(2) The microwave oven is equivalent in fire protection to the metal range hood required by paragraph (a) of this section; and

(3) The microwave oven is certified to be in conformance with Microwave Cooking Appliances, UL 923–2002 (incorporated by reference, see § 3280.4).

(d) When a manufactured home is designed for the future installation of a cooking range, the metal hood and cabinet protection required by paragraph (a) of this section and the wall-surfacing protection behind the range required by § 3280.203 shall be installed in the factory.

(e) Vertical clearance above cooking top. Ranges shall have a vertical clearance above the cooking top of not less than 24 inches to the bottom of combustible cabinets.

[49 FR 32008, Aug. 9, 1984, as amended at 78 FR 73982, Dec. 9, 2013]

§ 3280.205 Carpeting.

Carpeting shall not be used in a space or compartment designed to contain only a furnace and/or water heater. Carpeting may be used in other areas where a furnace or water heater is installed, provided that it is not located under the furnace or water heater.

§ 3280.206 Fireblocking.

(a) *General.* Fireblocking must comply with the requirements of this section. The integrity of all fireblocking materials must be maintained.

(b) *Fireblocking materials.* Fireblocking must consist of the following materials:

(1) Minimum one inch nominal lumber, 5/16 inch thick gypsum board, or equivalent fire resistive materials; or

(2) Other Listed or Approved Materials;

(c) *Fireblocking locations.* (1) Fireblocking must be installed in concealed spaces of stud walls, partitions, and furred spaces at the floor and ceiling levels. Concealed spaces must not communicate between floor levels. Concealed spaces must not communicate between a ceiling level and a concealed roof area, or an attic space.

(2) Fireblocking must be installed at the interconnection of a concealed vertical space and a concealed horizontal space that occurs:

(i) Between a concealed wall cavity and the ceiling joists above; and

(ii) At soffits, drop ceilings, cover ceilings, and similar locations.

(3) Fireblocking must be installed around the openings for pipes, vents, and other penetrations in walls, floors, and ceilings of furnace and water heater spaces. Pipes, vents, and other penetrations that cannot be moved freely within their opening are considered to be fireblocked. Materials used to fireblock heat producing vent penetrations must be noncombustible or limited combustible types.

[71 FR 72042, Nov. 30, 2005]

§ 3280.207 Requirements for thermal insulating materials.

(a) *General.* Except for foam plastic materials and as provided in this section, exposed and concealed thermal insulating materials, including any facings, must be tested in accordance with NFPA 255–96, Standard Method of Test of Surface Burning Characteristics of Building Materials (incorporated by reference, see § 3280.4) and must have a flame spread index of 25 or less and a smoke developed index of 450 or less. The flame spread and smoke developed limitations do not apply to:

(1) Coverings and facings of insulation batts or blankets installed in concealed spaces when the facings are in substantial contact with the unexposed surface of wall, floor, or ceiling finish; or

(2) Cellulose loose-fill insulation that complies with paragraph (b) of this section.

(b) *Loose-fill insulation.* (1) Cellulose loose-fill insulation that is not spray-applied or self-supporting must comply with, and each package must be labeled in accordance with the Consumer Product Safety Commission requirements in 16 CFR parts 1209 and 1404.

(2) Other loose-fill insulation that cannot be mounted in the NFPA 255–96, test apparatus without a screen or other artificial support must be tested in accordance with CAN/ULC S102.2–M88, Standard Method of Test for Surface Burning Characteristics of Floor Coverings and Miscellaneous Materials and Assemblies (incorporated by reference, see § 3280.4), and must have a

flame spread index of 25 or less and a smoke developed index of 450 or less.

(c) *Attic locations.* Exposed insulation installed on the floor or ceiling forming the lower boundary of the attic must be tested in accordance with NFPA 253–2000, Standard Method of Test for Critical Radiant Flux of Floor Covering Systems Using a Radiant Heat Energy Source (incorporated by reference, see § 3280.4) and must have a critical radiant flux of not less than 0.12 watt/cm^2.

§ 3280.208 Requirements for foam plastic thermal insulating materials.

(a) *General.* Foam plastic thermal insulating materials shall not be used within the cavity of walls (not including doors) or ceilings or be exposed to the interior of the home unless:

(1) The foam plastic insulating material is protected by an interior finish of 5/16-inch thick gypsum board or equivalent material for all cavities where the material is to be installed; or

(2) The foam plastic is used as a sheathing or siding backerboard, and it:

(i) Has a flame spread rating of 75 or less and a smoke-developed rating of 450 or less (not including outer covering of sheathing);

(ii) Does not exceed 3/8-inch in thickness; and

(iii) Is separated from the interior of the manufactured home by a minimum of 2 inches of mineral fiber insulation or an equivalent thermal barrier; or

(3) The foam plastic insulating material has been previously accepted by the Department for use in wall and/or ceiling cavities of manufactured homes, and it is installed in accordance with any restrictions imposed at the time of that acceptance; or

(4) The foam plastic insulating material has been tested as required for its location in wall and/or ceiling cavities in accordance with testing procedures described in the Illinois Institute of Technology Research Institute (IIT) Report, ''Development of Mobile Home Fire Test Methods to Judge the Fire-Safe Performance of Foam Plastic Sheathing and Cavity Insulation, IITRI Fire and Safety Research Project J–6461, 1979'' or other full-scale fire tests accepted by HUD, and it is installed in a manner consistent with the way the material was installed in the foam plastic test module. The materials must be capable of meeting the following acceptance criteria required for their location:

(i) *Wall assemblies.* The foam plastic system shall demonstrate equivalent or superior performance to the control module as determined by:

(A) Time to reach flashover (600 °C in the upper part of the room);

(B) Time to reach an oxygen (O_2) level of 14% (rate of O_2 depletion), a carbon monoxide (CO) level of 1%, a carbon dioxide (CO_2) level of 6%, and a smoke level of 0.26 optical density/meter measured at 5 feet high in the doorway; and

(C) Rate of change concentration for O_2, CO, CO_2 and smoke measured 3 inches below the top of the doorway.

(ii) *Ceiling assemblies.* A minimum of three valid tests of the foam plastic system and one valid test of the control module shall be evaluated to determine if the foam plastic system demonstrates equivalent or superior performance to the control module. Individual factors to be evaluated include intensity of cavity fire (temperature-time) and post-test damage.

(iii) *Post-test damage assessment for wall and ceiling assemblies.* The overall performance of each total system shall also be evaluated in determining the acceptability of a particular foam plastic insulating material.

(b) All foam plastic thermal insulating materials used in manufactured housing shall have a flame spread rating of 75 or less (not including outer covering or sheathing) and a maximum smoke-developed rating of 450.

[49 FR 32008, Aug. 9, 1984, as amended at 70 FR 72043, Nov. 30, 2005. Redesignated at 78 FR 73982, Dec. 9, 2013]

§ 3280.209 Smoke alarm requirements.

(a) *Labeling.* Each smoke alarm required under paragraph (b) of this section must conform with the requirements of UL 217 (incorporated by reference, see § 3280.4), or ANSI/UL 268 (incorporated by reference, see § 3280.4), and must bear a label to evidence conformance. Combination smoke and carbon monoxide alarms shall be listed