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Mr. Maziar Shirakh
Project Manager
Building Energy Efficiency Standards California Energy Commission
1516 9th Street, MS-25, Sacramento, CA 96814
Submitted Electronically to docket@energy.ca.gov

Subject: Comments regarding California Title 24, Part 6, Adoption of 15-Day Language for the 2013 Energy Efficiency Building Standards, Docket Number 12-BSTD-1

Updated / Revised May 31, 2012 with two additional comments.

Dear Mr. Shirakh,

The Extruded Polystyrene Foam Association (XPSA) appreciates the opportunity to submit the following comments on the proposed adoption of 15-Day Language for the 2013 Energy Efficiency Building Standards. XPSA is the national trade association representing the manufacturers of extruded polystyrene (XPS) foam insulation products and their raw material suppliers.

These comments are provided in a sequence consistent with the Standard and Joint Appendices, and with formatting showing further revisions to the 15-Day language (inserted text; ~~deleted text~~).

XPSA Comment 1: Section 100.1 – Definitions – Revise as shown:

U-FACTOR, ~~**ENVELOPE**~~ **Assembly** is the overall coefficient of thermal transmittance of a ~~construction~~ assembly, such as a wall, floor, or ceiling, in Btu/(hr x ft² x ºF), including air film resistance at both surfaces.

Reason: Neither “U-factor , envelope” or “Envelope U-factor” is used in the Standard. However, “assembly U-factor” is used in several locations, and not defined.

XPSA Comment 2: Section 140.3(a)1A – Revise as shown:

EXCEPTION 4 to SECTION 140.3(a)1Aia: An aged solar reflectance less than 0.63 is allowed provided the maximum roof/ceiling U-factor in TABLE 140.3 is ~~met~~ not exceeded.

Reason: suggest a slight revision as illustrated.

XPSA Comment 3: Section 141.0(b)2B – Revise as shown:

EXCEPTION to Section 141.0(b)2Bia: An aged solar reflectance less than 0.63 is allowed provided the maximum roof/ceiling U-factor in TABLE 141.0-B is ~~met~~ not exceeded.

Reason: suggest a slight revision as illustrated.

XPSA Comment 4: Section 140.3(a)1B – Revise as shown:

B. Roof Insulation.
Roofs shall have an overall assembly U-factor no greater than the applicable value in TABLE 140.3-B, C or D. ~~, and shall be, w~~Where required by Section 110.8(e), insulation shall be placed in direct contact with a continuous roof or drywall ceiling.

Reason: 15-Day language is not clear as to requirement(s) intended.

XPSA Comment 5: Footnote requirements to TABLE 150.1-A – Revise as shown:

1. The U-factors/R-values shown for roofs / ceilings~~, wall~~ and raised floors ~~insulation~~ are for wood-frame construction with insulation installed in the cavity between the framing members. The U-factors/R-values shown for framed walls are for wood-frame construction with insulation installed in the cavity between the framing members and / or installed as continuous insulation over the framing members. For alternative construction assemblies, see Section 150.1(c)1A, B and C.
U-factors can be met by cavity insulation and / or continuous insulation that results in an assembly U-factor for the roof, ceiling, wall, or floor equal to or less than the U-factor shown. For framed walls "R-15+4" means R-15 cavity insulation plus R-4 continuous insulation. Any combination of cavity insulation and/or continuous insulation that results in a wall U-factor equal to or less than 0.065 is allowed, such as R-13+5. ~~Continuous insulation is not required for demising partitions, such as exterior walls adjacent to an unconditioned garage.~~

Reason: Consider revising the footnote to be consistent with revised requirements in Table 150.1-A. The last sentence, suggested for deletion, may be a conflict with the updated thermal performance requirements for framed walls. In addition to revising the footnote, the cells of Table 150.1-A referred to by footnote 1 should have a superscript "1" included in the text of that cell.

