The semi-Olympic swimming pool covered in Sidi Youssef Ben Ali in Marrakesh, swimming pool of last generation, it was coordinated and piloted by the regional direction of the ministry of youth and sport of superficie couverte of 1.387 m², the swimming pool, includes a semi Olympic basin (6 colors), public stands and officials with a total capacity of 200 places, fitness room, cloakroom showers for men and women, infirmary, space for judges, a reception area, a desk management and sanitation. This building meets international swimming standards and sustainable development requirements such as

The installation of a light timber frame laminated with a structure and decking thus significantly reducing the dimensions of the reinforced concrete poles with a span of 28 m.

The installation of an insulation of the external walls, roofing with an extruded polystyrene XPS and an insulation of the walls of the pool of swimming, the underside of the beach, the water cover with a polyurethane sprayed and insulation of all ventilation and plumbing ducts.

The installation of smoke outlets on the roof, in order to reduce the use of electric lighting during the day and reduce the use of electric lighting during the day.

Use of PAC heat pumps for hot water production in the swimming pool.

12 solar panels for hot water production (showers).

Use of showerheads and sinks to reduce water consumption and flush toilets with two tank capacities.
The treatment and disinfection of the pond water by ultraviolet treatment and sand filter
With a sober architecture, it combines a contemporary and contemporary aesthetic that meets the requirements of the program and the functionality of the use of this sports equipment.

Data reliability
Self-declared

Stakeholders

Contractor
Name : MINISTERE DE LA JEUNESSE ET DES SPORTS DELEGATION DE MARRAKECH
Contact : M. KHYRAT directeur régional de Marrakech Safi 05 24 44 89 44 – 05 24 44 76 65
http://delegation.mjs.gov.ma/marrakech/

Construction Manager
Name : AMAZIPHR ARCHITECTES
Contact : ANASS AMAZIPHR architècte principal 05 22 0 30 20 52 email: anass@amazirh-architectes.com
https://www.amazirh-architectes.com/

Contracting method
Other methods

Owner approach of sustainability
the guideline of the project is to realize a building with international standards saving the maximum energy for the heating of the basin, sanitary hot water, recovery of heating energy and smoke extraction.

Architectural description
This building responds in several points to the principles of sustainable development:
• The establishment of a light framework glulam
• Structure and decking thus significantly reducing the dimensions of reinforced concrete columns with a span of 28 m
• Insulation of exterior walls, roof with extruded polystyrene XPS
• Insulation of the walls of the swimming pool, the underside of the beach, the water cover with sprayed polyurethane and thermal insulation of all ventilation and plumbing ducts.
• Installation of smoke vents on the roof, to reduce the use of electric lighting during the day, reduce the use of electric lighting during the day and to ventilate naturally
• Use of PAC heat pumps for hot water production in the swimming pool
• 12 solar panels for the production of sanitary hot water (showers)
• Use of LED lighting equipment
• Use of showerheads and washbasins to reduce water consumption and flushes with two tank capacities
• Creation of a well for watering the garden
• The treatment and disinfection of the pond water by ultraviolet treatment and sand filter

If you had to do it again?
use of shower water recovery for toilet tanks and establishment of a GTC

Building users opinion
very happy

Energy
Energy consumption

Primary energy need : 73,00 kWhep/m².an
Primary energy need for standard building : 104,00 kWhep/m².an
Calculation method : Other

Renewables & systems

Systems

Heating system :
- Heat pump

Hot water system :
- Heat pump

Cooling system :
- Reversible heat pump

Ventilation system :
- Double flow

Renewable systems :
- Solar photovoltaic

The use of solar water heaters reduces annual consumption by 30%.

Environment

GHG emissions

GHG in use : 5,48 KgCO₂/m²/an

Products

Product

TOPOX
manorbois
manorbois
http://www.manorbois.com/

Product category : Structural work / Carpentry, cover, tightness

INSULATOR CUBER SL

MAGNIFICENT

Costs

Construction and exploitation costs

Renewable energy systems cost : 450 000,00 €
Cost of studies : 175 000 €
Total cost of the building : 2 100 000 €
Energy bill
Forecasted energy bill/year : 10 000,00 €
Real energy cost/m² : 5.42
Real energy cost/Shower/day : 13.89

Urban environment
the building is located in a sports complex in a popular area of the city of Marrakech

Land plot area
Land plot area : 4 260,00 m²

Built-up area
Built-up area : 1 845,00 %

Green space
Green space : 2 120,00

Parking spaces
640

Building Environmental Quality

Building Environmental Quality
- Building flexibility
- comfort (visual, olfactive, thermal)
- water management
- renewable energies
- products and materials

Contest

Reasons for participating in the competition(s)
Ce bâtiment répond en plusieurs points aux principes dudéveloppement durable :
La mise en place d’une charpente légère en bois lamellécollé
Structure et platelage permettant ainsi de réduire de façon significative les dimensions des poteaux en béton armé d’une portée de 28 m
Isolation des murs extérieurs, de la toiture avec un Polystyrène extrudé XPS
Isolation des parois du bassin de natation, de la sous face de la plage, de la bâche à eau avec un polyuréthane projeté et calorifugeage et des conduits de ventilations et de plomberie.
Installation d’exutoires de fumées en toiture, afin de réduire l’utilisation de l’éclairage électrique la journée et réduire l’utilisation de l’éclairage électrique la journée
Utilisation des pompes à chaleur PAC pour la production d’eau chaude du bassin de natation
12 panneaux solaires pour la production d’eau chaude sanitaire (douches lavabos)
Utilisation des appareillages d’éclairage en led
Utilisation de pommeaux de douches et lavabos à réduction de consommation d’eau et des chasses d’eau à deux capacités de réservoirs
Création d’un puits pour arrosage du jardin
Le traitement et désinfection de l’eau du bassin par un traitement à l’ultra-violet et filtre à sable