Childcare center "People & Baby"

by Michaël GERBER / 2014-11-25 11:22:56 / France / 9420 / FR

Primary energy need :

54 kWhep/m².an

(Calculation method : RT 2012)

ENERGY CONSUMPTION

Economical building *Building*

< 50	A	
51 à 90	B	B
91 à 150	C	
151 à 230	D	
231 à 330	E	
331 à 450	F	
> 450	G	

Energy-intensive building

Building Type : Preschool, kindergarten, nursery
Construction Year : 2014
Delivery year : 2014
Address 1 - street : Parc Hermès, route de Jacou 34740 VENDARGUES, France
Climate zone : [Csa] Interior Mediterranean - Mild with dry, hot summer.

Net Floor Area : 524 m² SHON RT
Construction/refurbishment cost : 1 000 000 €
Cost/m2 : 1908.4 €/m²

General information

This private childcare center of 30 cradles was built for the People & Baby company at a location owned by the "System U" company in Vendargues. This 437m² building is a modular wood construction of high performance and low environmental impact. The modules were built in three dimensions in a workshop, then brought by truck to be assembled onsite. Only 5 months were necessary between the order and the delivery of the building.

This case study is within the scope of the community NZEB

Sustainable development approach of the project owner

Gait ISO 26000, Creche Bio

Architectural description

Modular wooden constructions 3D made with the wood frame technique.

The wooden modules are manufactured entirely in a workshop, near Montpellier. The cooperative company, composed of artisans with complementary skills, takes care of everything: sanitary, heating, technical equipment, floor coverings, walls, ceilings ...

BENEFITS OF WOOD BUILDINGS GECCO
- Fast construction (prefabrication in the workshop)

- Mastered costs
- Durability of a traditional construction
- RT 2012 thermal performance
- Modularity: extension, addition of storeys and even the moving of the construction
- Exceptional thermal performance
- Low environmental impact construction: local building materials
- Use of healthy materials: wood, cellulose wadding ...
- Contemporary aesthetic combining wood and plaster (many possible coatings)

With their superior insulation performance and thermal inertia, these modular wooden buildings are a guarantee of comfort and energy.

Building users opinion

Functional building and great user comfort (visual, acoustic ...)

If you had to do it again?

Construction companies were very reactive and competent. Ideal compromise between rapidity of execution and performance.

Stakeholders

Stakeholders

Function : Company

Gecco, coopérative d'artisans

Sylvain FOUREL, s.fourel@maison-bois-montpellier.fr

http://www.gecco.coop/index.html

Function : Contractor

People & Baby

Siège social : 9, avenue Hoche 75008 Paris Tél. : 01.58.05.18.70 Fax : 01.40.55.01.16 accueil@people-and-baby.com

http://www.people-and-baby.com/

Energy

Energy consumption

Primary energy need : 54,00 kWhep/m^2.an

Primary energy need for standard building : 76,00 kWhep/m^2.an

Calculation method : RT 2012

Breakdown for energy consumption : Final energy / primary energy in kWh / m² SHON RT
- Heating: 24.8 / 24.8
- Cooling .: 0.0 / 0.0
- Hot Water System: 6.9 / 6.9
- Lighting: 7.7 / 19.8
- Aux.dist .: 0.0 / 0.0
- Aux.vent .: 0.9 / 2.4

Envelope performance

Envelope U-Value : 0,26 $W.m^{-2}.K^{-1}$

More information :

Bbio = 62.5 (Bbio max = 72)
Modular wood frame building: bio-source-type insulation cellulose wadding and wood fiber, bracing walls resell by panels fermacell 12.5mm, false ceilings in circulation areas with 60x60cm tiles, plume vertical siding (3 different widths), inertia gain floor screed 5cm thick.

Indicator : I4

More information

Commissioned in June 2014.

