

Energy - Docket Optical System

From: Ware, David@Energy
Sent: Wednesday, March 13, 2013 10:33 AM
To: Energy - Docket Optical System
Subject: FW: Docket 12-BTSD-07: Compliance Option for Low-Sloped Roofs the Use Aggregate

Categories: Ready to Docket

Please include this in the docket listed above. Thanks.

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California Energy Commission

DOCKETED
12-BSTD-07

TN # 69905

MAR. 13 2013

From: Ware, David@Energy
Sent: Wednesday, March 13, 2013 10:14 AM
To: Thomas Hutchinson (hutch@hutchinsondesigngroup.com)
Subject: Docket 12-BTSD-07: Compliance Option for Low-Sloped Roofs the Use Aggregate

March 13, 2013

Thomas W. Hutchinson
Hutchinson Design Group, Ltd.
232 E. Main Street
Barrington, IL 60010

RE: DOCKET 12-BTSD-07

Dear Mr. Hutchinson:

Tom—

This note responds to issues discussed in my email to you dated January 11th. You have suggested that our proposed compliance option for aggregate material include larger rock sizes, similar in size to that used for ballasted roofs, and that the compliance option account for the material's overall weight as a surrogate for the effectiveness of solar reflectance based on the thermal benefits of the heavier roof. We've been working towards completion of our proposed compliance option and have had several discussions with LBNL for recommendations of the aged solar reflectance of larger rock sizes based on their research results. Based on those discussions we are proposing to finalize our compliance option for aggregate material and are expanding it to include larger aggregate. Note, this compliance option proposal does not include roofing material weight. My January 11th email explained reasons for not including equivalent energy tradeoffs for varying roof types based on weight. However, we support the future development of a factsheet that is focused on these effects as stated in my previous email.

Please review our proposed modifications to the default aged solar reflectance for aggregate materials shown below. I'd like us to follow-up with a telephone conversation regarding this proposal.

Thanks.

1. Aggregate used as the surface layer of low-sloped roofs shall have the default cool roof properties listed in Table 1 provided all eligibility criteria listed in 2 below are met:

Table 1: Default Solar Reflectance and Thermal Emittance for Aggregate Materials

Aggregate Size	Required Tested Initial Solar Reflectance	Default Aged Solar Reflectance	Default Thermal Emittance
Passes No. 4 Sieve and Retained by No. 8 Sieve conforming to ASTM D448	0.50	0.48	0.85
Passes No. 4 Sieve and Retained by No. 5 Sieve conforming to ASTM D448	0.45	0.40	0.85

2. Eligibility criteria for aggregate used as the surface layer of low-sloped roofs:
 - Conforms to material standard ASTM D1863,
 - Has a tested initial solar reflectance that meets or exceeds 0.50 or 0.45 respectively using the ASTM E1918 test procedure conducted by an independent laboratory meeting the requirement of Section 10-113(d)4 of the *Building Energy Efficiency Standards*,
 - Has a label on bags or containers of aggregate stating the tested initial solar reflectance, that the materials conform to ASTM D1863 and ASTM D448, and the sieve size used for determining aggregate size.

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