



# **Staff Webinar**

## **Proposed Compliance Option: Low-Sloped Roofs That Use Aggregate as the Surface Layer**

**David W. Ware**  
**California Energy Commission**  
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## Low-Sloped Roofs That Use Aggregate as the Surface Layer

- Introduction
- Purpose
- Compliance option process
- Aggregate roofing materials
- Field data
- Proposed default reflectance and eligibility criteria



## Low-Sloped Roofs That Use Aggregate as the Surface Layer

- LBNL field data  
(OCTOBER 2012, CEC-500-2012-083)
  - Purpose
  - Methodology
  - Findings



# CALIFORNIA ENERGY COMMISSION





## Low-Sloped Roofs That Use Aggregate as the Surface Layer

- LBNL findings:
  - Solar reflectance of aggregate roof surfacing aged 1 to 20 years ranged from about 0.52 to 0.48
  - Aggregate retains a solar reflectance of about 0.50 ( $\pm 10\%$ ) over a 20-year period
  - Thermal emittance of an aggregate would be at least 0.90



## Low-Sloped Roofs That Use Aggregate as the Surface Layer

### **Proposed default cool roof properties:**

- An aged solar reflectance of 0.50
- A thermal emittance of 0.85



## Low-Sloped Roofs That Use Aggregate as the Surface Layer

### Proposed eligibility criteria:

- Conforms to material standard ASTM D1863.
- Conforms to ASTM D448, size number equal between No.6 and No .7.
- Has a tested initial solar reflectance that meets or exceeds 0.55 meeting the requirements of CRRC-1 using the ASTM E1918 test procedure conducted by an independent laboratory meeting the requirements of Section 10-113(d)4 of the *Building Energy Efficiency Standards*.
- Aggregate shall pass a No. 4 sieve and is retained by a No. 8 sieve that conforms to ASTM D448.
- Has a label on bags or containers of aggregate stating the tested initial solar reflectance and that the materials conform to ASTM D1863 and ASTM D448.



## Low-Sloped Roofs That Use Aggregate as the Surface Layer

- Questions?
- Comments?
  - Send comments to:

Docket # 12-BTSD-07; [docket@energy.ca.gov](mailto:docket@energy.ca.gov)

- Contact:
  - David W. Ware  
916-654-4168  
[David.ware@energy.ca.gov](mailto:David.ware@energy.ca.gov)
  - Payam Bozorgchami  
916-654-4618  
[Payam.bozorgchami@energy.ca.gov](mailto:Payam.bozorgchami@energy.ca.gov)