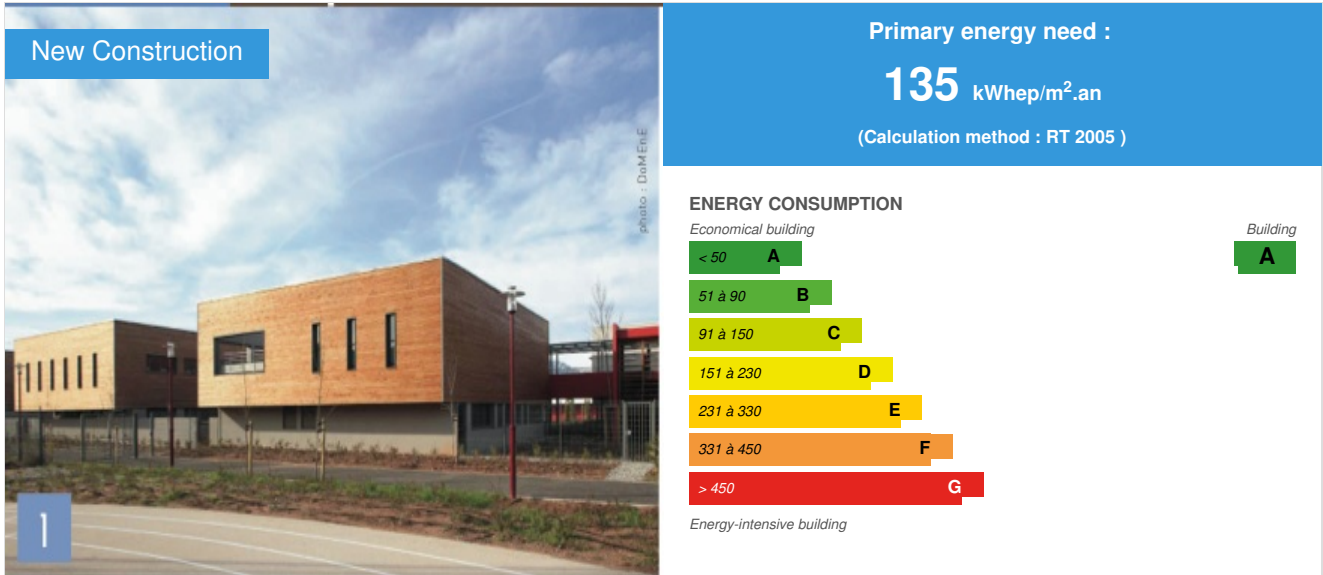


## College Vidauban

by Nicolas Guignard / 2012-04-25 13:22:30 / France / 10824 / FR



**Building Type** : School, college, university  
**Construction Year** : 2010  
**Delivery year** : 2010  
**Address 1 - street** : 500, boulevard Coua de Can 83550 VIDAUBAN, France  
**Climate zone** : [Csa] Interior Mediterranean - Mild with dry, hot summer.

**Net Floor Area** : 8 634 m<sup>2</sup> SHON  
**Construction/refurbishment cost** : 13 520 844 €  
**Cost/m<sup>2</sup>** : 1566 €/m<sup>2</sup>

**Certifications :**



### General information

In 2004, the Var department launches two school-building operations that are, to date, the only two officially enrolling in a voluntary certification process HQE®. One of them, the college Vidauban, is notable for its sobriety and its architectural design.

Moreover, combining solar panels, green roofs, solar, wind, wood boiler, sink and Trombe wall for heating an entire gym, the college is a remarkable concentration of technical and environmental concepts.

In addition to the educational dimension of this project, the high level of energy performance achieved, and the 10 targets of the HQE judged successful or very successful, make this an exemplary project of building the sustainable development approach in which was launched on Var department since 2004.

The program is available in the college classrooms equipped with an audio room and a gymnasium with 200 seat grandstand which 6 PMR (disabled), 5 units, including the concierge, bicycle garage of 127 m<sup>2</sup>, 120 parking spaces, plus 8 bus locations south of the gymnasium, 3,800 square meters of outdoor sports facilities and 13,500 square feet of residual spaces with vegetated basins of thunderstorms, and playground with 3130 m<sup>2</sup> covered area of 350 m<sup>2</sup>.

