Foam Plastic Insulation Permitted in a Crawl Space without an Ignition Barrier

The International Residential Code (IRC) and the International Building Code (IBC) require foam plastic insulation be separated from the interior of a building by an approved thermal barrier consisting of ½ inch gypsum wallboard or equivalent. In a crawl space the IBC and IRC allow an ignition barrier in lieu of a thermal barrier where entry is made only for the service of utilities. This basically means the crawl space is not used for storage or any purpose other than housing utilities. Some types of foam plastic insulation have undergone sufficient testing to demonstrate they may be installed in a crawlspace without an ignition barrier. For convenience this handout lists a few of the more common types. In order to install these insulations in a crawlspace without an ignition barrier, the following rules apply:

1. Entry to the crawlspace is made only to service utilities and the crawlspace is not used for storage.
2. There are no inter-connected basement areas.
3. Crawl space air is not circulated to other parts of the building.
4. The crawl space is ventilated in accordance with the IBC or IRC.

Please consult the ICC ESR report for specific requirements and details. This Handout assumes Type V combustible construction. Refer to the ICC ESR report for use in Type I, II, III and IV construction. Single family homes, duplexes and townhouses qualify as Type V construction.

The following brands/types of foam plastic insulation may be installed in a crawlspace without an ignition barrier:

<table>
<thead>
<tr>
<th>Product</th>
<th>ICC Report #</th>
<th>Additional requirements and limitations</th>
</tr>
</thead>
<tbody>
<tr>
<td>DOW Styrofoam XPS (extruded polystyrene) Type IV and Type X insulation boards</td>
<td>ESR-2142</td>
<td>Type X insulation cannot exceed 3 inches in thickness. The maximum allowable thickness of Type IV insulation varies from 2 to 3 inches. Refer to the ESR report.</td>
</tr>
<tr>
<td>Dow Thermax Insulation Boards</td>
<td>ESR-1659</td>
<td>No additional special requirements.</td>
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</tbody>
</table>
| Insulfoam EPS and R-Tech (expanded polystyrene) insulation boards | ESR-1788 | a. Insulation is limited to a maximum thickness of 4 inches for Type I (1 pcf density), or a maximum thickness of 2.67 inches for Type II (1.5 pcf density), or a maximum thickness of 2 inches for Type IX (2 pcf density).  
  b. Boards must be labeled as having beads produced by BASF, NOVA or Flint Hills Resources. See ESR report. |
| Amvic EPS Insulating Concrete Forms | ESR-1269 | No additional requirements. |
| AFM Corp. Foam Control EPS Boards | ESR-1006 | a. Insulation thickness is limited as follows: Up to 4 inches for Type I; up to 3.2 inches for Type VIII; up to 2.7 inches for Type II; up to 2 inches for Type IX; up to 1.6 inches for Type XIV; and up to 1.3 inches for Type XV.  
  b. Boards must be labeled with one of the following: BASF, NOVA, Flint Hills Resources or StyroChem. See ESR report. |
| Certainteed Corporation  
Certaspray Closed-Cell Spray Foam Insulation | ESR-2669 | Insulation thickness shall not exceed 12 inches. |

Other products may also qualify for installation without the code required ignition barrier. Manufacturers, dealers or installers should provide Building Safety the ICC evaluation report number for verification.

Bob Kniiefel, Building Official  
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