

School of Blénod-lès-Toul

by Guy Turner / 2017-06-12 10:59:06 / France / 9063 / FR



New Construction

Primary energy need :

115.2 kWhep/m².an

(Calculation method : RT 2012)

ENERGY CONSUMPTION

Economical building

Building

< 50 **A**

51 à 90 **B**

91 à 150 **C**

151 à 230 **D**

231 à 330 **E**

331 à 450 **F**

> 450 **G**

Energy-intensive building

C

Building Type : Preschool, kindergarten, nursery

Construction Year : 2016

Delivery year : 2017

Address 1 - street : 54113 BLÉNOD-LÈS-TOUL, France

Climate zone : [Cfc] Marine Cool Winter & summer- Mild with no dry season.

Net Floor Area : 1 769 m²

Construction/refurbishment cost : 2 500 000 €

Cost/m2 : 1413.23 €/m²

Proposed by :

Rabot Dutilleul
Construction

General information

Realization TCE of a nursery school, primary school and an extracurricular reception of 250 pupils using the technical process of Smart Module Concept, which consists of prefabricating in the factory wooden frame modules assembled then on the site. An innovative technical approach guaranteeing a quality construction, on time and at reduced costs.

Sustainable development approach of the project owner

Reflection on the 14 HQE targets and in particular Energy management Care and maintenance Acoustic comfort Visual Comfort Olfactory comfort Quality of the air

Architectural description

Realization TCE of a nursery school, primary school and an extracurricular reception of 250 pupils using the technical process of the company SmartModule Concept, which consists of prefabricating in the factory modules with wooden frame assembled then on the site. An innovative technical approach guaranteeing a quality construction, on time and at reduced costs.

See more details about this project

<http://rabortdutilleul-lorraine.e-monsite.com/album-photos/nos-produits/enseignement/>

Stakeholders

Stakeholders

Function : Contractor

Syndicat de construction du pôle intercommunal de Blénod-lès-Toul

Function : Designer

SCP Rabolini

<https://www.archiliste.fr/architectes/scp-rabolini-et-schlegel>

Contracting method

Lump-sum turnkey

Energy

Energy consumption

Primary energy need : 115,20 kWh_{ep}/m².an

Primary energy need for standard building : 136,00 kWh_{ep}/m².an

Calculation method : RT 2012

Breakdown for energy consumption : Heating: 29.7 DHW: 4.3 Lighting: 8 Breakdown: 2.6

Real final energy consumption

Final Energy : 44,60 kWh_{ef}/m².an

Renewables & systems

Systems

Heating system :

- Radiant ceiling

Hot water system :

- Individual electric boiler

Cooling system :

- No cooling system

Ventilation system :

- Double flow heat exchanger

Renewable systems :

- No renewable energy systems

Smart Building

BMS :

Connected platform for equipment management and comfort control

<https://www.construction21.org/france/data/sources/users/6262/energy-vision---blenod-les-toul.pptx>

Urban environment

Development of the project in coherence with the level of the plot. Integration of existing frames and access to public transport.

Products

Product

Double-stream ventilation unit

HELIOS

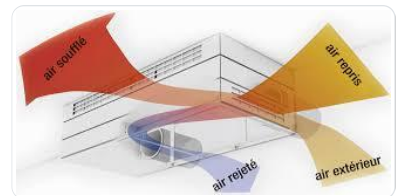
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<https://www.helios-fr.com/>

Product category : HVAC, électricité / ventilation, cooling

Autonomous unit placed in each classroom allows to modulate the temperature and thus ensure the comfort of the children and the teaching body, while controlling the consumption of energy.

In line with the planned modular design of the project



SMC module (Smart Module Concept)

SMC

Thibaut Leroy, t.leroy@smartmoduleconcept.com

<http://www.smartmoduleconcept.com/>

Product category : Management / Others

Traditional construction sites impose the intervention of a set of trades which depend on one another, thus lengthening the delivery time and increases the risk of errors. Especially since the application of the new standards increasingly technical and binding complicates the work of the prime contractors. Smart Module Concept had the idea to bring together industry and architecture to meet the need for innovation in building.



After years of research and development, Smart Module Concept has developed its own modular construction system. Our buildings are 95% factory built in order to guarantee quality, delivery time and budget. Constructed of modules that can be combined in different ways, our constructions meet the needs of space and functionality while favoring architectural quality.

Adapted to the configuration of the site and, to the architectural will on the project

Costs

Health and comfort

Indoor Air quality

Materials and products integrated into prefabricated modules with lower sanitary impact (biosourced insulation, wood, etc.)

Comfort

Health & comfort : Autonomous unit placed in each classroom allows to modulate the temperature and thus ensure the comfort of the children and the teaching body, while controlling the consumption of energy.

Carbon

GHG emissions

GHG before use : 6,00 KgCO₂ /m²

Reasons for participating in the competition(s)

Bas carbone : préfabrication en usine, réduction de l'impact carbone Travail sur le cycle complet avec l'intégration de matériaux à faible impact (bois, isolants bio-sourcés..) Maîtrise des matériaux en usine, et de manière optimale où chaque déchet est retraité, les transports sont limités au maximum et les chantiers restent propres. Le renforcement de l'isolation et l'utilisation d'énergies renouvelables engendre une baisse des besoins énergétiques des constructions, également gérés par une installation domotique afin d'éviter tout gaspillage.

Santé & Confort : Qualité sanitaire des produits et matériaux. Le chauffage des 1510 m² du groupe scolaire est produit par une pompe à chaleur associée à une ventilation double flux décentralisée. Une unité autonome placée dans chaque salle de classe permet d'en moduler la température et d'assurer ainsi le confort des enfants et du corps enseignant, tout en maîtrisant la consommation d'énergie.

Building candidate in the category



Bas Carbone



Coup de Cœur des Internautes

