

**EPA Response to Stakeholder Comments on Proposed Insulation Version 1.0 Revision**

No.	Topic	Subtopic	Comment Summary	EPA Response
1	Definitions	Structural Insulated Panels (SIPs)	One respondent commented that Structural Insulated Panels (SIPs) are typically filled with rigid board insulation and not spray foam insulation as stated in the proposed revision, and recommends the following definition from a daft ANSI/APA PRS 610.1 standard be used: <i>A structural sandwich panel which consists of a foam plastic insulation core bonded directly between two structural facings made of wood structural panels.</i>	EPA agrees with the comment and will adopt the defintion language as proposed by the stakeholder.
2	Definitions	Insulation Definition	One respondent commented that the insulation definition should no longer contain the reference to "(aluminum foil)" after the word "reflective" as that is out dated, and that currently the more accurate reference to use is "(emittance of 0.1 or less)".	EPA will continue with the definition for insulation as stated in the proposed revision in order to align with the Federal Trade Commission (FTC) 16 CFR 460. Also the proposed revision already states in the definition for reflective insulation that the product has an emissivity of 0.1 or less.
3	Definitions	Facing	One respondent suggest adding to the facing definition the following facing materials: "multi-layer laminates foil-scrim-kraft (FSK) and poly-scrim-kraft (PSK)".	EPA will continue to leave specific facing types out of the facings definitions in order to allow the Certification Body (CB) the ability to determine if certain product facings are unacceptable in regards to the effect on the thermal performance or ability its ability to meet code requirements.
4	Definitions	Rigid Board	One respondent recommended changing the definition within the proposed revision to state the following: Semirigid <b>or rigid</b> insulation preformed into . . . The respondent stated that while the definition for "Board Insulation" in ASTM C168-10 uses the term "semirigid", more than one standard specification (e.g., ASTM C578, ASTM C591 and ASTM C612) use the term "rigid", either alone or in addition to semirigid, in the Title, Scope, Terminology, Materials and Physical Properties sections. Left as is, the respondent believes that the definition would exclude some mineral fiber board and all foam board (expanded polystyrene, extruded polystyrene, polyisocyanurate) insulations.	EPA's intention is to include all rigid board foam products and agrees that adding "or rigid" to the definition for Rigid Board Insulation will help to clarify that products such as EPS and XPS are within the scope of the program.
5	Sample	Loose Fill Insulation	One respondent recommended using the following language for the loose fill insulation sample thickness section: <i>For loose fill insulation, samples shall be tested at a thickness and density representative to the thermal performance of the material. For loose-fill cellulose products the representative density shall be determined according to ASTM C739, Section 8, and the representative thickness shall be 4.0 inches. For loose-fill fiberglass, mineral wool and mineral fiber products the representative density shall be the product's R-19 label density. The representative thickness for these products shall be 6.0 inches. This applies to pneumatically applied, poured in, or dense pack cellulose, and self-supporting products.</i>	EPA appreciates stakeholder feedback regarding the loose fill sample thickness section. EPA would like to note that the current revision already requires that products be tested at the settled density determined under paragrapch 8 of ASTM C 739 as stated in FTC 16 CFR 460. EPA agrees with adding the representative thickness definition as provided by FTC 16 CFR 460.6 as follows: <i>Tests must be done at a representative thickness for every thickness shown in a label, fact sheet, ad, or other promotional material. "Representative thickness" means a thickness at which the R-value per unit will vary no more than plus or minus 2% with increases in thickness. However, if the thickness shown in your label, fact sheet, ad, or promotional material is less than the representative thickness, then you can test the insulation at the thickness shown.</i>
6	Sample	Loose Fill Insulation	One respondent suggested requiring a single evaluation of the cellulose product at the ASTM C739 design density and at the 3.5 - 4" representative thickness for labeled thicknesses of 3.5" and up. The respondent commented that there is data to support these values, but could not provide that information. It was also suggested that labeled thicknesses of less than 3.5" require additional testing. The respondent believes that the revision would serve to lower qualification costs, maintain the relative accuracy of the ratings based on historical precedence, and increase manufacturer participation in the program.	In lieu of supporting data, EPA will not adopt a set thickness for testing. EPA believes this approach aligns with FTC requirements. It will be up to the discretion of the Certification Body to determine if the product sample meets the representative thickness requirements.
7	Sample	Loose Fill Insulation	One respondent commented that representative thickness testing required by FTC regulations was researched many years ago within ASTM C16, and as a result, ASTM C687, Specimen Preparation, Section 4.7 requires a minimum thickness of 4-inches for loose-fill thermal testing at a single density. The responded also stated they believed that the correct procedure requires an incremental analysis of thermal value at constant density (design density) by thickness where the slope of the thermal curve reflects no more than a 2% rate of change in thermal value is the Representative Thickness. Furthermore, they pointed out that ASTM C739 and FTC requires testing at design density.  The respondent suggested the following language be used: <i>For Loose Fill insulation, samples shall be tested at design density and thickness equal to or greater than 4-inches thick.</i>	

