

STATE BUILDING CODE INTERPRETATION NO. I-15-12

June 20, 2012

The following is in response to your request for formal interpretation dated June 13, 2012.

Question 1:

“As regards to IRC R314.1.2, Thermal Barrier, in an unvented, conditioned attic space with proposed hybrid insulation system consisting of 2 inch thick closed cell foam insulation at the underside of the roof sheathing, combined with dense pack spray cellulose insulation to meet the R-value requirements of the IECC. Does the dense pack spray cellulose insulation qualify as “an approved finish material equivalent to a thermal barrier” if it conforms to the ASTM E119 Standard?”

Answer 1:

No. The foam plastic would have to meet one of the test standards listed in Section R314.3, of the above code, or one could have the above assembly pass an actual end use configuration fire test as noted in Section R314.3.

Looking to the future, Section R316.4, of the 2012 International Residential Code, states in part that in lieu of the 1/2 inch thick gypsum wallboard one could use a material to cover the exposed foam plastic that is tested and meets the acceptance criteria of both the Temperature Transmission Fire Test and Integrity Test of NFPA 275. Also, Section R316.5.3, of the 2012 International Residential Code, allows the use of mineral fiber insulation or 1-1/2 inch thick cellulose insulation to cover foam plastic as an ignition barrier only which further adds credence to Answer No. 1.

Question 2:

“As regards to the previous question, does the addition of FSK paper to the hybrid insulation system described satisfy the requirements of IRC R314.1.2, Thermal Barrier, and/or IRC R314.3, Specific Approval, if the FSK paper is documented to meet ASTM E-84?”

Answer 2:

See answer to No. 1.

Question 3:

“As regards to IECC 402.4, Air Leakage, in an unvented, conditioned attic space with dense pack spray cellulose insulation (only) in thickness to meet the R-value requirement, does the addition of FSK paper (documented to meet ASTM E96-Permeance maximum permeance 0.05 grain/hr/SF/in) applied to the underside of the cellulose satisfy the requirements for air sealing and insulation?”

Answer 3:

Yes. FSK paper would be an acceptable material to provide an air barrier since the 2009 International Energy Conservation Code does not provide any standards that an air barrier has to comply with, except that it has to be impermeable to air flow. If you provide FSK paper over the spray cellulose insulation, then such facing would have to comply with Section R316.1, of the 2003 International Residential Code portion of the 2005 State Building Code, for smoke development and flame spread if left exposed.