construction industry, the use of cool roofing materials with high SRI values can help mitigate the urban heat island effect,<sup>3</sup> which refers

to localized temperature increases in urban areas due to human activity and heat-absorbing surfaces. These materials are often designed to have reflective and emissive properties that minimize heat absorption and improve building energy performance.

Metal roofs can be designed with reflective coatings that help reflect solar heat, reducing the heat absorbed by the building. When combined with cool roofing techniques, this can help mitigate the urban heat island effect by reflecting more solar energy.

The use of high SRI roofs is a valuable strategy for LEED® and other market-based systems and contribute to credits towards building certification. Please visit [coolroofs.org](https://coolroofs.org) for a directory of compliant products.

## SUMMARY

High SRI roofing materials promote sustainability, reduce environmental impact, and enhance energy efficiency in building projects. These materials help lower cooling energy consumption by reflecting more solar energy and reducing heat absorption. High SRI roofing materials are often durable and recyclable, contributing to resource conservation, and contributing to building certification.

While we strive to provide accurate and up-to-date information, the intricacies of LEED certification may change, and individual project circumstances may vary, making it essential to consult with a knowledgeable professional for precise and tailored advice. For more information on LEED® certification visit [usgbc.org](https://usgbc.org).

### References

1. "What is the Solar Reflectance Index?" [coolroofs.org/documents/CRRC-SRI-Documents\\_2022-07-12.pdf](https://coolroofs.org/documents/CRRC-SRI-Documents_2022-07-12.pdf) Retrieved 1 December 2023.
2. "What is a Cool Roof?" [coolroofs.org/resources/what-is-a-cool-roof](https://coolroofs.org/resources/what-is-a-cool-roof) Retrieved 1 December 2023.
3. "Cool Roofs" [energy.gov/energysaver/cool-roofs](https://energy.gov/energysaver/cool-roofs) Retrieved 1 December 2023.