

Landessportschule Albstadt, Germany



Photo: Viessmann

Architectural integration of solar thermal energy systems

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Regional sports school with façade mounted solar collectors

PROJECT

Landessportsschule Albstadt is a regional sports school - education, training and sports center. It was first built in 1950, but there has been several stages of reconstruction. It consists of three large and two smaller halls, a swimming pool and three guest houses.

50 m² solar collectors are mounted on the façade of the office building and in front of the dining hall, delivering energy for hot water production. The collectors also function as sun shades.



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Key figures

Living area:	934 m ²
Energy sources:	solar collectors, solar cells, district heating (source?)
Collector area :	50 m ² / 20 modules
Auxiliary heating:	district heating
Hot water demand:	4 200 litres/day

Heating system

20 solar collector modules were installed in 2002 on the façade of the new office building. They are serving as both sun shades and energy producers. The energy is used for hot water production, mainly hot tap water.

Due to the good experience with the collector system, the three guest houses will be equipped with solar heating systems in the future.

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SOLAR COLLECTOR

Type:
Flat plate solar collector,
Vitosol 200-F, Viessmann

More info about the solar collector:
www.viessmann.com/com/en/products/Solar_systems/Vitosol_200-F.html

Details:

Type		SV2	SH2
Gross area (required when applying for subsidies)	m ²	2,51	2,51
Absorber area	m ²	2,30	2,3
Aperture area	m ²	2,32	2,32
Dimensions			
Width	mm	1056	2380
Height	mm	2380	1056
Depth	mm	90	90
The following values apply to the absorber area:			
- Optical efficiency	%	79	79
- Thermal loss correction value k1	W/(m ² K)	3,95	3,95
- Thermal loss correction value k2	W/(m ² K ²)	0,0122	0,0122
Thermal capacity	kJ/(m ² K)	5,35	5,35
Weight	kg	52	52
Liquid content (heat transfer medium)	litres	1,83	2,48
Permissible operating pressure (see chapter "Solar expansion vessel")	bar	6	6
Max. Idle temperature	°C	202	202
Connection	∅ mm	22	22



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In the "Stiftung Warentest" comparison test with 11 other solar thermal systems in March 2008, the Vitosol 200-F was judged to be "Very Good"

GALLERY



PHOTOS; Viessmann

- Built: 2002
- Architect: LOG ID, Tübingen
- Project management: Württembergischer Landessportbund e.V.
- Address: Fritz-Walter-Weg 19
- Location: 70372 Stuttgart, Germany
- Project period: 2000-2002
- Type of project: school/sports center



- Read more: <http://www.architec24.de/viessmann/live/projekte/dokumentation/detail/26/0/0/83.html>