DOCKETED	
Docket Number:	18-BSTD-02
Project Title:	2019 ENERGY CODE COMPLIANCE MANUALS
TN #:	224388
Document Title:	NAIMA's Comments on 2019 Compliance Manual
Description:	N/A
Filer:	System
Organization:	NAIMA/Charlie Haack
Submitter Role:	Public
Submission Date:	8/3/2018 10:31:39 AM
Docketed Date:	8/3/2018

Comment Received From: Charlie Haack
Submitted On: 8/3/2018
Docket Number: 18-BSTD-02

NAIMA's Comments on 2019 Compliance Manual

Additional submitted attachment is included below.

NAIMA
NORTH AMERICAN INSULATION MANUFACTURERS ASSOCIATION

August 3, 2018

California Energy Commission
Attention: Docket No. 18-BSTD-02
Dockets Office 1516 Ninth Street, MS-4
Sacramento CA 95814

Subject: Comments from the North American Insulation Manufacturers Association on Docket Number 17-BSTD-02: 2019 ENERGY CODE COMPLIANCE MANUALS

These comments are submitted by the North American Insulation Manufacturers Association (NAIMA) regarding the draft changes to the 2019 Energy Code Compliance Manuals and Documents. NAIMA is the association for North American manufacturers of fiber glass, rock wool, and slag wool insulation products. Its role is to promote energy efficiency and environmental preservation through the use of fiber glass, rock wool, and slag wool insulation, and to encourage the safe production and use of these materials.

NAIMA strongly supports the California Energy Commission's (CEC) mission "to reduce wasteful, uneconomical, and unnecessary uses of energy, thereby reducing the rate of growth of energy consumption, [and] prudently conserve energy resources." The Commission is a national leader in promoting building energy efficiency by establishing robust and cost-effective code requirements for the building envelope.

NAIMA generally supports the proposed revisions and submits specific comments on the following issues:

Chapter 1: Introduction

1. 1.4.1 – Mandatory Measures [editorial]

   "(if woods framed)" should be "(if wood framed)"

Chapter 3: Envelope

2. Page 28 – Definition of Vapor Retarder

   A material or assembly designed to limit the amount of vapor moisture that passes through that material or assembly.

   Reason – Better aligns with definition language included in the 2018 IRC and more succinctly defines the term.

3. Page 30 – Section 3.4.2.1 Contractor/Installer Box

    - 3. Sealed and taped building wraps
    - 4. Sealed and taped rigid wall insulation installed continuously on the exterior of the building

    Reason – Clearly state that if building wraps and rigid insulation products are used as the air barrier and/or weather-resistive barrier that they must be sealed and taped to be effective.

4. Page 37 – Section 3.4.5.1 example 5 [editorial]

    ~~Many~~ Interior painted surfaces may also ~~qualify for meeting the vapor retarder requirement~~ serve as vapor retarders if the paint product has been tested ~~to show compliance as a vapor retarder~~ and shown to comply with the vapor retarder requirements.

5. Pages 38-39 - Section 3.5.1.1 [editorial – multiple edits]

    Batt and blanket insulation is made of mineral fiber and mineral wool (processed fiberglass, rock, slag wool, ~~natural wool products~~); animal wool or cotton-based products; or cellulose materials.

    They are available with facings, some serve as vapor retarders, and have flanges to aid in installation to framed assemblies.

    Batt and blanket insulation material must be delaminated or cut to allow for wiring, plumbing, and other penetrations within the framed cavity.

6. Pages 39-40 - Section 3.5.1.2 Loose-Fill Insulation [editorial]

    Loose-fill is insulation that has a pneumatic or blown installation process, including cellulose, fiberglass, mineral wool and natural wool (animal or cotton-based products).

    The R-value of blown wall insulation material installed in closed cavities is determined by the installed thickness and density.

    Where cavities have been under filled, there may be voids or “soft” areas under the netting. These areas ~~are often refilled~~ must be corrected by adding insulation, or the area ~~is removed of insulation material,~~ must be removed and ~~a thermal batt is installed in its place~~ new material must be blown into the cavity.

    In open vertical applications, integral adhesives are used to hold the fibers in place. Water-activated adhesives are used for moist-spray cellulose, and water or polymer adhesives are used for fiberglass loose-fill applications. The fiber and/or adhesive

formulations causes the insulation to adhere to itself and stick to surfaces of the wall cavity.

7. Page 40 - Section 3.5.1.3 Spray Polyurethane Foam (SPF) [editorial]

   SPF insulation is spray-applied to adhere fully to the substrate joist and other framing faces to form a complete air seal within the construction cavities.

8. Page 41 – Section 3.5.1.2 Spray Polyurethane Foam (SPF), Section A. Low-Density Open Cell (ocSPF) Insulation

   The ocSPF must fill the cavity of 2x4 framing to achieve R-13 or 2x6 framing to achieve R-20.

   Reason – Clearly state the practice required to meet the new minimum insulation standard of R-20 with ocSPF for 2x6 walls.

9. Page 42 – Equation 3-2

   "Tested R-value per inch" as listed in the Table of R-values or R-value Chart from the manufacturer's current third-party ICC Evaluation Service Report (ESR) that shows compliance with *Acceptance Criteria for Spray-Applied Foam Plastic Insulation--AC377*

   Reason – There are multiple third-party evaluation services in addition to ICC, such as UL or IAPMO, that could perform this testing.

