



RESILIENT FLOOR COVERING INSTITUTE

August 27, 2004

VIA ELECTRONIC MAIL

Ms. Dorothy Shimer
Research Division, 5th Floor
California Air Resources Board
P.O. Box 2815
Sacramento, California 95812
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Re: RFCI Comments on Draft Report on Indoor Air Pollution in California

Dear Ms. Shimer:

The Resilient Floor Covering Institute (RFCI) appreciates the opportunity to comment on the Air Resources Board draft Report to the California Legislature on Indoor Air Pollution in California (June 2004). RFCI is a trade association of North American manufacturers of resilient floor covering materials. Members include Amtico International, Armstrong World Industries, Congoleum Corporation, Losetas Asfalticas, Mannington Mills and Tarkett.

We commend the Air Resources Board for the work done in researching and compiling the Report. However, we are concerned about the accuracy and relevance of certain information in the draft Report concerning resilient flooring. Because the Report may serve as the basis for future legislative and/or regulatory action, it is essential that the Report provide current and accurate information on indoor air quality in California.

In Section 2.3.1.2, Sources of Formaldehyde (pgs. 50-51), the draft Report references a study by Alevantis¹ for the proposition that emissions from non-rubber based resilient flooring (as well as several other products) exceed the Section 01350 formaldehyde concentration level. The draft Report's description of the Alevantis study is misleading because it suggests that all non-rubber based resilient flooring exceeded the Section 01350 formaldehyde level. In fact, only one of the ten resilient flooring (non-rubber based) samples exceeded the Section 01350 formaldehyde level.² Moreover, out of the ten resilient flooring (non-rubber based) samples that were tested, only four samples emitted detectable levels of formaldehyde: six resilient flooring (non-rubber based) samples did not emit detectable levels

¹ Alevantis, L., "Building Material Emissions Study," Final Report to California Integrated Waste Management Board (2003).

² See *id.* at 47 and App. I (Analytical Results Summary for Resilient Flooring (Non-Rubber-Based)).

of formaldehyde.³ Thus, the Report's description of the Alevantis study should be revised to state clearly that not all tested samples in the resilient flooring (non rubber-based) category exceeded the Section 01350 formaldehyde level. The failure to provide this additional explanation is misleading because it leaves the reader with the inaccurate impression that all tested resilient flooring samples exceeded the Section 01350 formaldehyde level, which is not the case.

In Section 2.3.2.2, Sources and Emissions of VOCS (p. 56), the draft Report references a study by Hodgson⁴ for the proposition that vinyl flooring (as well as carpet and paint) emits numerous toxic air contaminants. Table 2.6 (p. 56) also lists ten pollutants identified in the Hodgson study as emitted by vinyl flooring. Simply listing the ten pollutants emitted from vinyl flooring does not, however, provide any meaningful information to the Legislature because: (1) the flooring materials in the study were selected over nine years ago from old product formulations *that are no longer used by flooring manufacturers*, and (2) the listing implies a substantial health concern for these pollutant emissions but does not provide a health-based standard for purposes of comparison. And, as demonstrated in the more recent Alevantis study, emissions from resilient flooring of six of the ten pollutants listed in Table 2.6 (toluene, m,p-xylene, o-xylene, styrene, 1,2,4-trimethyl benzene, and acetophenone) did not exceed Section 01350 concentration levels.⁵

Given that the Hodgson study tested flooring materials that are now long outdated, the study will not be useful to the Legislature and including its results in the Report is misleading. Thus, we specifically request that the Hodgson study be deleted from the final Report. Alternatively, the discussion of the Hodgson study should be revised to recognize explicitly that the tested flooring products are outdated and that resilient flooring emissions of the pollutants listed in Table 2.6 do not necessarily exceed the Section 01350 low emitting requirements. In addition, the description of the Alevantis study in the first full paragraph on page 56 should be revised to clarify that not all resilient flooring products tested in that study exceeded the Section 01350 levels for the identified pollutants. As explained above, the failure to provide this additional information is misleading.

RFCI member companies are very proud of their work in reducing VOC emissions from resilient flooring materials during the past five years. These companies have worked closely with the Collaborative for High Performance Schools (CHPS) in California to meet the VOC emissions requirements of Section 01350. In many cases this has resulted in flooring manufacturers reformulating their products by substituting raw materials which result

³ See *id.* App. I.

⁴ Hodgson, A.T., "Common Indoor Sources of Volatile Organic Compounds: Emission Rates and Techniques for Reducing Consumer Exposures," Final Report under Contract no. 95-302, Sacramento, CA, California Environmental Protection Agency, Air Resources Board (1999).

⁵ See Alevantis, *supra* note 1, App. I.

in lower emissions. The positive indoor air quality results of this effort can be seen on the CHPS website (www.chps.net/manual/lem_table.htm) by the list of resilient flooring products that qualify as Section 01350 low emitting materials. Accordingly, the draft Report should be revised as described above so that the Legislature is provided with accurate and up-to-date information on currently available resilient flooring materials.

Finally, Section 7.1, General Mitigation Options (p. 127), recommends for consideration, among other options, mandatory emissions testing by manufacturers of building materials. Widespread market forces are currently spurring the development and implementation of emissions testing programs for building materials. For example, the Los Angeles Unified School District requires building materials used in construction projects to meet the Section 01350 emission concentration levels. Given these market forces, state required mandatory emissions testing by manufacturers of building materials is unwarranted.

If you have any questions regarding these comments, please contact Bill Freeman, RFCI's Technical Consultant, or me.

Sincerely,

A handwritten signature in black ink that reads "Douglas W. Wiegand". The signature is written in a cursive style and includes a small flourish at the end.

Douglas W. Wiegand
Managing Director

RFCI Technical Consultant

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