

A b s t r a c t

Towards an improved architectural quality of building integrated solar thermal systems (BIST)

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Architectural integration is a major issue in the development and spreading of solar thermal technologies. Yet the architectural quality of most existing building integrated solar thermal systems (BIST) is quite poor, which often discourages potential new users.

In this paper, the results of a large web survey on architectural quality, addressed to more than 170 European architects and other building professionals are presented and commented. Integration criteria and design guidelines established and confirmed through the analysis of these results are proposed.

Subsequently, a novel methodology to design future solar thermal collectors systems suited to building integration is described, showing a new range of design possibilities. The methodology focuses on the essential teamwork between architects and engineers to ensure both energy efficiency and architectural integrability, while playing with the formal characteristics of the collectors (size, shape, colour, etc.).

Finally a practical example of such a design process conducted within the European project SOLABS is given; the resulting collector is described, and integration simulations are presented.

For the full text contact the author(s) or the publisher:

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