


## Oficinas Santa Catarina ( FINSA offices )

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**New Construction**



**Primary energy need :**  
kWhpe/m<sup>2</sup>.year  
(Calculation method : )

**ENERGY CONSUMPTION**

| Consumption Range (kWhpe/m <sup>2</sup> .year) | Grade | Building Type             |
|--|-------|---------------------------|
| < 50   | A     | Economical building       |
| 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 |

**Building Type :** Office building < 28m  
**Construction Year :** 2019  
**Delivery year :** 2019  
**Address 1 - street :** Parque FINSA Santa Catarina 64000 NUEVO LEÓN, Mexico  
**Climate zone :** [BSh] Subtropical Dry Semi-arid (Steppe)

**Net Floor Area :** 243 m<sup>2</sup>

**Certifications :**



**Proposed by :**



### General information

The new FINSA offices are situated within the FINSA Industrial Park of Santa Catarina, which is strategically located in northern Mexico with easy access to central Mexico and Texas. The industrial park serves a variety of industries with tenants that range from automotive to logistic companies. The office provides a resource-efficient work space for FINSA, one of Mexico's leading industrial real estate companies. The two-story office building has meeting rooms, an on-site warehouse and recreational spaces for staff to gather.

The operational costs of the office building are expected to decrease by more than one-third because of its green measures that were implemented at no additional cost to FINSA. Features such as an energy-efficient air conditioning system and occupancy sensors reduce the use of energy while low-flow faucets conserve water. The use of construction materials such as precast concrete panels for the external walls also reduce the embodied energy in materials.

FINSA is committed to building industrial spaces that use resources more efficiently with minimal impact on the environment. They believe that building green also positively impacts the lives of those who work within the building. Oficinas Santa Catarina is the first EDGE-certified project by FINSA, but the company hopes that it will be a model for future offices. Oficinas Santa Catarina has received final EDGE certification from GBCI.

[See more details about this project](#)

## Photo credit

Photos provided by FINSA

## Stakeholders

### Construction Manager

Name : Finsa

Contact : aacosta[at]finsa.net

<https://www.finsa.net/>

## Energy

### Energy consumption

Breakdown for energy consumption : 2 kWh/m<sup>2</sup>/year: heating142 kWh/m<sup>2</sup>/year: air conditioning31 kWh/m<sup>2</sup>/year: ventilation 6 kWh/m<sup>2</sup>/year: other9 kWh/m<sup>2</sup>/year: lighting34 kWh/m<sup>2</sup>/year: computers

### Envelope performance

More information :

Roof U - Value: 1.99 W/m<sup>2</sup> KWall U - Value: 1.86 W/m<sup>2</sup> KGlass U - Value: 5.9 W/m<sup>2</sup> K

### More information

Final Energy consumption: 4542.31 kWh/month

### Real final energy consumption

Final Energy : 224,30 kWh/m<sup>2</sup>.year

## Renewables & systems

### Systems

Heating system :

- Individual electric boiler

Hot water system :

- No domestic hot water system

Cooling system :

- VRV Syst. (Variable refrigerant Volume)

Ventilation system :

- Natural ventilation
- Single flow

Renewable systems :

- No renewable energy systems

## Products

### Product

Reduced window to wall ratio  
Reflective Paint/Tiles for Roof - Solar Reflectivity (albedo) of 0.81  
Variable Refrigerant Flow (VRF) System - COP of 3.53  
Energy-Saving Light Bulbs - Internal Spaces  
Energy-Saving Light Bulbs - External Spaces  
Occupancy Sensors in Bathrooms, Conference Rooms, and Closed Cabins

**Product category :** Table 'c21\_germany.innov\_category' doesn't exist  
SELECT one.innov\_category AS current,two.innov\_category AS parent  
FROM innov\_category AS one  
INNER JOIN innov\_category AS two ON one.parent\_id = two.id  
WHERE one.state=1 AND one.id = '14'

