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Date: May 5, 2026

To: California Building Standards Commission

My name is Marcelo M. Hirschler and I am a fire safety consultant who has been a member of the working group dealing with Chapter 7A of the California Building Code (and now the California Wildland Urban Interface Code) for many years. Recently I have been the chair of the sub-group dealing with weathering for the WUI code.

I attended the meeting of the Building, Fire and Other Code Advisory Committee and heard their comments on Item 4 - Chapter 5 Special Building Construction Regulations, sub item 4-2. That is the section on ignition-resistant building materials. A major focus of the discussion was the revised section 503.2, proposed to read as follows:

**503.2 Ignition-resistant building material.** Ignition-resistant building materials shall *be designed for exterior use and weather exposure and shall* comply with any one of the requirements in Section 503.2.1 through ~~503.2.4.3.3~~ 503.2.3.3.3. *[the following is relocated from Section 503.2.5] Use of paints, coatings, stains or other surface treatments are not an approved method of protection as required in this chapter.*

Note that the submission clearly states that the last sentence (which was the focus of much of the discussion) is not new but was simply relocated unchanged from section 503.2.5. In fact, that sentence has been (unchanged) in the California code since 2010.

~~**503.2.5 Surface treatment protection.** [the following is relocated to Section 503.2] *Use of paints, coatings, stains or other surface treatments are not an approved method of protection as required in this chapter.*~~

During the discussion, the code advisory committee stated that they agreed with the intent of the sentence (meaning that the use of “paints, coatings, stains or other surface treatments” is not an appropriate method of protection for building materials designed for exterior use and weather exposure). The committee simply recommended “further study” to revise the language without changing the intent.

The reason that coatings are inappropriate for use in exterior use is that the improvement in fire performance (such as flame spread) that such coatings provide loses its effectiveness over a short period of time giving the occupants of the building in question the false impression that the building is protected.

Evidence of the lack of durability of the protection resulting from coatings was found in a study by NIST (NIST Technical Note 2094, "Effect of Fire-Retardant Coatings and Accelerated-Weathering on the Flammability of Wood-Based Materials in Wildland-Urban Interface (WUI) Communities", by Laura Dubrulle, Mauro Zammarano, and Rick D. Davis; May 12<sup>th</sup>, 2020, <https://doi.org/10.6028/NIST.TN.2094> ), which found that none of the existing wood coating materials exhibit sufficient permanence to be able to be used when exposed to the normal weather conditions in WUI areas (including rain).



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More recently the results of the NIST study were reinforced by a study published this year, whose authors included scientist from the USDA Forest Products Laboratory: “Fire performance of multi-layer fire-retardant systems for exterior wood products” by Laura E Hasburgh, Katie M Ohno (USDA Forest Products Laboratory, Madison, WI), Stephen L Quarles (University of California Cooperative Extension Advisor Emeritus, Mill Valley, CA), and Faraz Hedayati (Insurance Institute for Business & Home Safety, Tampa, FL) in Journal of Fire Sciences (Mar 2026, Vol. 44, Issue 2, pp. 83-111). This study went beyond the earlier study in that it assessed the effects of applying multiple coatings above the coating providing improved fire protection. The study concluded, among other considerations, that “all coating systems failed with UV and moisture”.

In view of the two studies referred above (both publicly available) it is clear that the problem associated with coatings (and the like) is not restricted to “field-applied coatings”. The concern with the long-term suitability of coatings is equally valid for “factory-applied coatings”. Therefore, I strongly suggest that the recommendations by the State Fire Marshal be accepted as is. This is consistent with at least 2 of the 9 criteria for proposed building standards, namely criteria 4 and 5, which read as follows:

*(4) The proposed building standard is not unreasonable, arbitrary, unfair, or capricious, in whole or in part.*

*(5) The cost to the public is reasonable, based on the overall benefit to be derived from the building standards.*

I fully support the State Fire Marshal’s recommendations that no change is needed for section 503.2 on sub-item 4-2, but, if further clarification is desired, perhaps the addition of the word “fire” might provide reinforcement, so that section 503.2 would read as follows:

**503.2 Ignition-resistant building material.** Ignition-resistant building materials shall be designed for exterior use and weather exposure and shall comply with any one of the requirements in Section 503.2.1 through 503.2.3.3.3. Use of paints, coatings, stains or other surface treatments are not an approved method of **fire** protection as required in this chapter.

In terms of all the other recommendations of the State Fire Marshal for revision of the California Wildland Urban Interface Code, beyond item 4-2, I hereby wholeheartedly support the entire set of proposed amendments. Codes are always able to be further amended in future editions, but the improvements that the present recommendations provide should be adopted as suggested.

Yours sincerely

A handwritten signature in black ink that reads "Marcelo M. Hirschler". The signature is written in a cursive, flowing style.

Dr. Marcelo M. Hirschler