

From: *Rick Olson, Technical Director*

*March 26, 2012*

Mr. Maziar Shirakh  
Project Manager  
Building Energy Efficiency Standards California Energy Commission  
1516 9th Street, MS-25  
Sacramento, CA 96814

RE: 45 Day Language Comments by Industry on Docket 12-BSTD-01

The TRI wishes to recognize the efforts of the CEC staff to develop new and innovating building practices that will help to reduce energy consumption. As part of the 45 day code development process for the next version of the Title 24 language, the TRI wishes to enter formal comments on the following proposed language;

**150.2 Res Additions and Alterations SUBCHAPTER 9**

In EXCEPTION SECTION TO 150.2(b)1Hi the proposed language indicates;

**a. If an actual air-space of 1.0 inch (25 mm) exists between the top of the roof deck to the bottom of the batten to allow free air movement**

The TRI recognizes the wishes of the CEC to seek greater free air movement in the roof system to generate additional insulative properties. As such we would ask that you consider the following;

- 1) The Exception a. mentioned above for 1.0 inch air-space should be recognized for roofing tiles of the following profiles and installation methods;
  - Low profile tiles to be installed on a counter batten, of at least 1" in height, or equivalent height spacer, clips or other means.
  - Medium profile tiles to be installed on a batten of at least ¾" in height, or equivalent height spacer, clips or other means.
  - High profile tiles may be installed direct to deck.
- 2) The profile definitions of Low, Medium and High shall be as defined in ASTM C1492 for concrete or ASTM C1167 for Clay

This language will recognize air volume based upon profile and will significantly increase the current practices in the market place. Since the majority of tile in Southern California is low profiled tile installed direct to the deck, this will require the increased cost of the additional spacers to meet this language.

## **Supplemental Information**

As the Tile Roofing Institute (TRI) we represent the manufacturers of concrete and clay tiles that lobby the recognition of the "air space" as a viable barrier to heat flux transfer resulting in decreased energy consumption to the building. We also have a significant number of the California roofing professionals as members of our organization. Our comments are based upon our lack of understanding for the current proposed language.

1) The indication of the batten is presumed to mean a tile batten. In fact, concrete and clay roofing tiles in addition to metal tiles can have some form of spacers that are both called battens. The IRC and IBC address both with code language that provides for a nominal 1x2 batten for this purpose. The actual measurements do not provide for a 1" distance to the bottom of the batten. This could however provide a 1" air space to the bottom of the tile in most cases. In the case of metal roofing, instead of batten, a clip is often utilized to provide an airspace between the roofing material and the roof deck rather than a batten.

2) The extensive research performed by both the TRI and Metal Industry at ORNL has demonstrated significant benefit from a 3/4" air space, which was recognized in the previous Title 24 requirements. The proposed increase to 1" from the top of roof deck to bottom of the batten is implying the air space will need to be significantly greater than the 1" space provided by a counter batten, raised batten, spacer, clip or tile profile installed. A standard concrete S tile profile has been determined by the TRI to have sufficient air space exceeding an average 3" across the entire roof deck when installed direct to the deck without battens

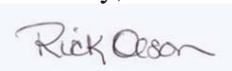
3) The draft language of a 1" initial batten does not comply with any current roofing material in the market today. A nominal 1" does and we presume this is what the intent of the language and suggest a clarification to this be added.

4) The TRI and the Metal Industry continue to support, with research via ORNL for the positive reduction in energy (heat flux transfer) compared to the base roof as defined by your code. If the intent of the CEC is to reduce future energy consumption, then it seems appropriate that all options to meet this mission statement should be inclusive and properly recognized. Your revision is not supported by any research reports we are aware of.

In summary we ask that the CEC review the current draft language to clarify the intent to actual roofing practices and materials. The current language is not a recognized code/building practice, indicative of current market products. The previous language of a 3/4" air space as equivalent to a R 0.85 provided a basic recognition of the benefit. We have collectively lobbied for greater recognition for greater air space in this cycle. In reality these efforts appear to have only created language for a greater air space requirement for no greater recognition.

Our suggested language to include a recognition based upon tile profile will provide the greatest average volume of air space. As an industry, we believe our recommendations meet the intent of your draft language. If we might provide any further information, please feel free to call me.

Sincerely,



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