STATE OF WASHINGTON

STATE BUILDING CODE COUNCIL

May 2018

Log No. _____

1. State Building Code to be Amended:

- ☒ International Building Code
- ☐ ICC ANSI A117.1 Accessibility Code
- ☐ International Existing Building Code
- ☐ International Residential Code
- ☐ International Fire Code
- ☐ Uniform Plumbing Code
- ☐ International Mechanical Code
- ☐ International Fuel Gas Code
- ☐ NFPA 54 National Fuel Gas Code
- ☐ NFPA 58 Liquefied Petroleum Gas Code
- ☐ Wildland Urban Interface Code

For the Washington State Energy Code, please see specialized energy code forms

Section(s):
Section 2103.2.4

Title:
Mortar for adhered masonry veneer

2. Proponent Name (Specific local government, organization or individual):

Proponent: Northwest Concrete Masonry Association

Title:

Date: May 25, 2021

3. Designated Contact Person:

Name: Tom Young

Title: Director

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Office Phone: (425) 697-5298

Cell: ( )

E-Mail address: tcyoung@nwcma.org

4. **Proposed Code Amendment**. Reproduce the section to be amended by underlining all added language, striking through all deleted language. Insert new sections in the appropriate place in the code in order to continue the established numbering system of the code. If more than one section is proposed for amendment or more than one page is needed for reproducing the affected section of the code additional pages may be attached. (Examples on the SBCC website)

   Code(s) IBC **Section(s)** 2103.2.4

   Enforceable code language must be used; see an example by clicking here.
   Amend section to read as follows:

   2103.2.4 Mortar for adhered masonry veneer. Mortar for use with adhered masonry veneer shall conform to ASTM C270 for Type N or S, or shall comply with ANSI A118.4 or A118.15 for ~~latex-~~ modified ~~Portland~~ dry-set cement mortar. The cementitious bond coat shall comply with ANSI A118.4 or A118.15.

5. **Briefly explain your proposed amendment, including the purpose, benefits and problems addressed.** Specifically note any impacts or benefits to business, and specify construction types, industries and services that would be affected. Finally, please note any potential impact on enforcement such as special reporting requirements or additional inspections required.

   The mortar components of an adhered veneer masonry wall system include the following:
   1) A scratch coat, or scratch coat and mortar bed (float coat)
   2) An adhesive cementitious bond coat
   3) Joint mortar

   Item number 1 is the substrate mortar component. It is applied over a structural back-up wall. Item 2 is the adhesive bond coat and is the focus of this code change with the objective of increasing the mortar shear bond strength and improving the performance of these wall systems. Item 3 is the mortar between masonry units on the wall exterior.

   A common mode of failure of adhered veneer is the debonding of the units from the wall. This can result in a life safety matter. Requiring a modified dry-set bond coat mortar capable of developing higher bond strength is warranted. ANSI A118.15, for example, requires a 28-day shear bond strength near 400 psi for an improved-modified dry-set mortar, which is significantly higher than the current TMS 402 requirement of 50 psi. The latest draft for the next TMS reference code edition contains a similar amendment. Approving this proposed amendment would permit early adoption of this beneficial code provision in Washington state. Additionally, the method of installation prescribed in the TMS specification was developed in the 1950s but is not used today for the installation of adhered veneer.

6. **Specify what criteria this proposal meets.** You may select more than one.
   - ☒ The amendment is needed to address a critical life/safety need.
   - ☐ The amendment clarifies the intent or application of the code.
   - ☐ The amendment is needed to address a specific state policy or statute.
   - ☐ The amendment is needed for consistency with state or federal regulations.
   - ☐ The amendment is needed to address a unique character of the state.
   - ☐ The amendment corrects errors and omissions.

7. **Is there an economic impact:** ☐ Yes ☒ No
   Explain:

The material cost difference between standard ASTM C270 mortar and ANSI A118.4/A118.15 mortar is approximately five cents per square foot more for the ANSI mortar. However, there are labor savings associated with its use that typically result in a cost reduction for the constructed wall assembly.

ANSI mortar improves workability, pot-life, and coverage along with increasing shear bond strength. It also helps to mitigate failures and saves potential replacement costs.

If there is an economic impact, use the tool below to estimate the costs and savings of the proposal on construction practices, users and/or the public, the enforcement community, and operation and maintenance. If preferred, you may submit an alternate cost benefit analysis.

Provide your best estimate of the construction cost (or cost savings) of your code change proposal? (See OFM Life Cycle Cost **Analysis tool** and **Instructions;** use these **Inputs**. **Webinars on the tool can be found Here and Here**)

$Click here to enter text./square foot (For residential projects, also provide $Click here to enter text./ dwelling unit)

Show calculations here, and list sources for costs/savings, or attach backup data pages

List any code enforcement time for additional plan review or inspections that your proposal will require, in hours per permit application: None.

Please send your completed proposal to: sbcc@des.wa.gov

All questions must be answered to be considered complete. Incomplete proposals will not be accepted.