

Thermal Barrier Options

Porter Corp recommends that a thermal barrier, as recognized by the ICC, be installed over PorterSIPs used as exterior walls and roofs. The definition of a thermal barrier is:

THERMAL BARRIER: A material or product that prevents or delays the ignition of a flammable surface in the event of a fire.

The 2021 International Residential Code (IRC) requires the following:

SECTION R610.5 – Wall Construction

R610.5.6 Thermal barrier: SIP walls shall be separated from the interior of a building by an approved thermal barrier in accordance with Section R316.4.

SECTION R316 – Foam Plastic

R316.4 Thermal barrier: Unless otherwise allowed in Section R316.5, foam plastic shall be separated from the interior of a building by an approved thermal barrier of not less than 1/2-inch (12.7 mm) gypsum wallboard, 23/32-inch (18.2 mm) wood structural panel or a material that is tested in accordance with and meets the acceptance criteria of both the Temperature Transmission Fire Test and the Integrity Fire Test of NFPA 275.

R316.5.2 Roofing: The thermal barrier specified in Section R316.4 is not required where the foam plastic in a roof assembly or under a roof covering is installed in accordance with the code and the manufacturer's instructions and is separated from the interior of the building by tongue-and-groove wood planks or wood structural panel sheathing, in accordance with Section R803, that is not less than 15/32 inch (11.9 mm) thick bonded with exterior glue, identified as Exposure 1 and with edges supported by blocking or tongue-and-groove joints or an equivalent material. The smoke-developed index for roof applications shall not be limited.

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The 2021 International Building Code (IBC) requires the following:

SECTION 2603 – FOAM PLASTIC INSULATION

2603.4 Thermal barrier: Except as provided for in Sections 2603.4.1 and 2603.9, foam plastic shall be separated from the interior of a building by an approved thermal barrier of 1/2-inch (12.7 mm) gypsum wallboard, heavy timber in accordance with Section 602.4 or a material that is tested in accordance with and meets the acceptance criteria of both the Temperature Transmission Fire Test and the Integrity Fire Test of NFPA 275.

2603.4.1.5 Roofing: A thermal barrier is not required for foam plastic insulation that is for a roof assembly that is separated the interior of the building by wood structural panel sheathing not less than 0.47 inch (11.9 mm) in thickness bonded with exterior glue, with edges supported by blocking, tongue-and-groove joints, other approved type of edge support or an equivalent material.