



## Ohio Administrative Code Rule 1551:3-1-04 Passive solar systems.

Effective: July 2, 1984

---

A passive solar system consists of south facing glazing, a storage mass, and a method of isolating the storage mass from the climatic conditions. A passive solar system utilizes the materials which form the enclosure to collect, store, and distribute the solar energy.

(A) Passive solar system includes the following:

(1) Direct passive solar system, when:

(a) The glazing faces within thirty degrees due south (except when the glazing is slanted, then the angle deviation from due south may be such that the equivalent solar radiation between nine a.m. and three p.m. (solar time) is at least equal to or greater than vertical glazing facing thirty degrees from due south),

(b) Sufficient storage mass exists to receive and store fifty per cent of the solar energy transmitted by the glazed surface, and

(c) Movable insulation of at least R-5 is available to shield the entire glazed area.

(2) Indirect passive solar system, when:

(a) The glazing faces within thirty degrees due south, and

(b) Sufficient storage mass exists to receive and store fifty per cent of the solar energy transmitted through the glazed area between nine a.m. and three p.m. (solar time) at winter solstice.

(3) Attached solarium, when:

(a) The solarium is exposed to the sun at least four hours between nine a.m. and three p.m. (solar



time) at winter solstice,

(b) A mechanism exists to transport the excess heat to the conditioned environment, and

(c) The solarium may be thermally isolated from the conditioned space by an equivalent R-5 insulation or R-5 movable insulation is available to cover the glazed area.

(B) The components of a passive solar system as described in paragraph (A) of this rule may include glazing materials and installation thereof, storage components, movable insulation, and any necessary control device.

(1) Glazing material consists of transparent material which transmits not less than seventy-five per cent of the solar energy which is transmitted by standard float glass, the material to seal the glazing, and the supporting structure only if the supporting structure is not a load-bearing wall for the enclosure.

(2) Storage components may include:

(a) Any non-upholstered furniture that is permanently attached to the house and is specifically designed to provide thermal storage;

(b) Thermal ceiling covers (if a mechanism exists to deflect the solar radiation to the ceiling);

(c) Floors of masonry, slate, or other thermal material if not carpeted (only the incremental cost over the cost of a standard subflooring applies, such as extra reinforcement to support the masonry, slate, or other thermal material); and/or

(d) Walls of masonry, water, or other thermal material. (If the thermal wall is an integral part of a conventional house, i.e., load-bearing wall, only the incremental cost over a conventional wall applies. In no case may more than eighty per cent of the cost of a dual purpose wall be allowed.)

(3) Movable insulation must have an equivalent of R-5 or greater. Included are ropes, tracks, pulleys, motors, or other devices for the storage of insulation, provided that the sole purpose of these items is



to move and store the insulation panels and they are permanently attached to the building. The insulation devices include, but are not limited to, bead walls, thermal drapes, thermal blinds, and movable rigid panels.

(4) Control devices may be blinds or shutters to prevent overheating or to deflect the insolation to a thermal ceiling, or any electronic or mechanical device which automates the environmental controls.