## Sustainable development approach of the project owner

Of the origin, the General Council wanted the building to be demonstrative, pedagogical, and it is part of a step has high environmental quality, in the same light that the college Saint Zacharie. Among the HQE @ targets, 4 should be very efficient: harmonious relationship of buildings with their immediate environment, energy management, hygrothermal comfort and visual comfort (respectively target 1,4,8,10) and 5 targets performance: a low noise construction, water management, care and maintenance, acoustic comfort and health of the air quality (targets respectively 3, 5, 7, 9, 13).

## Architectural description

Each building is separated so as to have each of them, a south frontage and without masking. Particular attention was paid to the rationalization of space (alleyways External involve a reduction in heating energy consumption). The plan takes into account mass and draws the most profits possible climatic conditions of the site, to minimize energy consumption. This approach allows bioclimatic buildings to get the most out of solar to thermal comfort, natural lighting, the production of domestic hot water, to protect areas that require wind (mistral wind is) by different architectural and natural artifacts, while benefiting from the opportunities for natural ventilation for summer comfort and contribute to the comfort and quality environments in general.

## See more details about this project

<http://www.enviroboite.net/scolaire-college-vidauban-83>

## Stakeholders

### Stakeholders

Function : Contractor

Conseil Général du Var

Direction de l'architecture, des bâtiments et des collèges / Clément Catone : 04 83 95 04 78 - ccatone@cg83.fr

<http://www.var.fr>

Function : Designer

ABB Architectes

Gilles Bader, Z.I Toulon Est, Avenue Joliot Curie - BP 510 - 83078 Toulon Cedex 9 Tel : 04 94 38 30 35 / abb.architectes@wanadoo.fr

Function : Other consultancy agency

IOSIS

Philippe Ozendat, 1-7 Avenue Alexandre Dumas – CS 20006 – 13295 Marseille Cedex 8 Tel : 04 91 23 23 23

<http://www.iosisgroup.fr/#index.php>

Function : Designer

DoMEEnE - Concepteur environnemental

Dominique Maigrot - domene.equipe@orange.fr / ZAC des Roquassiers, 99 rue des tailleurs de pierre - 13300 Salon de Provence / Tel : 04 90 55 92 89

Function : Contractor representative

VAR Aménagement Développement

Avenue d'Entrecasteaux, BP 1406 - 83056 Toulon Cedex - Jean Claude Katrantzis, 04.94.03.95.90 / jc.katrantzis@vad83.eu

<http://www.var-amenagement-developpement.fr/>

## Energy

### Energy consumption

Primary energy need : 135,00 kWh/m<sup>2</sup>.an

Primary energy need for standard building : 161,00 kWh/m<sup>2</sup>.an

Calculation method : RT 2005

### Envelope performance

Envelope U-Value : 0,47 W.m<sup>-2</sup>.K<sup>-1</sup>

More information :

Frame / cover U = 0.18 W/m<sup>2</sup>.Å ° C (R = 5.2)

Roof terrace south / Paving has high outside: concrete 22 cm + 13 cm or wood PU + rockwool);

Gymnasium : mineral insulated metal deck high density;

Housing: concrete slab / pstWalls / Envelope (" U = 0.26 W/m<sup>2</sup>.Å ° C)

External insulation: 80% + 18 cm concrete PSE enriched perlite 12 cm, 20% wood bar DAGE + + Glass wool 18 cm concreteVacuum floor on crawl space (U = 0.21 W/m<sup>2</sup>.Å ° C)PSE + + beams slab concrete slab 14 cm compressionIntermediate floor (concrete slab full 22 cm)

External joinery (W/m<sup>2</sup>.Å Uw = 1.53 ° C)

Aluminium joinery, double glazed low emissive argon, solar factor: 0.6 / polycarbonate, solar factor: 0.3'

## More information

Primary energy needs in this case relate to the school. For more information on energy consumption in other buildings (Housing and Gymnasium), consult the attached document in the study.

