

anchors for fasteners to be used to secure the shutters or protective covers to the exterior walls. If the manufacturer does not provide shutters or other protective covers to cover these openings, the manufacturer must provide to the homeowner instructions for at least one method of protecting exterior door openings. This method must be capable of resisting the design wind pressures specified in § 3280.305 without taking the home out of conformance with the standards in this part. These instructions must be included in the printed instructions that accompany each manufactured home. The instructions shall also indicate whether receiving devices, sleeves, or anchors, for fasteners to be used to secure the shutters or protective covers to the exterior walls, have been installed or provided by the manufacturer.

[40 FR 58752, Dec. 18, 1975. Redesignated at 44 FR 20679, Apr. 6, 1979, as amended at 52 FR 4583, Feb. 12, 1987; 52 FR 35543, Sept. 22, 1987; 58 FR 55009, Oct. 25, 1993; 59 FR 2474, Jan. 14, 1994]

§ 3280.406 Air chamber test method for certification and qualification of formaldehyde emission levels.

(a) *Preconditioning.* Preconditioning of plywood or particleboard panels for air chamber tests shall be initiated as soon as practicable but not in excess of 30 days after the plywood or particleboard is produced or surface-finished, whichever is later, using randomly selected panels.

(1) If preconditioning is to be initiated more than two days after the plywood or particleboard is produced or surface-finished, whichever is later, the panels must be dead-stacked or airtight wrapped until preconditioning is initiated.

(2) Panels selected for testing in the air chamber shall not be taken from the top or bottom of the stack.

(b) *Testing.* Testing shall be conducted in accordance with the Standard Test Method for Determining Formaldehyde Levels from Wood Products Under Defined Test Conditions Using a Large Chamber, ASTM E-1333-90, with the following exceptions:

(1) The chamber shall be operated indoors.

(2) Plywood and particleboard panels shall be individually tested in accordance with the following loading ratios:

- (i) Plywood—0.29 Ft²/Ft³, and
- (ii) Particleboard—0.13 Ft²/Ft³.

(3) Temperature to be maintained inside the chamber shall be 77° plus or minus 2 °F.

(4) The test concentration (C) shall be standardized to a level (C₀) at a temperature (t₀) of 77 °F and 50% relative humidity (H₀) by the following formula:

$$C = C_0 \times [1 + Ax (H - H_0)] \times e^{-R(t - t_0)}$$

where:

C = Test formaldehyde concentration

C₀ = Standardized formaldehyde concentration

e = Natural log base

R = Coefficient of temperature (9799)

t = Actual test condition temperature (° K)

t₀ = Standardized temperature (° K)

A = Coefficient of humidity (0.0175)

H = Actual relative humidity (%)

H₀ = Standardized relative humidity (%)

The standardized level (C₀) is the concentration used to determine compliance with § 3280.308(a).

(5) The air chamber shall be inspected and recalibrated at least annually to insure its proper operation under test conditions.

[49 FR 32012, Aug. 9, 1984, as amended at 58 FR 55009, Oct. 25, 1993]

Subpart F—Thermal Protection

§ 3280.501 Scope.

This subpart sets forth the requirements for condensation control, air infiltration, thermal insulation and certification for heating and comfort cooling.

§ 3280.502 Definitions.

(a) The following definitions are applicable to subpart F only:

(1) *Pressure envelope* means that primary air barrier surrounding the living space which serves to limit air leakage. In construction using ventilated cavities, the pressure envelope is the interior skin.

(2) *Thermal envelope area* means the sum of the surface areas of outside walls, ceiling and floor, including all openings. The wall area is measured by