



#### Project:

**Gymnasium, Barendrecht,  
the Netherlands**

#### Product and Sizes:

Polycarbonate 25 mm filled with Nanogel®  
aerogel  
Approx. 2 x 2 meters

#### Technical details:

U-value: 0.89 (W/m<sup>2</sup>.K)  
Light transmission: 32%  
Sound transmission: 23 dB

#### Architect:

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#### Contractor:

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#### Glazier:

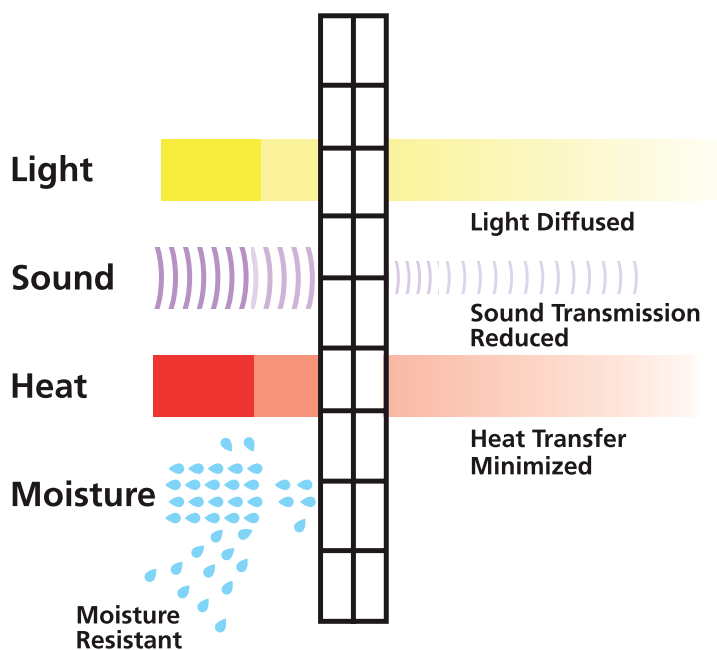
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#### Reasons for selection:

The requirement was to allow natural daylight in the gymnasium with orientation to the sun, while avoiding typical issues of glare, light tunnels and shadows associated with natural daylight.

The 25 mm panels filled with Nanogel aerogel have achieved the elimination of glare and have, at the same time, created a nice, soft and continuous daylight, even during shiny days. This allows the users to play sport in comfortable conditions throughout the year.

# The Only Eco-Insulation for High-Performance Daylighting



## Characteristics of Nanogel

Particle size range	0.5 to 3.4 mm
Bulk density	60-80 kg/m <sup>3</sup>
Surface chemistry	Fully hydrophobic
Light transmission	up to 40% in 25 mm panel
Thermal conductivity	0.018 (W/m.K)
Insulation U value	0.89 in 25 mm panel
Sound speed	100 m/sec vs 340 m/sec in air
UV stable	no discoloration
Growth of mildew/fungus	no
Combustible	no
Smoke generation	no

## Benefits of Nanogel

- Light transmission and insulation combined
- Better diffusion of light
- No color change in accelerated weathering tests
- Thermal Insulation:
  - Doubles insulation
  - No downdrafts
  - Better comfort at lower cost/HVAC
- Displaced dewpoint: no condensation
- Acoustical insulation: 50% reduction @ 100 Hz
- Very low weight: 60-80 gram/litre

## Features & benefits to architects/building owners:

### Light

Diffusion	Larger panels	→ Architectural freedom
	No shadows	→ No investment
	No sunshades	→ No maintenance

### Insulation

Thermal	No heat loss	→ Cost reduction
	No downdraft	→ Better comfort
Acoustic	Sound dampening	→ Better comfort
	Reduction hail/rain	→ Increased productivity

### Sound

Aesthetics	Greater architectural freedom
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## Warranty:

10 years on loss of light transmission, loss of thermal conductivity and UV resistance.

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