10. Page 43 – Section 3.5.1.4 Rigid Insulation [editorial]

    Rigid board insulation sheathing is made from fiberglass, mineral wool, expanded polystyrene (EPS), extruded polystyrene (XPS), polyisocyanurate (ISO), or polyurethane (PUR).

11. Page 45 – Flame Spread Rating Surface Burning Characteristics of Insulation 110.8(c)

    The *California Quality Standards for Insulating Materials* requires that exposed facings on insulation material be fire resistant and be tested and certified not to exceed a flame spread rating index of 25 and a smoke-developed rating index of 450.

    Flame spread ratings indexes and smoke-density ratings developed indexes are shown on the insulation or packaging material or may be obtained from the manufacturer.

    When installing insulation below the roof deck, vent baffles and insulation stoppers barriers should be used to maintain proper ventilation space.

    Reason – Recommended language better aligns with terminology found in ASTM E84.

12. Page 45 – Section 3.5.3.1 Loose Fill Insulation in the Attic

    Loose fill insulation must be blown in evenly, and insulation levels must be documented on the certificate of installation (CF2R). The insulation level can be verified by checking that the depth of insulation conforms to the manufacturer's coverage chart for achieving the required R-value. The amount of insulation also must meet the manufacturer's specified bags ~~minimum weight~~ ~~per ft²~~ required for the corresponding R-value.

    Reason - Verifying weight in the field is difficult and destructive and manufacturers typically list coverage by bag to achieve a certain R-value.

13. Page 50, Figure 3-30 [Question]

    Question - Based on the new assumptions included in Prescriptive Option B, is the use of the approach included in the drawing on the left of Figure 3-30 still a viable option and does it need to be included?

Chapter 4: Mechanical

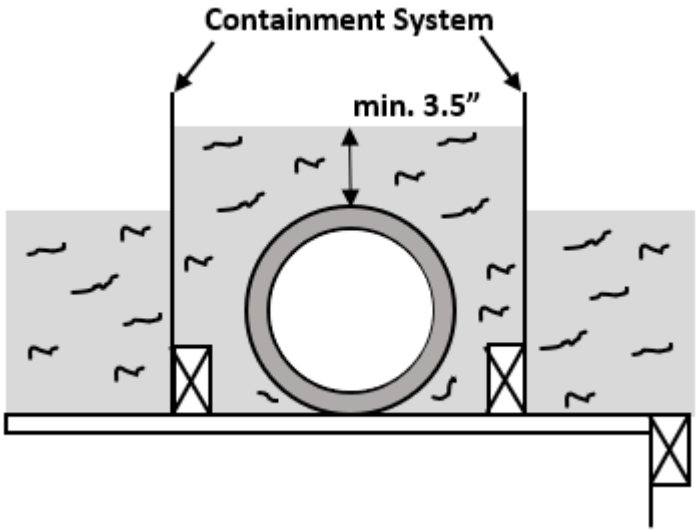
14. Page 4-56 – 4.4.3.5 Buried and Deeply Buried Ducts

    To take credit for buried ducts, the system must ~~meet the verified duct design criteria described above,~~ be diagnostically tested for duct sealing compliance by a HERS rater according to Reference Residential Appendix RA3.1~~,~~ and meet the requirements for quality high insulation installation quality described in Reference Residential Appendix RA3.5.

    In addition to the above requirements, the attic area containing the buried ducts must have insulation with uniform depth (not mounded over the duct), level ceiling, and at least 6 inches of space between the duct outer jacket and the roof sheathing. Alternatively, a containment system may be used, as long as the ducts are enclosed and completely covered by at least 3.5 inches of attic insulation.

    Reason – Deeply buried ducts may be achieved by the use of a containment system (e.g. sheetrock, plywood) with a minimum of 3.5" of insulation over the ducts. The use of a containment system will assure that the insulation remains over the buried ducts and the duct effective R-value will remain constant. The 2018 International Energy Conservation Code (IECC) states that ducts can claim an effective R-value of R-25 for deeply buried sections that are directly on or within 5.5" of the ceiling board, surrounded with R-30 or greater attic insulation and buried with a minimum of 3.5" of insulation (from the top of the duct). Under the 2018 IECC the 3.5" of insulation can be achieved by mounding the insulation over the ducts. Because mounding is not an acceptable option under the 2019 Standards, the uses of a containment system would provide builders with another option to reach the deeply buried duct effective R-value under the 2019 Standards and would be

similar to the options under the 2018 IECC. The containment system (shown below) would put the ducts in a better location/environment than the standard ducting practices.



Verified duct design is currently required when taking credit for the buried duct practice. NAIMA also recommends that the verified duct design layout requirement be removed as long as the system meets the duct leakage, fan watt draw and air flow requirements. The quality insulation installation (QII) requirement for buried ducts ensures that the insulation is properly installed in the attic over the buried ducts, so the verified duct design layout is redundant and therefore unnecessary.

Chapter 8: Performance

15. Pg 8-4 - 8.2.1 Compliance Process [editorial]

    Step 3 is in bold header font and should be in regular font.