



Case Study

Specialised Glazing with Nanogel[®]

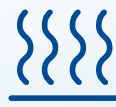
A range of structural rooflights featuring Nanogel technology to provide outstanding insulation and light transmission

About Nanogel

Nanogel technology consists of translucent silica based granules placed between a glazing 'skin', creating a lightweight and highly insulating glazing solution with outstanding performance characteristics:

- Vastly improved insulation values: Nanogel technology at 16 mm has a U value of 1.3 W/m²K and only 0.91 W/m²K at 25 mm
- Acoustical insulation: 25% reduction @ 1,000 Hz
- Diffusion produces 'shadow less' light
- Nanogel technology weighs just 3.6 kg/m² whereas glass double glazing (6.0/16/6.4) weighs 30 kg/m².

These characteristics combined make it easy to understand why Xtralite and Nanogel are popular across a range of building and renovation projects.



Reduced heat transfer



Greater light diffusion



Reduced transmitted noise



Lightweight glazing

Natural Lighting in the Round

The annulus rooflight—filled with Nanogel—runs along the outer rim of the drum shape building, introducing a diffused background light appropriate to the multi-use nature of the building—ranging from council chamber to dance.

“The Nanogel-filled rooflight manufactured and installed by Xtralite softens the daylight brought into the building and accentuates its strong architectural form [and] reduces the need for artificial lighting during much of the building’s operational hours.”