## Renewables & systems

### Systems

Heating system :

- Gas boiler
- Others

Hot water system :

- Gas boiler
- Solar Thermal
- Other hot water system

Cooling system :

- Others

Ventilation system :

- Natural ventilation
- Nocturnal Over ventilation
- Single flow

Renewable systems :

- Solar photovoltaic
- Solar Thermal
- Wood boiler
- Micro wind

### Smart Building

BMS :

Counts of thermal, electric and gas, the main uses (heating and hot water, lighting, ventilation, kitchen) give continuous monitoring, connected to a BMS for simplified control of the heating, ventilation, programming

## Environment

### Urban environment

Green space : 13 500,00

Impact on the landscape: thanks to an adequate choice of vegetation within the constraints and the use of wood siding, the school, gymnasium and housing fit perfectly on the site and are in harmony with its environment.

## Health and comfort

### Water management

Water consumption: Several simple but effective options are implemented to limit consumption of water in the sanitary and other points of fetching water showers and a push button flow limit for showers and changing rooms; button to public toilets and faucets in the kitchen, dual flush toilets everywhere. A detailed count of the different items of consumption of hot and cold water is introduced. Moreover outdoor watering is limited because even the choice of plants, adapted to the Mediterranean climate and not requiring frequent sprinkler.

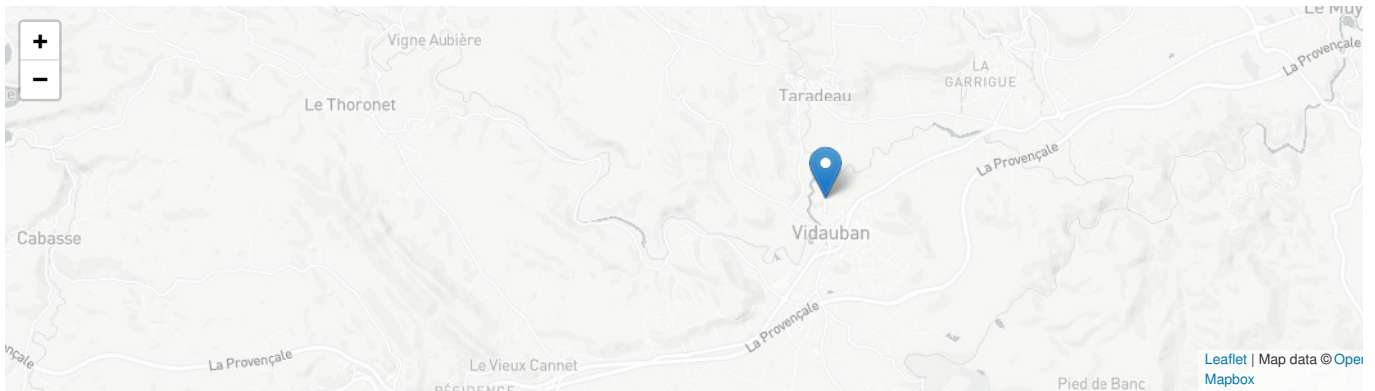
Rainwater: 60% of the area of the parcel base are treated to be permeable (use of low temperature tar coating), half the roof is vegetated and reacts as a buffer in case of rain, and many green space feeders in the yard, patios and exterior spaces.

The parking spaces for teachers and the minute-deposited on the Mall are situated in concrete slabs and alveolar traffic service gravel, thereby significantly reducing the stormwater runoff. The master plan also takes into account the risks of high runoff of the latter. The hundred-year flood zone is left completely free of any construction and receives an adapted vegetation (hydrophilic) and high rod to ensure protection from the wind. A retention basin of 500 m3 can finally reduce by a quarter the current leakage rate of the plot. A pedagogical system of rainwater recovery is realized: the pond.

## Indoor Air quality

A "provençal well" serves administrative offices, the audio room and the CDI and regulates the temperature. Night ventilation is secured with metal grids feature a rain barrier and insect barrier. The floor is covered with tiles and pvc coating and painting with water was used for the walls.

## Contest



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