



March 10th, 2009

National Association of State Fire Marshals
1319 F Street, NW, Suite 301
Washington, DC 20004

Re: Code Application Bulletin – Pallet Fire Loading Impact on Sprinkler Design

Dear Sir or Madam;

The following are our comments in regard to the above noted Code Application Bulletin (CAB) that specifically address several of the statements made within the original draft CAB.

Intent of NFPA 13: The original draft of the CAB contained several statements of opinion regarding the intent and/or explicit requirements of NFPA 13, Standard for the Installation of Automatic Sprinklers, 2007 edition. This includes the following:

“As required in NFPA 13, pallets made with composite wood and/or plastic components are considered to be reinforced plastic pallets: requiring either a UL 2335 listing, a two-commodity class sprinkler protection upgrade, or large 16.8 k-factor sprinkler protection”

“Section 3.9.1.22 of the 2007 edition of NFPA 13 states that “a pallet constructed entirely of wood with metal fasteners” is defined as a wood pallet. Section 3.9.1.16 states that “a pallet having any portion of its construction consisting of a plastic material” is considered a plastic pallet. Some plastic components are obvious to spot while others may not. Since composite wood is made by binding together particles with adhesive resins, which are made into pallet components, such as top boards, sideboards, blocks and the like, these pallets are considered plastic.”

CWC Comment:

The undersigned has been a member of the NFPA 13 Technical Committee on Installation of Sprinklers (SSI) since 1997 and also participated on a number of other NFPA 13 ‘Chapter’ TCs between 1986 and 1997. During the discussions between 2005 and 2006 by the NFPA SSI TC on the new definitions for *wood pallet* and *plastic pallet*, it was understood by the undersigned that the Committee did not intend that such definitions would exclude a wood pallet being considered a wood pallet if it included components manufactured using some composite wood material. Nor was it discussed that such a wood pallet would be classified as a plastic pallet.

We are not aware of any formal requirements or statement in NFPA 13, or any official Formal Interpretation from NFPA regarding NFPA 13 that ‘...*pallets made with composite wood...are considered to be reinforced plastic pallets.*’ Such a statement can only be substantiated through a request for a formal interpretation from the NFPA 13 Committee or through a technical change to the NFPA 13 Standard. Until either or both steps are completed, we would suggest that it is inappropriate for the CAB in its current form to be promulgated or used by the US State Fire Marshal authorities in their interpretation and application of the requirements under the NFPA 1/Uniform Fire Code or the ICC’s International Fire Code.

....cont’d

99 Bank Street, Suite 400
Ottawa, ON K1P 6B9
Tel/Tél: (613) 747-5544
Fax/Télé: (613) 747-6264
www.cwc.ca

Fire Testing of 2-way and 4-way Pallets: The original draft of the CAB contained several questions and answers regarding the fire testing and research on different wood pallets. This includes the following:

“(Question) 4. Previous code changes proposals have included test reports on the increased use of 9-block 4-way entry pallets as opposed to solid side 2-way pallets made from hardwoods. The new 9-block 4-way entry softwood pallets represent a much more severe hazard than the solid side 2-way hardwood pallets. Some sprinkler protection tables have been upgraded to address the issue but it doesn’t appear to be enough given the severity of the hazard. According to the data that was submitted, the 9-block 4-way softwood pallet would fail to comply with the current UL 2335 protocol. It would likely not pass the FM 4996 test either. Should these 9-block 4-way softwood pallets be treated the same as a plastic pallet?”

“(Answer) Yes. While NFPA 13-2007 still considers these pallets as a wooden pallet by definition, provided they do not contain any composite wood or plastic components, their obvious hazard may warrant extra protection. Unfortunately, the generic definition of wooden pallet within NFPA 13 does not account for the change in the industry to resin-rich softwoods and different design geometries, like the 9-block four-way entry pallet of today. Risk managers, loss prevention managers and AHJs’ should consider these increased hazards when determining whether adequate protection is being provided.”

(Question) 5. Are there test results that document the hazard, or BTU release, of the “old-style” oak pallet in an idle pallet situation?

“(Answer) Yes. Commodity calorimeter tests were performed at UL comparing the old style Oak Stringer style pallets and new style Southern Yellow Pine 9-Block style pallets. See report: <http://www.fire.nist.gov/bfrlpubs/testdat/PDF/td003.pdf>.

(Question) 6. Has information from the question above been compared to the same results from the 9-block pallet?

“(Answer) Yes. See above.”

CWC Comment:

The information cited has, as noted in Question 4, been discussed and considered on several occasions within the NFPA 13 SSI TC in their deliberations and determinations of requirements related to wood pallets. In fact, the information from the UL testing that was presented to the SSI TC was also complemented with testing information from other sources (FM and HSB IRI), which further showed that the number of sprinklers activated, worst-case, for 2-way hardwood stringer compared with that for the 4-way 9-block pallet tests. This information was used as a basis for some changes in the protection requirements for all idle wood pallet storage but was not considered persuasive or relevant to requiring such wood pallet designs (4-way 9-block) to be considered equivalent to plastic pallets or necessitating a one- or two-level change in commodity classification. In this regard, the CAB needs to consider the provisions for idle wood pallet storage and the impact on wood pallets on commodity classifications as separate issues, consistent with the approach on how it has been addressed by the NFPA 13 Technical Committee.

Note: The above comments are those of the undersigned and should not be construed in any manner or form as being the opinion or formal interpretation of the NFPA 13 Technical Committee or NFPA in general regarding this issue.

Thank you for the opportunity to provide our comments on this important topic.

Yours truly,



Rodney A. McPhee, CET, CIP, ASFPE
Director, Codes and Standards
Canadian Wood Council

99 Bank Street, Suite 400
Ottawa, ON K1P 6B9
Tel/Tél: (613) 747-5544
Fax/Télé: (613) 747-6264
www.cwc.ca