XPSA Comment 6: Section 150.1(c)1B – Revise as shown:

B. ~~Wall, (including heated basements and crawl spaces) insulation which have~~ Framed walls shall have insulation installed resulting in a wall assembly U-factor equal to or less than shown in TABLE 150.1-A, or shall have cavity and continuous insulation installed with R-values equal to or greater than shown in TABLE 150.1-A. Above grade mass walls and below grade walls shall have insulation installed resulting in a wall assembly U-factor equal to or less than shown in TABLE 150.1-A, or shall have insulation installed with an R-value equal to or greater than shown in TABLE 150.1-A ~~shall be installed~~. ~~The maximum U-factors or minimum opaque wall R-values shown are for insulation installed between wood-framing members.~~
~~i. Walls less than a 2x6 framed wall shall meet the equivalent U-factor indicated in TABLE 150.1-A.~~
~~ii. Walls greater than or equal to a 2x6 framed wall shall meet the equivalent U-factor indicated in TABLE 150.1-A.~~

Reason: The existing 15-Day language of this section may be technically not quite correct regarding the U-factors. Assuming the U-factors in Table 150.1-A are the maximum allowed for the wall assembly, the language of the standard should make it clear the wall is to be insulated such that the wall assembly has a U-factor less than or equal to the maximum allowed. The last two sentences ("i." and "ii") seem to be not needed.

XPSA Comment 7: Section 150.1(c)1D – Revise as shown:

D. Slab floor perimeter insulation shall be installed with a U-factor equal to or less than or R-value equal to or greater than shown in TABLE 150.1-A. ~~The maximum U-factors or minimum R-values shown are for insulation installed between wood-framing members.~~ The minimum depth of concrete-slab floor perimeter insulation shall be 16 inches or the depth of the footing of the building, whichever is less.

Reason: The sentence shown as deleted doesn't seem to apply to slab floor perimeter insulation.

XPSA Comment 8: Joint Appendix JA4 – Several Tables, add columns for Continuous Insulation to the identified tables of JA4.

The table below summarizes the Continuous Insulation columns included in the identified tables of JA4. XPSA suggests adding several columns in several of the tables (Add). The R-5 column recognizes a common insulation available throughout California: 1" extruded polystyrene insulation, with an R-5 insulation value. The other recommended columns expand the utility of these tables where the builder or designer chooses to use thicker continuous insulation.

	Continuous Insulation – Columns in Table									
JA4 Table	R-0	R-2	R-4	R-5	R-6	R-7	R-8	R-10	R-12	R-14
4.3.1 Wood Framed Walls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Add	Add	Add
4.3.2 Structurally Insulated Wall Panels (SIPS)	Yes	Yes	Yes							
4.3.3 Metal Framed Walls, Non-Res	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Add
4.3.4 Metal Framed Walls, Residential	Yes	Yes	Yes	Yes	Yes	Yes	Add	Add	Add	Add
4.3.9 Metal Building Walls	Yes	Yes	Yes	Add	Yes	Yes	Yes	Yes	Add	Yes
4.4.1 Wood Framed Floors w/ Crawl Space	Yes	Yes	Yes	Add	Yes	Yes	Yes	Yes		Yes
4.4.2 Wood Framed Floors w/o Crawl Space	Yes	Yes	Yes	Add	Yes	Yes	Yes	Yes		Yes
4.4.3 Wood Foam Panel (SIP) Floors	Yes	Yes	Yes	Add	Yes	Yes	Yes	Yes		
4.4.4 Metal-Framed Floors w/ Crawl Space	Yes	Yes	Yes	Add	Yes	Yes	Yes	Yes		Yes

XPSA Comment 7: Joint Appendix JA4, Table 4.3.3, text following the table – revise as shown:

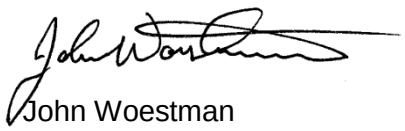
This table contains U-factors for steel or metal-framed walls, which are typical of nonresidential buildings. The table may be used for any construction assembly where the insulation is installed in the cavity of a metal-framed wall, or where continuous insulation is installed on the interior or exterior of the metal framing, or a combination of these two methods of insulating a metal-framed wall.

XPSA Comment 9: Joint Appendix JA4, Table 4.3.4, text following the table – revise as shown:

This table contains U-factors for steel or metal framed walls in low-rise residential buildings where the thickness of the framing members is 18 gauge or thinner. Table 4.3.3 in Reference Joint Appendix JA4 must be used for steel or metal-.framed walls in nonresidential buildings (including high-rise residential buildings and hotels and motels) and in low rise residential buildings if the thickness of the framing members are thinner than 18 gauge. The table may be used where the insulation is installed in the cavity of a metal-framed wall, or where continuous insulation is installed on the interior or exterior of the metal framing, or a combination of these two methods of insulating a metal-framed wall.

We appreciate the opportunity to comment on the proposed changes to the 2013 California Building Energy Efficiency Standards. Please do not hesitate to contact me if you have comments or questions on any of the above.

Sincerely,



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