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Writing to address a current problem with the CBC Ch.7 Section 719.7 and a conflict between ADA 4.19.4 and California 1115B. 4.3

The concern is that California has an overwhelming amount of highly flammable and combustible materials being installed in building to comply with **1115B.4.3 .4**. Many of these materials are plastics which are combustible and can produce large volumes of toxic smoke. These materials are to comply with the California Building Code "Safety Technical Standards" for Building Materials (ASTM E-84 Standard Test Method for Surface Burning Characteristics of Building Materials).

However the majority of materials being sold and installed for **1115B.4.3 .4** is PVC plastics that do not meet this ASTM E84 standard. Although 719.7 covers all insulation and coverings there is a problem with the concept that because it is for accessibility it is not thermal insulation or a covering and not part of CBC 719 thus not enforced. The US Access Board recently noted that the intent is to prevent burns that hot water pipes must be insulated.

A standard could be adopted that would require these products be tested under the ASTM E84 for manufactures to comply with and not just shift responsibility on inspectors

This minimal fire safety protects the "High Risk Groups" which includes people with disabilities who are most at risk of injuries due to the event of a fire. There **CBC 719** requires all thermal and sound insulation on or within the building to be tested in accordance with ASTM E84 having a shall have a flame spread index of not more than 25 and a smoke-developed index of not more than 450.

There is also concern for California schools as the U.S. Fire Administration reports an annual average in the USA of over 6,300 non adult school structural fires with the leading area of fire origin for these structural fires being the school bathrooms. Plastic now rank 2nd as the material first ignited to start these structural fires. 45% of Fires in middle and high schools are incendiary or suspicious in origin.

CBC 719.7 Insulation and covering on pipe and tubing. Insulation and covering on pipe and tubing shall have a flame spread index of not more than 25 and a smoke-developed index of not more than 450.

Exception: *Insulation and covering on pipe and tubing installed in plenums shall comply with the Uniform Mechanical Code.*

Conflict between ADA 4.19.4 and California 1115B. 4.3

DSA – 2009 CALIFORNIA ACCESS COMPLIANCE REFERENCE MANUAL

1115B.4.3 Accessible lavatories. *Lavatories required to be accessible shall comply with this subsection. The requirements of this subsection shall apply to lavatory fixtures, vanities and built-in lavatories*

4. *Hot water and drainpipes accessible under lavatories shall be insulated or otherwise covered. There shall be no sharp or abrasive surfaces under lavatories*

Justification:

The **ADA 4.19.4 Expose Pipes and Surfaces**—“Hot water and drain pipes under lavatories [and sinks] shall be insulated or otherwise configured to protect against contact. There shall be no sharp or abrasive surfaces under lavatories.”

Where the ADA states “shall be insulated or otherwise configured to protect against contact” the California **1115B.4.3 .4 states shall be insulated or otherwise covered.**

Insulate and covered are 2 different and separate requirements.

The question if the ADA requirement that the pipes be “insulated or otherwise configured to protect against contact” is intended to provide thermal protection as well as protection from sharp surfaces, or only to prevent contact with sharp surfaces was recently answered by the U.S. Access Board (see attached letter)

“Despite minor changes in wording, the requirement for lavatories and sinks has remained unchanged in the Access Board’s accessibility guidelines since 1989.”

“After publication of ADAAG in 1991, the Access Board published the *ADAAG Manual - a guide to the Americans with Disabilities Act Accessibility Guidelines*. The substance of the Manual is available on-line at <http://www.access-board.gov/adaag/about/guide.htm>. In the Manual, the Access Board stated the following regarding the exposed pipes and sharp surfaces beneath lavatories: “

Exposed Pipes and Surfaces [4.19.4]

To prevent burns, hot water pipes and drain pipes under lavatories must be insulated or otherwise configured to protect against contact. Exposed sharp or abrasive edges are prohibited.”“If an under-lavatory enclosure is used, the specified knee and toe clearances must be maintained. “

This guidance clarifies that the US Access Board’s requirement is intended to protect against burns due to contact with hot pipes and drains as well as to reduce the potential for injury due to contact with sharp or abrasive elements.

The reference to “hot water” was removed in 2004 guidelines because it was thought that there was equal potential for wheelchair users to experience adverse reactions or discomfort resulting from contact with cold water supply lines as with those that are hot. (Example: people with Spinal Cord Injuries).

ICC/ANSI A117.1 and ADAAG have also removed the reference to “hot water” to broaden the requirement. ADAAG **606.5** and ICC/ANSI A117.1 **606.6**. now have the following language-“Water Supply and Drainpipes under lavatories and sinks shall be insulated or otherwise configured to protect against contact”.

Insulation: the action of separating a conductor from conducting bodies by means of nonconductors so as to prevent transfer of electricity, heat, or sound; also : the state resulting from such action (**Source: Merriam-Webster’s Medical Dictionary**)

ASTM C 168 – Standard Terminology Relating to Thermal Insulating Materials

Thermal insulation, n — *a material or assembly of materials used to provide resistance to heat flow.*

Just covering the exposed pipes may not reduce heat or insulate against cold. However this is not required to be the type of insulation required for energy efficiency.

Covering cannot mean an enclosure *which would need to be limited to the specified knee and toe clearances.*

Even though the model plumbing codes have ‘tempered’ water requirements for some lavatory fixtures – which limit the temperature to less than 110 F (43 C), this “tempering” is limited to the point of faucet delivery” above the lavatory.

Tempering systems install commonly under the lavatories or sinks do not temper the hot or cold water supplies coming out of the wall. The hot water piping can still be at scalding temperatures and must be insulated.

Water tempering systems do not exempt the “insulation or configuration requirements to protect against contact” in the above mentioned requirements

as there is still danger of contact with hot /cold and sharp or abrasive piping surfaces under Lavatories

This thermal protection can be provided by insulating the piping with, Flexible Insulator Protectors, apron walls, recessing the pipes, etc. In California today the most popular product used for hot and cold water supplies to the faucet are flexible plastic connectors enclosed with braided stainless. Many times the insulation protectors are not flexible, and are cut exposing the hot and cold water supplies thus not complying **1115B.4.3 .4**

The current California Title 24 1115B. 4.3 should be edited as

Hot water supplies and drainpipes accessible under accessible lavatories and sinks shall be insulated or otherwise covered configure piping to protect against contact. There shall be no sharp or abrasive surfaces under lavatories

In keeping with California having been the leading state in protecting our citizens with disabilities this change should be put forth as an errata or emergency action so 1115B.4.3 .4 would be an equivalent to ADA 4.19.4 and not less than, as it is currently.