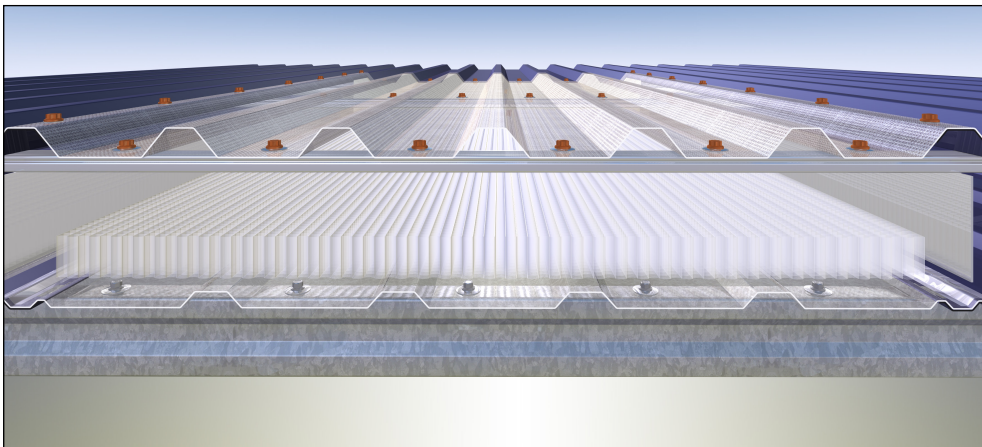


## ZENON INSULATOR - ROOFLIGHT INSULATION OPTION



<b>Application</b>	<ul style="list-style-type: none"> <li>Zenon's patented Insulator core, is an alternative honeycomb system to using traditional polycarbonate as a rooflight insulation option.</li> <li>Designed to overcome the problem of achieving environmentally friendly, low U-value rooflights while maintaining high levels of light transmission.</li> </ul>
<b>Benefits</b>	<ul style="list-style-type: none"> <li>Environmentally friendly product made from cellulose acetate and compostible at the end of its service life.</li> <li>Provides much more improved U-values without the penalties of adding multiple layers within the rooflight.</li> </ul>
<b>How it works</b>	<p>Insulator comprises of a lightweight, transparent cell structure that is perpendicular to the plane of the rooflight. A single thin clear film layer encapsulates the air pockets and has minimal interference with the light transmission. The light entering the cell structure is channelled directly, or by reflectance, into the building creating a better, wider spread of diffused light irrespective of the angle of incidence of the light, minimising the absorbance and re-radiation of the light energy as heat energy.</p>
<b>Installation</b>	<p><b>Composite Panel Rooflights -</b> Zenon Insulator is incorporated into the rooflight assembly at Hambleside Danelaw's manufacturing facility in accordance with the required specification.</p> <p><b>Site Assembled Rooflights -</b> The rooflight liner panels and the bar and bracket system being used should first be installed and fixed in the appropriate and approved manner. Any flashings or closure/filler pieces should then be installed to the perimeter of the rooflight aperture and secured by the most appropriate method.</p> <p>The Insulator core panels should then be laid into position directly on top of the liner panel and between the spacer brackets. Where necessary, the Insulator panel should be slit using a sharp knife to fit closely around the spacer brackets to ensure the continuity of the layer. End to end joints should be taped with 50mm Polyband or similar liner tape and onto the liner to maintain position.</p> <p>The profiled outer rooflight sheet can then be installed, incorporated into the external roof sheeting in the recommended and approved manner.</p>
<b>Storage and Handling</b>	<p>The Insulator is supplied in cartons. These cartons should be kept dry and stored horizontal and off the ground on pallets or supporting timbers/battens 150mm wide and at 500mm centres maximum. Cartons should be stacked no more than two high with the upper carton placed exactly over the lower one to ensure even weight distribution. They should not be opened on site until the insulating material is needed.</p> <p>The Insulator panels should be carried flat and not be rolled up.</p>





















*Typical performance data for various assembly configuration options over*

The tables below demonstrate the effects that using different insulation options have on building performance for typical Zenon Pro and Evolution assemblies for Composite Panel and Site-Assembled Rooflights.

### Zenon Composite Panel Rooflights

					PERFORMANCE IMPROVEMENT
40MM INSULATOR					
					
Zenon Pro	61	1.1	61	35.5	
Zenon Evolution	50	1.1	50	34	
20MM INSULATOR					
					
Zenon Pro	61	1.2	61	35	
Zenon Evolution	50	1.2	50	33.5	
10MM POLYCARBONATE					
					
Zenon Pro	44	1.2	44	44.5	
Zenon Evolution	36	1.2	36	43	
4MM POLYCARBONATE					
					
Zenon Pro	53	1.5	53	40.5	
Zenon Evolution	44	1.5	43	38.5	
Typical figures for comparison purposes only, based on physical testing by NPL.					
<b>KEY</b>  LIGHT TRANSMISSION  THERMAL PERFORMANCE  SOLAR GAIN  EMBODIED CARBON					

### Zenon Site-Assembled Rooflights

					PERFORMANCE IMPROVEMENT
40MM INSULATOR					
					
Zenon Pro	56	1.2	56	38.5	
Zenon Evolution	46	1.2	47	37	
20MM INSULATOR					
					
Zenon Pro	56	1.3	56	37.5	
Zenon Evolution	46	1.3	47	36	
10MM POLYCARBONATE					
					
Zenon Pro	43	1.3	44	46.5	
Zenon Evolution	35	1.3	36	44.5	
4MM POLYCARBONATE					
					
Zenon Pro	53	1.7	52	42.5	
Zenon Evolution	45	1.7	43	40.5	
Typical figures for comparison purposes only, based on physical testing by NPL.					
<b>KEY</b>  LIGHT TRANSMISSION  THERMAL PERFORMANCE  SOLAR GAIN  EMBODIED CARBON					

The table below demonstrates the benefits of using Insulator as part of a triple-skin assembly within the Zenon Arc rooflight system compared to a double skin assembly on building performance.

### Zenon Arc Barrel Vault Rooflight

Performance Data	U-value W/m <sup>2</sup> K	Light transmission %	Solar transmission %
Zenon Arc Pro	2.9	66	65
Zenon Arc Pro Insulator 40	2.0	66	65
Zenon Arc Pro Insulator 20/20	1.6	61	61
Zenon Arc Evolution	2.9	53	54
Zenon Arc Evolution Insulator 40	2.0	53	52
Zenon Arc Evolution Insulator 20/20	1.6	49	49

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