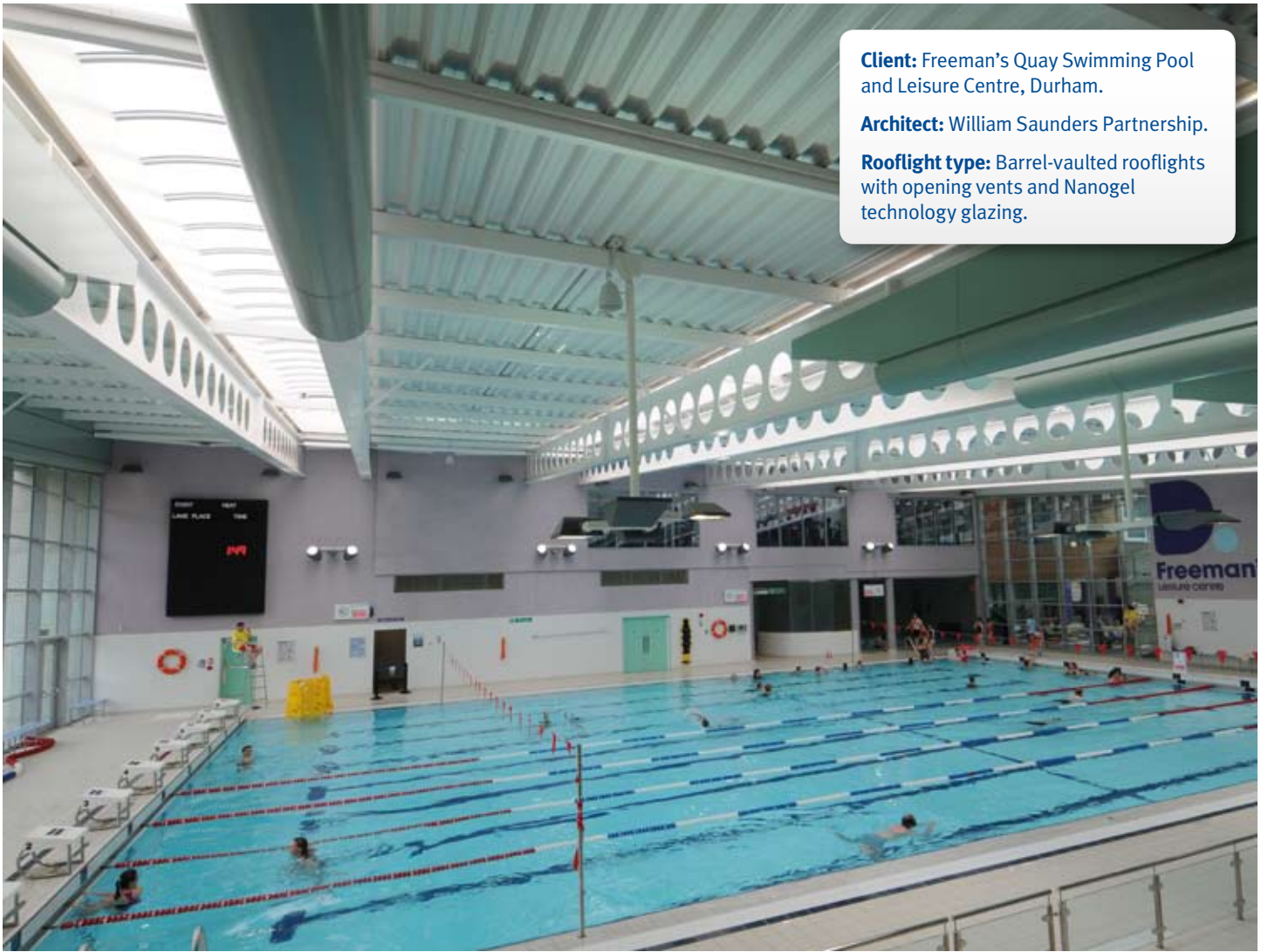
Nigel Wooding, Project Director



Client: Brunel University, School of Engineering and Design.

Architect: YRM.

Rooflight type: 2 m wide continuous rooflight, with Nanogel technology panels.



Client: Freeman's Quay Swimming Pool and Leisure Centre, Durham.

Architect: William Saunders Partnership.

Rooflight type: Barrel-vaulted rooflights with opening vents and Nanogel technology glazing.

Daylight Durham

In the pool hall, Nanogel technology prevents reflections off the water's surface and maintains an incredible quality of natural light; whilst in the sports hall the diffuse light eliminates any glare problems.

The complex of different activity spaces is complimented by the distinctive roofscape, which allows the lights to be switched off during daylight hours and thus saving 53 Tonnes of CO₂ annually—additional solar gain in the pool hall supplements these savings

even further. The Nanogel rooflights are therefore vital in contributing to the energy performance of the building as a whole.

"The architects and I are very happy with the feel of the spaces lit with Nanogel rooflights and I think the diffuse light works particularly well."