Renewables & systems

Systems

Heating system :
- Condensing gas boiler
- Water radiator

Hot water system :
- Condensing gas boiler

Cooling system :
- No cooling system

Ventilation system :
- compensated Air Handling Unit

Renewable systems :
- No renewable energy systems

Products

Product

Cellulose Wadding

Ouattitude

BOEUF Jean-Michel - Dirigeant; contact@ouattitude.fr

http://cemater.com/entreprises/ouattitude

Product category : Second œuvre / Cloisons, isolation

The Ouattitude company was created during fall 2010 in Servian where its cellulose wadding production center is located. The company is partnered with Isocell, an austrian leading company in recycling newspapers into insulation material. Through this partnership, Ouattitude benefitted from a technology transfer but also gains visibility and considerable commercial means.
Ouattitue aims to recycle about 6,000 tons/year of newspaper wastes. 3,500 tons already come from the media group "Les journaux du Midi", the rest will come from local industries.

With a thermal conductivity of 0.039 W/mK, the insulation performance of cellulose wadding is superior to blown mineral wools. It also possesses a strong thermal inertia which is necessary to obtain a good level of summer comfort in the building, especially important with the climate change.

Local wood - Douglas

UFV - Union forestière viganaise

Union Forestière Viganaise 30 120 Le Vigan Tél : 04 67 81 04 56 Fax : 04 67 81 00 00

http://www.ufv-bois.com/

Product category : Gros œuvre / Structure, maçonnerie, façade

Local Douglas wood, a healthy and low environmental impacting material, was central to the project.
- The buildings are sober in their energy consumptions
- Thermal bridges are limited
- Reinforced insulation on external walls
- Controlled air tightness
- Healthy materials for users and the planet
- Wood is the only renewable construction material.
- Use of formaldehydes is strictly limited and mineral wools are prohibited
- Local production to limit the impact of our activities on the environment
- Design and production by GECCO
- Local artisans of Languedoc Roussillon
- Local wood, from the south of Massif Central region
- PEFC certified wood, from forests managed in a sustainable way

Costs

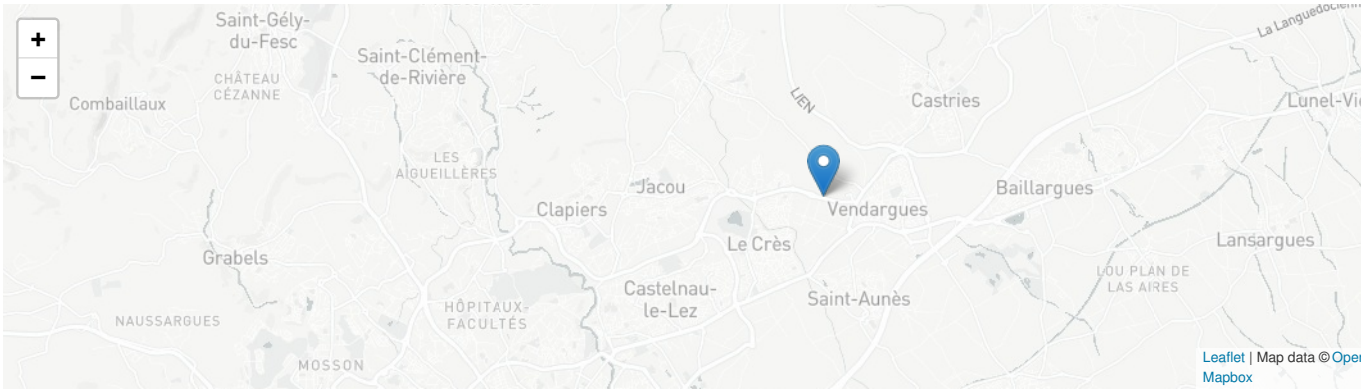
Construction and exploitation costs

Total cost of the building : 1 000 000 €

Carbon

Life Cycle Analysis

Eco-design material : Bio-source-type cellulose wadding and wood fiber insulation, bracing walls resell fermacell 12.5mm by panels, suspended ceilings in circulation areas with 60x60cm tiles, plume vertical siding (3 different widths), gain of Inertial floor screed 5cm thick.



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