

Determination of SRI on white concrete

Product Application Report

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Initiated By: Greg Thielen
Account: BASF Construction Chemicals
Location: Mannheim, PA
Contact: Jeffrey Wiersch

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Summary:

BASF Construction Chemicals submitted a white concrete block sample for Solar Reflectance Index determination; this requires evaluation of Total Solar Reflectance and Emissometer evaluation.

Lab Work:

TSR measurements were done with the Devices and Services instrument in accordance with ASTM method C-1549. Three readings were taken on each sample along a diagonal line of the face of the concrete block (5 inch x 5 inch x 1 inch thick). The non-glossy side was tested.

The Emissometer measurements were performed with a Devices and Services instrument in accordance with ASTM C 1371. Samples were tested at room temperature (72F) and it took at least 10 minutes for the probe to come to an equilibrium reading because it actually heats the sample up by ten degrees or so.

Results:

The Solar Reflectance Index is a mathematical calculation based on the TSR value and Emissometer value. The mathematics are outlined in ASTM E- 1980 ; based on LEED 2.2 criteria.

TSR readings averaged 67.8 %
Emissometer readings ranged from 0.88 to .90

So the SRI (Solar Reflectance Index) = 82. This is a very good value and it makes sense since the block is off-white in color.

Conclusion:

The data is being submitted to the customer through J. Wiersch at BASF Construction Chemicals. The sample block will be stored at Newport and disposed of in 30 days, unless the customer wants it back.

Cc K Gerzevske, C Valovic, G Thielen

TSA Lab Signature: Jim Delaney

BASF Corporation
205 South James St.
Newport, DE 19804
Tel: 302-996-2961
Fax: 302-992-1256
www.basf.com

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