

Application Profile

 **nanogel**TM TRANSLUCENT AEROGEL



Thermoclear 16 mm IR + Nanogel



Thermoclear 25 mm + Nanogel in left upper corner

Project:

**EDIS (School for fire fighters),
Fleury-Mérogis, France**

Product:

- Lexan® Thermoclear® in 10 mm with Nanogel® aerogel
- Lexan Thermoclear in 16 mm IR* with Nanogel
- Lexan Thermoclear in 25 mm with Nanogel

Technical details:

Thickness	U-value	Light transmission	Solar transmission	Sound transmission
10 mm	1.93	62%	68%	20 dB
16 mm IR*	1.31	38%	30%	21 dB
25 mm	0.89	32%	38%	23 dB

Reasons for selection:

Alcaud has installed many rooflights, smoke extractors and ventilators on the roof of the garage of the fire fighter school in Fleury-Mérogis (south of Paris) as a demonstration centre.

Three applications with Nanogel have been installed to demonstrate the appearance and the light diffusion in comparison to other polycarbonate and polyester light transmitting panels.

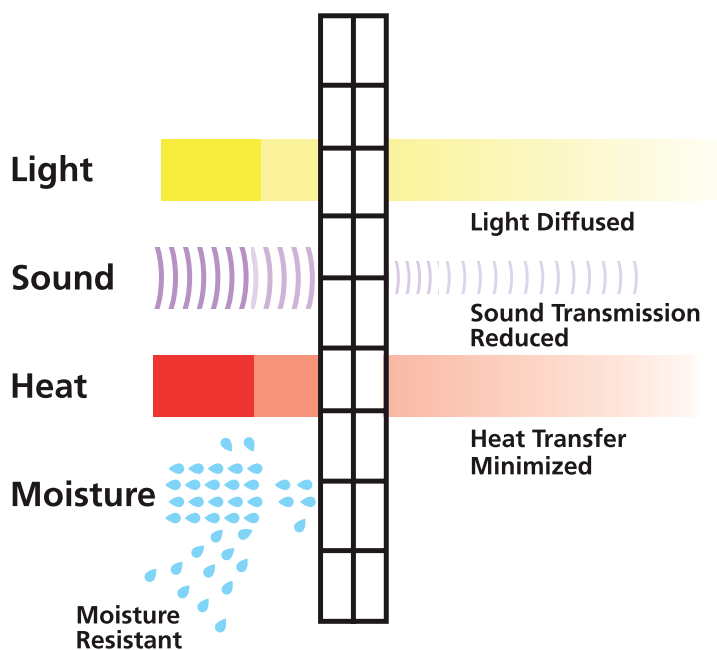
* IR: infra-red (allows a reduction of the solar transmission)

Distributor:



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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 ³
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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