

THORN

LIGHTING PEOPLE

Case Study

San Savino Children's Day Care Centre, Italy



Saving energy with modern fluorescent lighting at children's day care centre



Key facts

- Modern fluorescent luminaires used to minimise both energy consumption and investment
- Lighting levels zoned according to use to minimise energy consumption where and when possible

Background

Thorn Energy Partner, Giorgio Manfroni from Italy's Emilia Romagna Thorn Energy Partnership network secured a contract to install the lighting for the new San Savino Children's Day Care Centre in Montecolombo near Rimini.

Spread over two floors, the centre can accommodate up to 51 children. Although the majority of the fittings chosen for this project are not LED, a modern, efficient and easy to maintain lighting solution has been created by applying the principles taught by the Thorn Energy Partnership. All the fittings were also chosen on the basis of their appropriateness for the soft simple lines and reassuring characteristics of the centre's rooms.

Lighting solution, results and benefits

Giorgio explains: "For this day centre, payback was as important as ever. However, the annual luminaire use of 2 000 hours meant that low maintenance LED luminaires were not a priority, and more significantly, the payback would typically be too long."

In a day centre of this type, average lighting values should be around 300 lux with good uniformity. Careful consideration should also be given to avoid glare because children are often laying on the ground. A soft and diffused light is therefore very important. This has been achieved with Thorn's 2X28W Jupiter 3 Direct (T16) pendant luminaire, which is available with louvre or diffuser optics to adapt lighting to the task environment. As a modern fluorescent, Jupiter 3 offers good energy efficiency of >75lm/W.

Other luminaires used include Thorn's slim fluorescent Prisma luminaire mounted vertically on the wall and suspended parallel to the beams in the corridors, and AquaForce in the washrooms. AquaForce is a highly durable, IP65 rated luminaire suitable for use in wet and dusty areas.

Giorgio adds: "For the outdoor lighting, Thorn's Leopard LED has been fitted to the façade to create a soft halo and friendly 'white button' effect. Leopard LED is the only fitting with LED technology in

the project but was affordable due to the high use of this fitting and relatively low initial investment allowing a quick payback."

The outdoor space was additionally fitted with five 57W fluorescent Plurio lanterns which as well as providing functional light have a decorative effect. A post top lantern, Plurio has a soft, reassuring lampshade and has been equipped with a ULOR 0% accessory to eliminate upward light pollution. One of the lanterns is also equipped with a 120° deflector to hold the backward light from adjacent dwellings.

Products used



Jupiter 3 Direct Prisma AquaForce Leopard LED Plurio

eControl From Thorn's 15 ways to save energy, the following are key to minimising energy consumption at San Savino Day Care Centre:



Luminaire distribution

Jupiter 3 is high performance direct luminaire which allows precise beam control to maximise useful light.



System efficacy

With a high system efficacy (75lm/W), Jupiter 3 produces maximum light output for minimum energy input.



Zoning of lighting

In combination with switching arrangements, lighting levels are zoned according to use, such as learning or play, to minimise energy consumption where and when possible.

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