Low-Flow Faucets in All Bathrooms - 1.43 L/min  
dual-flush water closets  
Water-Efficient Faucets for Kitchen Sinks - 2.03 L/min

**Product category :** Table 'c21\_germany.innov\_category' doesn't exist  
SELECT one.innov\_category AS current,two.innov\_category AS parent  
FROM innov\_category AS one  
INNER JOIN innov\_category AS two ON one.parent\_id = two.id  
WHERE one.state=1 AND one.id = '2'

Floor Slabs: Concrete Filler Slab  
External Walls: Precast Concrete Panels  
Flooring: Finished Concrete Floor

## Costs

### Construction and exploitation costs

**Additional information on costs :**

Base Case Utility Cost: 602.17 \$/Month  
Utility Cost Reduction: 207.86 \$/Month  
Incremental Cost: -1,364.52 \$

## Health and comfort

### Life Cycle Analysis

**Eco-design material :**

One of the great challenges posed before today's society is the reduction of CO<sub>2</sub> emissions, as we generate CO<sub>2</sub> both in industry and in our daily consumption habits. Fortunately, however, trees contribute towards reducing CO<sub>2</sub>, which is absorbed and stored in the wood. And so, by using wood as a raw material, we contribute toward reducing emissions considerably. For example, a 2m<sup>2</sup> wooden table holds the same amount of CO<sub>2</sub> as that generated by four cars driven for a full day. Thus, we can say that wood is a renewable, recyclable and sustainable resource.

### Water management

Consumption from water network : 240,00 m<sup>3</sup>

Water Consumption/m<sup>2</sup> : 0.99

2 Lts/Day/person : water faucets  
22 Lts/Day/person : water closets & urinals  
4 Lts/Day/person : food court  
6 Lts/Day/person : other  
Water Savings: 84.30 m<sup>3</sup>/Year

## Carbon

### GHG emissions

GHG in use : 102,50 KgCO<sub>2</sub>/m<sup>2</sup>/year

CO<sub>2</sub> Emissions from Electricity Generation: 457.75 g/kWh

## Contest

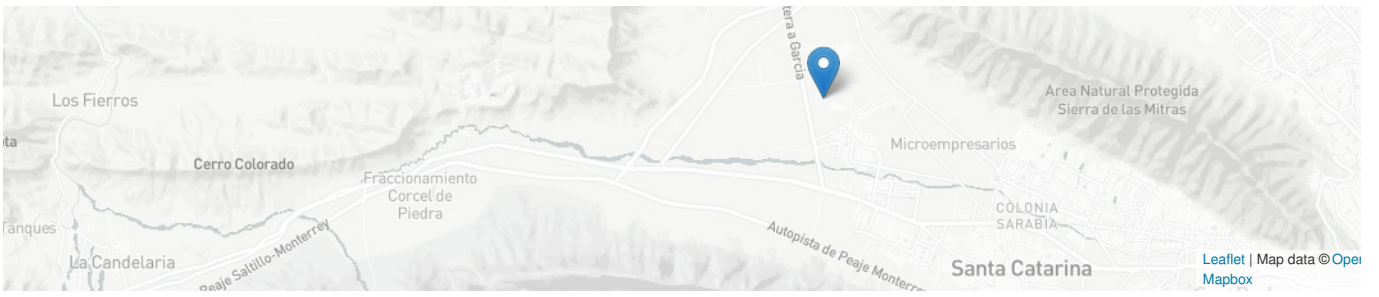
### Reasons for participating in the competition(s)

**Energy** (34 % energy savings): Reduced window to wall ratio, reflective paint/tiles for the roof, variable refrigerant volume (VRV) cooling system, energy-saving lighting and occupancy sensors.

**Water** (32 % water savings): Low-flow faucets in bathrooms, dual-flush water closets and water-efficient faucets for kitchen sinks.

**Materials** (42% less embodied Energy in Materials): Controlled use of concrete for floor slabs and internal walls, precast concrete panels for external walls and finished concrete flooring.





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