

Energy Design Update[®]

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Another Tubular Skylight

Solatube is an innovative daylighting device that offers a low-cost energy-efficient alternative to conventional skylights. At first glance, Solatube looks identical to a similar device called Sunpipe that has been remarkably well-received (see *EDU*, September 1992). But closer examination shows a few key differences.

Solatube consists of a 10-inch-diameter aluminum tube with a highly reflective (86% reflectance) anodized interior surface that is installed through the roof of a house and extended down to an interior room. Sunlight enters at the top through a Plexiglas acrylic dome and is channeled down through the tube to a plastic diffuser at the bottom.

Judging from field reports from Sunpipe users, these tubular skylights are winners. Though they obviously don't provide a view like conventional skylights, they do provide impressive illumination levels with minimal heat loss and at a lower cost than conventional skylights.

One of the differences between Solatube and Sunpipe is the reflective inner surface. Sunpipe uses a metalized plastic film developed by 3M; Solatube has an anodized aluminum surface. Both appear shiny to the naked eye, but there are no data showing how they compare to one another.

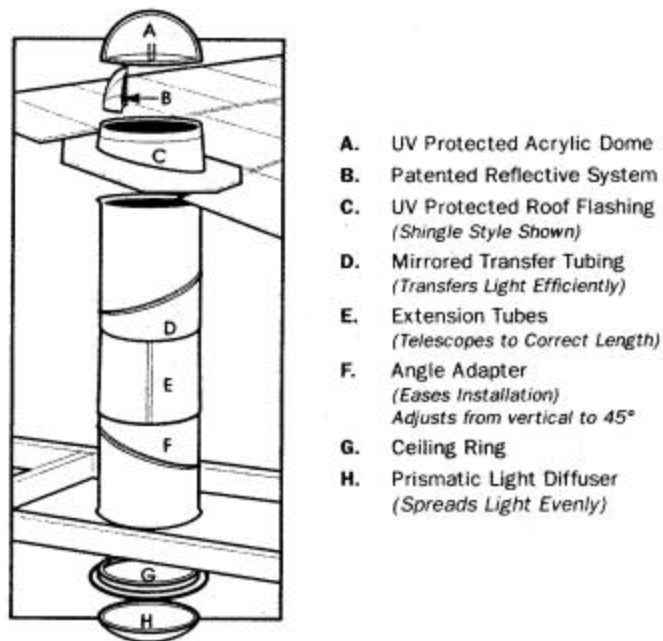


Figure 1 -- Solatube consists of a highly reflective tube that channels sunlight down through the roof. Notice the south-facing scoop-shaped reflector (B) in the top dome that captures southern sunlight.

One continuing concern is condensation inside the tube. Both Sunpipe and Solatube claim that it is not a problem. Elaine Estrada at Solatube explains that Solatube has a special absorptive pile weatherstripping around the upper dome that absorbs any condensation that might form.

Solatube more appealing than Sunpipe on the roof

Solatube and Sunpipe both have special accessories for "scooping" southern sunlight into the skylight. But unlike the Sunpipe "Sunscoop," which is external and a bit unsightly, the Solatube accessory is inside the plastic dome and not readily visible (see Figures 2 and 3).



Figure 2 --The basic Solatube kit includes one straight section and two elbows. The 10-inch diameter tubes fit easily between rafters and joists.



Figure 3 -- The clear acrylic dome is installed with the internal "scoop" facing south to capture maximum sunlight.

Availability and price

Solatube is available directly from the manufacturer. Retail price is \$249. Contractor price ranges from \$185 to \$195 depending on quantity. For more information, contact Solatube North American Limited, 5825 Avenida Encinas, Suite 101, Carlsbad, CA 92008; (619) 929-6060; (800) 773-7652.