

**DOCKETED**

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**ARMA Comments on Pre-rulemaking Express Terms**

*Additional submitted attachment is included below.*



**Comments to the California Energy Commission (CEC)**

**Docket No. 19-BSTD-03, TN # 236877**

**Pre-Rulemaking Express Terms (Comment deadline March 9, 2021)**

Submitted by Aaron R. Phillips, Vice President of Technical Services  
on behalf of the Asphalt Roofing Manufacturers Association (ARMA)

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Thank you for the opportunity to comment on standards development for the 2022 Title 24 Part 6 Building Efficiency Standards. The Asphalt Roofing Manufacturers Association (ARMA) is the trade association representing North America's asphalt roofing manufacturing companies and their raw material suppliers. The association includes the majority of North American manufacturers of asphalt shingles and asphalt low slope roof membrane systems.

ARMA's comments focus on the proposed language in Section 150.0(a)1 that provides as follows: "Roof decks as part of a newly constructed attic system shall be insulated to achieve a weighted average U-factor not exceeding U-0.178." This provision establishes a mandatory requirement applicable to Single Family Residential Buildings. Although the language seems to apply only to new construction, the language used and the fact it is present in the "Mandatory Features and Devices" section (i.e., Subchapter 7) creates confusion regarding whether the requirement affects both new construction and alterations.

All roofing systems must comply with wind uplift, fire resistance, and other requirements in addition to those of the building efficiency standards. Consideration must be given to the effect of the proposal on compliance with these other requirements that are central to proper functioning of the roof system.

The proposed provision uses a U-factor to establish the required degree of insulation. This approach permits insulation in the system either above or beneath the roof deck. In practice, the inconvenience and potentially higher installed cost of insulation on the underside of the roof deck will likely encourage insulation placement above the deck. California building codes require installation of asphalt shingles in accordance with manufacturer instructions, which prescribe application to a rigid deck. Therefore, this proposed addition conflicts with provisions of the existing building codes.



This configuration (i.e., insulation placed between the asphalt shingles or other roof covering and the roof deck) is not a design recommended by ARMA or its members because it can have adverse impacts including the following:

- Asphalt shingles are designed for installation to a rigid substrate and may be damaged or punctured when fastened to a non-rigid material such as insulation.
- Proper attachment of asphalt shingles is essential to resisting wind events. Attachment to insulation, with its inherently lower nail holding ability relative to wood sheathing, may adversely affect asphalt shingle wind resistance.
- The presence of insulation in the roofing system—either on the underside of the roof deck or between the shingles and the roof deck—precludes continuous, free-flow ventilation beneath the roof deck, leading to higher exposure temperatures for the asphalt shingles which may impact product durability.
- Application of asphalt shingles directly over insulation may adversely impact the fire classification of the system. Any provision that may cause a reduction in fire classification should be carefully contemplated, especially considering the many areas of California affected by an increasing prevalence of wildfires.

In addition to the consequences described above, the proposed mandate for roof deck level insulation on all newly constructed single family residential buildings can be expected to significantly restrict product selection options for consumers and is likely to drive installed roof system costs higher, disadvantaging California citizens.

ARMA appreciates the efforts of the CEC staff and CASE team members to identify options that improve the energy efficiency of California buildings. We support appropriate levels of energy efficiency that are based upon meaningful cost/benefit analyses and retain flexibility in design and construction options. With respect to the specific provision discussed herein, we encourage the CEC to remove the provision before issuing the final Express Terms.