EPA Response to Stakeholder Comments on Proposed Insulation Version 1.0 Revision

No.	Topic	Subtopic	Comment Summary	EPA Response
8	Sample	Aging and Settling	One respondent commented that EPA require that a 1 inch thick test specimen be taken from the "full thickness product" prior to aging and settling in all cases.	EPA believes there is no need to specify a sample thickness in the aging and settling requirements section, as EPA is requiring that the full sample used in the thermal resistance test be aged and settled prior to thermal resistance testing. This requirement aligns with the Federal Trade Commission (FTC) 16 CFR 460.
9	Sample	Surface Burn Sample	One respondent commented that the Surface Burn Characteristic test sample requirement calls for a judgment on the part of the certification body which may prove problematic. Instead, they request that EPA cite any existing protocol, if any do exist, within the program requirements.	EPA believes that the CB has the expertise to determine the appropriate sample preparation required given there is no widely accepted standard that EPA is aware of at this time.
10	Testing	Single Sheet Reflective Insulation	One respondent stated that the existing standards that apply to Single Sheet System Reflective Insulation, ASTM E408 and ASTM C1371, already specify testing temperatures, and therefore the requirement for 50 F with a temperature differential of 30 F should be removed.	EPA agrees with the respondent's comments that the Federal Trade Commission (FTC) 16 CFR 460 does not specify test temperatures for Single Sheet System Reflective Insulation. EPA will instead make the following change to more accurately align with FTC: <i>Calculating R-Value</i> : To get the R-value for a specific emissivity level, air space, and direction of heat flow; use the tables in the most recent edition of the American Society of Heating, Refrigerating, and Air-Conditioning Engineers' (ASHRAE) Fundamentals Handbook. <i>You must use the R-value shown for 50° F, with a temperature differential of 30° F.</i>
11			One respondent suggested that the temperature requirements for Single Sheet Reflective Insulation be moved to after the reference to the ASHRAE Handbook. They provided the following suggested language: <i>Calculating R-Value</i> : To get the R-value for a specific emissivity level, air space, and direction of heat flow; use the tables in the most recent edition of the American Society of Heating, Refrigerating, and Air-Conditioning Engineers' (ASHRAE) Fundamentals Handbook. <i>You must use the R-value shown for 50° F, with a temperature differential of 30° F.</i>	
12	Testing	Multiple Sheet System Reflective Insulation	One respondent asked that the testing requirements section for Multiple Sheet System Reflective Insulation be changed so R-value must be reported for the whole panel rather than for each air space. The respondent stated that the test method does not independently test the individual air spaces, but instead tests the system as a whole.	EPA agrees with the respondent's comment to remove the requirement for reporting R-value for every enclosed air space. EPA believes this change will provide closer alignment with the Federal Trade Commission (FTC) 16 CFR 460.
13	Testing	Surface Burn Sample	One respondent recommended the the word "identical" be removed from the Surface Burn Characteristics Test sample requirements section which currently states the following: <i>The sample must have identical chemical and physical properties as the line intended for sale.</i> The respondent stated that products have certain tolerances and can be viewed as not identical. Instead, specimens should be representative of the product certified, and must fall within allowable tolerances.	EPA agrees with the respondent's comment to remove the requirement for reporting R-value for every enclosed air space. EPA believes this change will provide closer alignment with the Federal Trade Commission (FTC) 16 CFR 460.
14	Testing	Products sold at pre-determined thicknesses	One respondent commented that the establishment of an "interpolation curve" based on thickness alone is not valid for some products considered "sold at a pre-determined thickness" such as fiberglass insulation, as there could also be differences in design density at the same thickness. The respondent suggested referencing the requirements of 16 CFR 460 ("Labeling and Advertising of Home Insulation"), part 460.12 (b) (1).	EPA believes that the currently proposed revision already indicates that density is not an acceptable variation when selecting a representative sample for a product line of products considered "sold at a pre-determined thickness. As stated in the Testing Requirements section 2 (C), <i>"The sample must have identical chemical and physical properties as the line intended for sale"</i> . Samples of different densities would constitute a difference in physical property and therefore would be considered a separate product line, requiring separate testing and sampling.