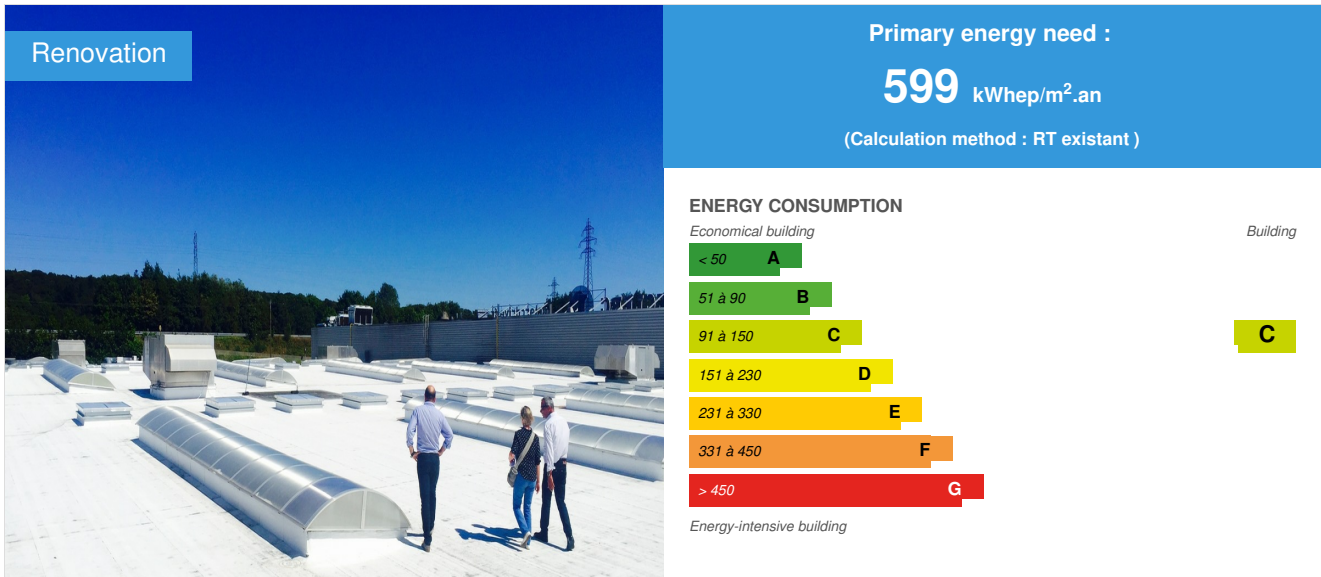


E.Leclerc Center of Quimper

by Antoine Horellou / 2017-06-08 16:31:10 / France / 8459 / FR



Building Type : Supermarket - Hypermarket
Construction Year : 1988
Delivery year : 2015
Address 1 - street : 29000 QUIMPER, France
Climate zone : [Cfb] Marine Mild Winter, warm summer, no dry season.

Net Floor Area : 6 097 m²
Construction/refurbishment cost : 120 000 €
Number of Visitor : 50 Visitor
Cost/m2 : 19.68 €/m²

Proposed by :



General information

The E.Leclerc Center of Quimper is a classic shopping center, built in 1988.

The E.Leclerc Center in Quimper chose the Cool Roof reflective thermal paint to paint its roof in white to limit the heat of the building.

A white roof "Cool Roof" returns the heat of the sun, limiting the heat on the roof of the building, and therefore inside the building. It is a simple and effective solution to improve the comfort of non-air-conditioned buildings. to limit air conditioning expenses for air-conditioned buildings

Case study :

E. Leclerc of Quimper; 6097m²; 120k € of paint (supplied / asked)

10 days of construction on the roof (without any hindrance for the store)

Result = 20k € saving of electricity consumption / year + prolongation lifetime of the roof.

Internal rate of return measured by 28%

Sustainable development approach of the project owner

For more than ten years, the SAS Kervilly has a permanent will to reduce its carbon footprint and implement a HQE policy with its services, its collaborators with its commercial and associative partners and to "test" in situ experiments improving our energy consumption. In three years, consumption has decreased by more than 45% over the period from 1250Kva to 750 Kva to date. It is one of the first stores to have changed its refrigerants to best fit future bonds, one of the first to change its lighting methods for a transition to full LEDs.

