

## DOCKETED

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**Comments on RA3.5 QII Protocols by CalCERTS**

*Additional submitted attachment is included below.*

July 24, 2017

To: California Energy Resources Conservation and Development Commission  
 Re: Reorganization of RA 3.5, Docket: 17-BSTD-01

As part of my review of Section 7.2 of the CASE Report on QII, measure number 2019-RES-ENV4-D I have the following suggestion for reorganizing section RA3.5 of the Reference Appendices. Section RA3.5 is organized in such a way as to create a huge amount of repetition. This creates confusion and makes it extremely difficult to update for code cycles.

The matrix below shows how RA3.5 is organized by insulation type, across the top of the matrix. The sections going across any row have a huge amount of repetition in them. For example the language in sections RA3.5.3.2.5, RA3.5.4.2.5, RA3.5.5.2.5, RA3.5.6.2.5, RA3.5.7.2.3, and RA3.5.8.2.3 are all very similar.

	Batt/Blanket	Loose Fill	Rigid	SPF	SIPs	ICF
<b>Thermal Specification</b>	<b>RA3.5.3.1</b>	<b>RA3.5.4.1</b>	<b>RA3.5.5.1</b>	<b>RA3.5.6.1</b>	<b>RA3.5.7.1</b>	<b>RA3.5.8.1</b>
Closed Cell SPF	n/a	n/a	n/a	RA3.5.6.1.1	n/a	n/a
Open Cell SPF	n/a	n/a	n/a	RA3.5.6.1.2	n/a	n/a
Requirements for Walls, Roof/Ceilings and Floors	RA3.5.3.1.1	RA3.5.4.1.1	RA3.5.5.1.1	RA3.5.6.1.3	RA3.5.7.1.1	RA3.5.8.1.1
R-value Measurement Equipment	RA3.5.3.1.2	RA3.5.4.1.2	RA3.5.5.1.2	RA3.5.6.1.4	RA3.5.7.1.2	RA3.5.8.1.2
Certificates	RA3.5.3.1.3	RA3.5.4.1.3	RA3.5.5.1.3	RA3.5.6.1.5	RA3.5.7.1.3	RA3.5.8.1.3
Certificates and Availability	RA3.5.3.1.4	RA3.5.3.1.4	RA3.5.5.1.4	RA3.5.6.1.6	RA3.5.7.1.4	RA3.5.8.1.4
<b>Wall Insulation</b>	<b>RA3.5.3.2</b>	<b>RA3.5.4.2</b>	<b>RA3.5.5.2</b>	<b>RA3.5.6.2</b>	<b>RA3.5.7.2</b>	<b>RA3.5.8.2</b>
Narrow-Framed Cavities	RA3.5.3.2.1	RA3.5.4.2.1	RA3.5.5.2.1	RA3.5.6.2.1	n/a	n/a
Installation Prior to Exterior Sheathing or Lath	RA3.5.3.2.2	RA3.5.4.2.2	RA3.5.5.2.2	RA3.5.6.2.2	n/a	n/a
Obstructions	RA3.5.3.2.3	RA3.5.4.2.3	RA3.5.5.2.3	RA3.5.6.2.3	RA3.5.7.2.1	RA3.5.8.2.1
Rim Joists	RA3.5.3.2.4	RA3.5.4.2.4	RA3.5.5.2.4	RA3.5.6.2.4	RA3.5.7.2.2	RA3.5.8.2.2
Kneewalls, Skylight Shafts, and Gable Ends	RA3.5.3.2.5	RA3.5.4.2.5	RA3.5.5.2.5	RA3.5.6.2.5	RA3.5.7.2.3	RA3.5.8.2.3
HVAC/Plumbing Closet	RA3.5.3.2.6	RA3.5.4.2.6	RA3.5.5.2.6	RA3.5.6.2.6	RA3.5.7.2.4	RA3.5.8.2.4
Double Walls and Framed Bump-Outs	RA3.5.3.2.7	RA3.5.4.2.7	RA3.5.5.2.7	RA3.5.6.2.7	RA3.5.7.2.5	RA3.5.8.2.5

