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## BOMANITE LIGHT REFLECTIVITY GUIDE

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This guide is to assist the specification professional in the selection of Bomanite Color Hardener colors appropriate for use on projects requiring a high Solar Reflectance. Solar Reflectance is the ratio of the amount of solar radiation reflected from a material to the amount shone on the material. The higher the Solar Reflectance the greater the amount of light from both ultraviolet and the visible spectrum that is reflected from the substrate. This is also known as Albedo. In general, the lighter the color of the substrate along with the smoother the surface texture, the less energy it absorbs and therefore the higher the Albedo. A surface that absorbs more energy will be hotter therefore contribute to Heat Island Effect.

Asphalt, as an example, typically has a measured Solar Reflectance number of  $< 0.1$  while ready mixed concrete has a Solar Reflectance of 0.2 to 0.35 with some isolated cases in the range of 0.4. Factors such as the shade of the portland cement utilized in the mix or if pozzolans such as light-colored blast slag, are used as cement replacements.

For situations such as LEED rated projects requiring an Albedo of  $>0.3$  the use of surfaces with adequate Solar Reflectance will be required. Bomanite offers a wide range of Color Hardener colors from black through white. Bomanite standard colors Cream, Beech, Birch Bark, Sand, Travertine Beige and Coquina have an Albedo or Solar Reflectance of 0.3 – 0.6 while White Color Hardener has an Albedo of 0.7 – 0.8. The balance of Bomanite standard colors do not have an Albedo  $> 0.3$  and therefore do not qualify to meet the LEED standard.

Other factors like aggregate exposure, film forming gloss sealers, finishing procedures, reflective aggregates etc. will either reduce or increase light scattering. A project required to be of a certain SRI value using a non-traditional finish (anything other than acid wash, light broom or trowel) should have the Albedo testing done for verification of compliance prior to placement. The testing is conducted via a third-party firm and requires 3 to 8 weeks to complete using ASTM c-1549. The requirement for testing should be in the specification so that the Bomanite installer can bid the project accordingly.

The information provided in this document is to the best of the Bomanite Company's knowledge. It is up to the individual specification professional to determine which LEED points can be attained through the use of Bomanite Systems. For specification assistance and product information visit [www.bomanite.com](http://www.bomanite.com) or contact Bomanite Technical Services.