

BUILDI

CASE STUDY IBPA

NetZERO OFFICE BUILDING (LEED PLATINUM)

Surface: 15.000 m² Barcelona Spain



LEED VENTILATION (UNE 167981 Vs ASHRAE 62.1+30%)



CONSUMPTION

OBJECTIVES:

HVAC consumption, in high performance buildings seeking to be carbon neutral, represents around 60% of the total energy balance.

LEED PLATINUM is being pursued, using IBPA to improve indoor air quality and optimize the building's ventilation so to reduce thermal load and HVAC power needs.

The building is an 15,000 m2 office building with a restaurant, distributed on the first floor, six upper floors and 300 parking spaces. It has three primary air conditioners, with enthalpy recovery and adiabatic precooling on the exhaust side, which are fed by ducts and diffusion through grilles.

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BUILDING ANNUAL CONSUMPTION

Years 3,69 PAYBACK (0,15 €/kWh)

SOLUTIONS:

Use of the IBPA, which represents an 18% decrease over LEED ventilation (IAQ Str.6: +30%), optimization of thermal power and sizing of ventilation, air conditioning, production and recovery installations. la p.

- Building's IBPA solution design (offices and restaurant).
- Calculation of ventilation in RITE (UNE-EN-16798-1:2020 - CAP Vs ASHRAE 62.1 - IAQP) with IBPA and reduction of thermal loads.
- Application of LEED IAQ strategy 6 (+30%).
- Project Management, installation and commissioning of the IBPA solution.
- Certification of the results obtained by a third party IAQ accredited laboratory.