Structural Bracing, Tie-downs, Steel Structural Framing	RA3.5.3.2.8	RA3.5.4.2.8	RA3.5.5.2.8	RA3.5.6.2.8	RA3.5.7.2.6	RA3.5.8.2.6
Window and Door Headers	RA3.5.3.2.9	RA3.5.4.2.9	RA3.5.5.2.9	RA3.5.6.2.9	RA3.5.7.2.7	RA3.5.8.2.7
<b>Roof/Ceilings</b>	<b>RA3.5.3.3</b>	<b>RA3.5.4.3</b>	<b>RA3.5.5.3</b>	<b>RA3.5.6.3</b>	<b>RA3.5.7.3</b>	<b>RA3.5.8.3</b>
Enclosed Rafter Ceilings	RA3.5.3.3.1	RA3.5.4.3.1	RA3.5.5.3.1	RA3.5.6.3.1		
Attics and Cathedral Ceilings	RA3.5.3.3.2	RA3.5.4.3.2	RA3.5.5.3.2	RA3.5.6.3.2	RA3.5.7.3.1	RA3.5.8.3.1
HVAC Platform	RA3.5.3.3.3	RA3.5.4.3.3	RA3.5.5.3.3	RA3.5.6.3.3	RA3.5.7.3.2	RA3.5.8.3.2
Attic Access	RA3.5.3.3.4	RA3.5.4.3.4	RA3.5.5.3.4	RA3.5.6.3.4	RA3.5.7.3.3	RA3.5.8.3.3
<b>Raised Floors</b>	<b>RA3.5.3.4</b>	<b>RA3.5.4.4</b>	<b>RA3.5.5.4</b>	<b>RA3.5.6.4</b>	<b>RA3.5.7.4</b>	<b>RA3.5.8.4</b>
Homes with Floors Over Garage	RA3.5.3.4.1	RA3.5.4.4.1	RA3.5.5.4.1	RA3.5.6.4.1	RA3.5.7.4.1	RA3.5.8.4.1
Homes with Conditioned Space Over Garage	RA3.5.3.4.2	RA3.5.4.4.2	RA3.5.5.4.2	RA3.5.6.4.2	RA3.5.7.4.2	RA3.5.8.4.2
Homes with No Conditioned Space Over Garage	RA3.5.3.4.3	RA3.5.4.4.3	RA3.5.5.4.3	RA3.5.6.4.3	RA3.5.7.4.3	RA3.5.8.4.3

I suggest organizing it by the applications in the first column, as follows:

#### Thermal Specification

Requirements for walls, roof/ceilings and floors

1. Requirements that apply to all types of insulation
2. Requirements specific to Batt/blanket, **if any**
3. Requirements specific to Loose fill, **if any**
4. Requirements specific to Rigid board insulation, **if any**
5. Requirements specific to SPF, **if any**
6. Requirements specific to SIPS, **if any**
7. Requirements specific to ICF, **if any**

R-value measurement equipment

**Repeat 1-7**

Certificates

**Repeat 1-7**

Certificates and availability

**Repeat 1-7**

Wall Insulation

**Repeat 1-7**

Narrow framed cavities

**Repeat 1-7**

Special situations – Prior to exterior sheathing

**Repeat 1-7**

Special situations – Obstructions

**Repeat 1-7**

Special situations – Rim joists

Repeat 1-7  
Special situations – Knee walls, skylight shafts  
Repeat 1-7  
Special situations – HVAC Plumbing closet  
Repeat 1-7  
Special situations – Double walls and framed bump outs  
Repeat 1-7  
Special situations – Structural Bracing, tie downs  
Repeat 1-7  
Special situations – Window and door headers  
Repeat 1-7  
Roofs/Ceilings  
Repeat 1-7  
Special situations – Enclosed rafter ceilings  
Repeat 1-7  
Special situations – Attics and cathedral ceilings  
Repeat 1-7  
Special situations – HVAC Platform  
Repeat 1-7  
Special situations – Attic Access  
Repeat 1-7  
Raised floors  
Repeat 1-7  
Floors over garage  
Repeat 1-7  
Conditioned space over garage  
Repeat 1-7  
No conditioned space over garage  
Repeat 1-7

What happens when you organize it this way is that the vast majority of the redundant text goes away because it is covered in the first subsection, “Requirements that apply to all types of insulation”. Also, a lot of the other subsections go away, because “if any” is “none” and they do not apply.

We at CalCERTS strongly believe that this is something that would go a long way toward the goal of simplifying the code. We look forward to the Commission’s feedback on this issue.



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