It is especially the only food surface of this size (6097m²) to realize a "cool roof", the biggest of Europe, which ensures a very high energy efficiency (see article <http://www.construction21.org/France/articles/en/rooftop-cost-to-save-lenergie.html>). We want and need to continue in these steps and exchange to improve our approach HQE purpose of this application.

Architectural description

The building is a classic shopping center of 6097m² built in 1988. The roof, not renovated since the construction, is sandwich panel steel tank / insulation / bilayer bitumen and suffering from microcracks. In 2015, the decision was made to try to apply a thermal reflective elastomer paint type "cool roof".

Building users opinion

The owner is delighted with the savings and media spinoffs.

Building users have a better sense of ambient air quality, especially in summer due to the non-start-up of cooling units.

If you had to do it again?

The center E.Leclerc has planned to paint an additional 1000m².

See more details about this project

<http://www.coolroof-france.com>

Stakeholders

Contractor

Name : Dovesiamo

Contact : fla@dovesiamo.com

Construction Manager

Name : CoolRoof-France

Contact : Antoine Horellou, ahorellou@coolroof-france.com

<http://www.coolroof-france.com>

Stakeholders

Function : Company

Corre SARL

ent.corre@orange.fr

Application of a white reflective thermal paint to return the heat and thus improve the thermal comfort of buildings or reduce air conditioning expenses.

Energy

Energy consumption

Primary energy need : 599,00 kWh_{ep}/m².an

Primary energy need for standard building : 300,00 kWh_{ep}/m².an

Calculation method : RT existant

CEEB : -0.0025

Initial consumption : 599,00 kWh_{ep}/m².an

Real final energy consumption

Final Energy : 565,00 kWh/m².an

Real final energy consumption/m² : 565,00 kWh/m².an

Year of the real energy consumption : 2 015

Envelope performance

Renewables & systems

Systems

Heating system :

- Heat pump

Hot water system :

- Individual electric boiler

Cooling system :

- Reversible heat pump

Ventilation system :

- Double flow heat exchanger

Renewable systems :

- No renewable energy systems

Environment

Urban environment

Commercial area of Gourvilly Quimper

Products

Product

Cool Roof France

Cool Roof France

contact@coolroof-france.com

<http://www.coolroof-france.com>

Product category : Finishing work / paints, mural, wallcoverings

Cool Roof offers an innovative ecological reflective thermal paint, which reflects the heat.

Respectful of the environment, it is light, resistant and easily applied on all types of roofs.

A white roof "Cool Roof" returns the heat of the sun, limiting the heat on the roof of the building, and therefore inside the building.

The building manager can thus:

- save up to 30% energy
- plug the roof microcracks
- all without having to modify the structure of its building

Owners of large commercial, industrial or institutional buildings seek this kind of simple, affordable, direct energy efficiency solution, thus avoiding overloading the production of cold.

Product category : Management / Others



Costs

Construction and exploitation costs

Total cost of the building : 120 000 €

Energy bill

Forecasted energy bill/year : 272 000,00 €

Real energy cost/m² : 44.61

Real energy cost/Visitor : 5440

Carbon

Life Cycle Analysis

Material impact on GHG emissions :

1128

Material impact on energy consumption : 119 000,00 kWhEP

Contest

Reasons for participating in the competition(s)

Ce bâtiment possède le plus grand Cool Roof de France. Le point le plus innovant de la rénovation concerne l'application d'une peinture réfléchissante thermique en toiture.

Un toit blanc reflète environ 85% de la lumière du soleil qui l'atteint et chauffe à quelques degrés de plus que la température de l'air extérieur. Un toit noir, en revanche, peut chauffer à plus de 80 ° C.

C'est donc une solution simple et efficace pour améliorer le confort, limiter les dépenses de climatisation.

Les points forts d'un cool roof :

- Réduire les factures d'énergie en diminuant les besoins en climatisation,
- Améliorer le confort thermique pour les espaces qui ne sont pas climatisés,
- Améliorer le rendement des équipements de toiture (climatiseur, panneaux solaires...)
- Diminuer la température du toit, ce qui prolonge sa durée de vie car il ne subit plus de changements de températures aussi importants.

NB : La RTex, RT2012 et certification LEED incluent dans leur calcul l'absorption solaire des parois horizontales. Le coolroofing est fortement utilisé aux USA mais très peu répandu en Europe.

Building candidate in the category



Energie & Climats Tempérés



Coup de Cœur des Internautes



Prix des Etudiants



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