Andy Johnson of Max Fordham





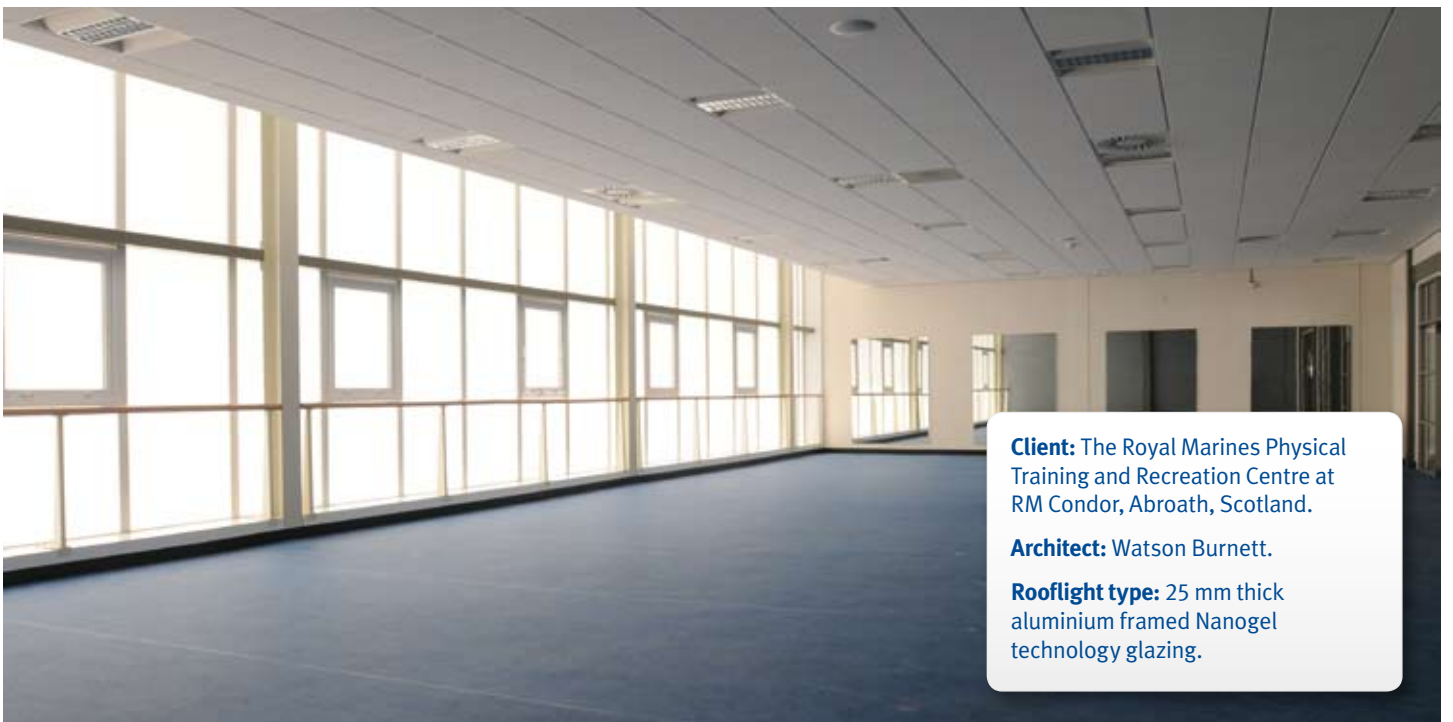
Working out with the Marines



The clear Nanogel technology panels—structured with a lattice network and filled with Nanogel translucent aerogel granules—give excellent light diffusion for a ‘shadow-less’ quality to create a light and un-oppressive environment.

“There is no pretence that this is anything but a big building. But rather than the traditional big dark box solution, we wanted to create an unexpectedly light and open building.”

Alistair Burnett, Project Partner



Client: The Royal Marines Physical Training and Recreation Centre at RM Condor, Abroath, Scotland.

Architect: Watson Burnett.

Rooflight type: 25 mm thick aluminium framed Nanogel technology glazing.



Client: Canning Street School, Newcastle.

Architect: Parson Brinckerhoff.

Rooflight type: Spinal ridgelight using Nanogel technology.

Illuminating Schools for the Future



Xtralite has been selected as the rooflight manufacturer on numerous projects for schools, using Nanogel technology to satisfy thermal, acoustic and fire requirements as part of the governments Building Schools for the Future (BSF) programme.

“The new ridgelight has transformed the central open area with a greatly improved quality of diffused light without glare and the Nanogel glazing also helps prevent overheating in summer—supporting the new ventilation system.”

Project Architect, Sasha Pisarevic



School of Thought

Meadow Wood School had various problems within the classroom area, primarily solar overheating in the summer and heat loss during cooler periods—as well as the inevitable glare—which created an unsuitable environment for teaching in. Xtralite's use of Nanogel technology provided the complete solution.

"The Xtralite System incorporating Nanogel is performing above our expectations...with the soft, even light and the removal of glare, we are delighted that the school now has an extremely comfortable teaching space, which can be used throughout the entire year."

John Ladner of Mouchel Parkman



Client: Hertfordshire County Council (Meadow Wood School).

Specifier: Mouchel Parkman.

