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***The use of air gaps or cavities as a form of continuous insulation and an alternative to rigid foam exterior insulation strive to meet new energy code demands. By William Spilchen P.E.***

With changing energy code requirements, as represented in ASHRAE 90.1 or California's Title 24, designers, engineers and contractors are facing practical challenges trying to meet these higher standards. One approach that is prescribed is the use of continuous insulation on the outside of building framing. While this approach does increase the insulating value of walls and reduces losses through thermal bridging, especially with steel framing, there is another option.

The incorporation of an air cavity or the concept of a double skin is not unique as air is known to be a good thermal insulation material and the concept has been utilized since the earliest of times. The Persian civilization utilized passive cooling systems as early as 3000 BC and became more sophisticated with the development of wind-catchers. In more recent times, double skin façade buildings were built in the U.S. and Europe in the 1970s during the first energy crisis to improve building energy performance. The double skin façade is a system consisting of two glass skins placed apart in such a way that air flows in the intermediate cavity. The ventilation of the cavity can be natural or fan supported. The origin and the destination of the air can differ depending on climatic conditions, building orientation and HVAC strategy.... Continue reading [online](#)