

Hospital Fraternidad-Muprespa (Madrid)

From its inception, the Fraternidad-Muprespa Habana Hospital project set out to construct a one-off building from an environmental perspective.

Energy savings are achieved primarily through **the use of renewable energies**. In specific, the Hospital has over 600 m² of photovoltaic panels located on its roof, which will produce 137,000 kWh per year, accounting for **8% of the centre's annual electricity consumption**.



Of the hospital's 6,950 m² of flooring, 4,500 m² are stoneware floor tiles with a 'Healthy & Clean' treatment, 2,000 m² are PVC floors with Floor Score certification and 450 m² are polished concrete. All three areas have a **low volatile organic compound (VOC) content** and reduce odorous, irritating and/or harmful indoor air contaminants. Furthermore, the 4,500 m² of stoneware flooring underwent a treatment of **photocatalytic** titanium dioxide which helps eliminate odours, is self-cleaning, and has biocidal properties to eliminate viruses and bacteria.



Environmental benefits:

43% monetary savings in energy costs compared with a similar-sized model building. It will be capable of saving:

- ✓ **88%** in winter heating
- ✓ **32%** in indoor lighting
- ✓ **69%** in outdoor lighting
- ✓ **52%** in natural gas used to heat water

The project also includes several mechanisms to recover grey water from toilets, showers, washing machines, wash-hand basins and from rainwater. This is stored and treated before being used in a recycled-water circuit to supply flushing toilets. Thus 8,000 litres of grey water are recycled daily. This represents a total of almost three million litres- or 57% of all WC flushes- every year.



LEED credits were obtained in the following categories:

- Sustainable Sites (SS)
- Water Efficiency (WE)
- Energy & Atmosphere (EA)
- Material & Resources (MR)
- Indoor Environmental Quality (IEQ)
- Innovation in Design (ID)
- Regional Priority (RP)

The hospital aspires to be one of four **LEED Platinum** certified hospitals in the world. LEED does not limit itself merely to the parameters of savings (energy, water, waste), it also considers the comfort and the environmental quality its occupants will experience to be crucially important.