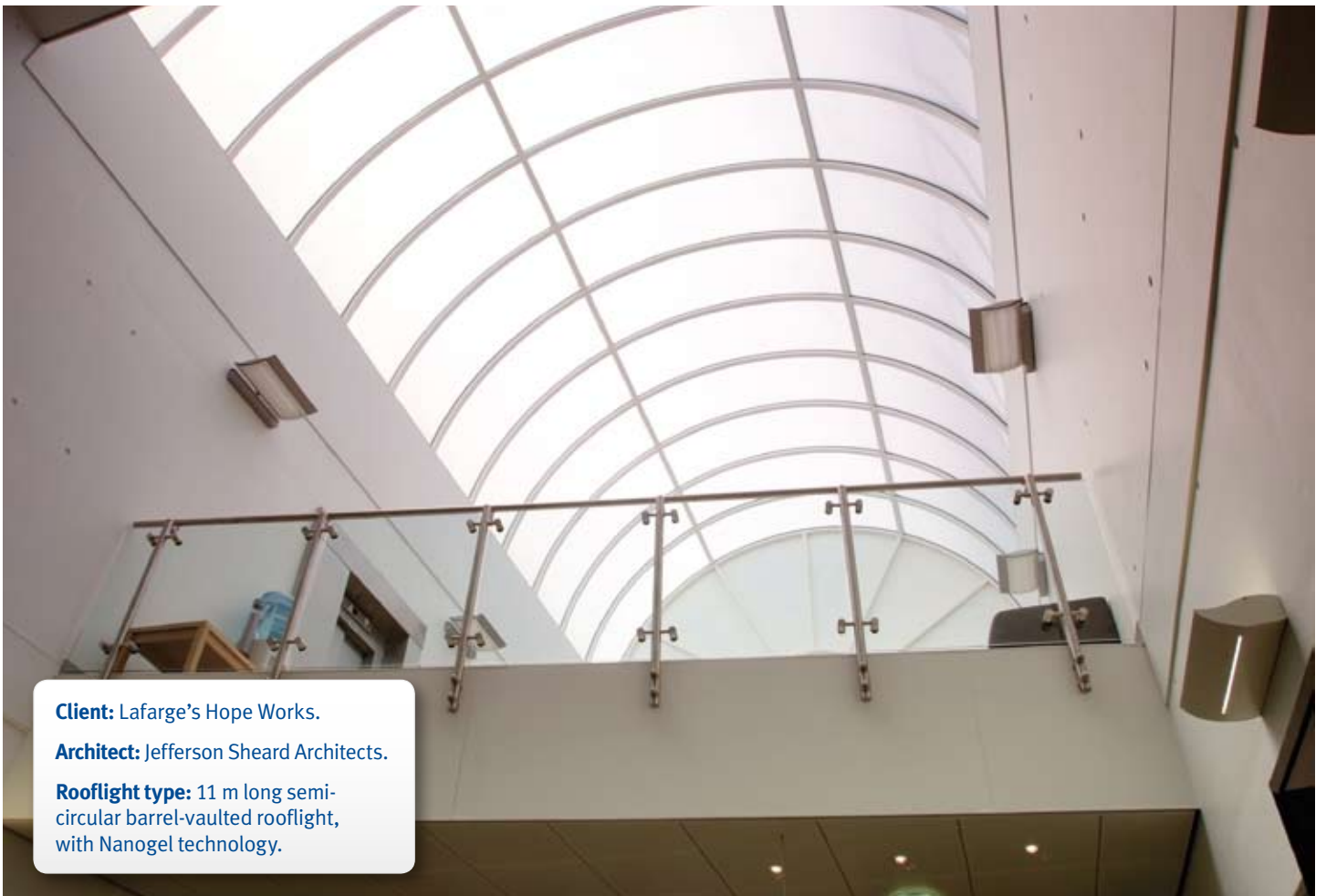
Rooflight type: XSPAN Ridge Construction.



Barrel of Nanogel

Xtralite's installation at the Hope Works ensures impressive thermal, light transmission and acoustic characteristics.

U values on the Hope Works' rooflight reduced from 2.4 W/m²K without Nanogel to 1.3 W/m²K with the new technology.



Client: Lafarge's Hope Works.

Architect: Jefferson Sheard Architects.

Rooflight type: 11 m long semi-circular barrel-vaulted rooflight, with Nanogel technology.



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