



ZENON[®]
OPTIMUM



ZENON[®]
PREMIER



ZENON[®]

MAKE BRIGHTER WORKSPACES, NATURALLY

Zenon Premier & Zenon Optimum Rooflights



NBS

**YOU CAN NOW SPECIFY THESE
SYSTEMS ON NBS SOURCE**



THIS BROCHURE IS INTERACTIVE CLICK



TO READ MORE



The GRP industrial rooflight industry has seen huge changes and advances in technology over the last 25 years. There are now many factors that affect a rooflight specification and its expected performance. First and foremost, it is important to remember the reason why rooflights are required - to bring natural daylight into the built environment.

Daylight is a free, natural resource that provides many recognised benefits such as reduced energy consumption from artificial lighting, which results in reduced operating costs, and lower operational embodied carbon emissions. The health, safety and well-being benefits for the buildings' occupants have also been extensively documented and reported.

However, there is now a myriad of layer combination choices available to the designer and specifier to achieve compliance with regulations and energy assessment methods. All of this before the type of cladding envelope has been considered.

Hambleside Danelaw are proud to have achieved several 'firsts' in its journey as a leading UK manufacturer of GRP roofing products and continue to be at the forefront of the sector with the Zenon range of GRP rooflights. Having recognised the difficulties facing the designer when making the right rooflight performance choice, Hambleside Danelaw now offer a system approach to simplify the options with a range of key performance considerations to suit the individual project.



There are two categories of
rooflight systems, Premier and Optimum.

They both comprise a set of pre-determined rooflight assemblies
to complement built-up, site assembled roofing systems for the metal building
envelope. This system approach extends to the Zenon composite panel and barrel
vault rooflights.



Z E N O N®
P R E M I E R



A range of traditional rooflights most
often specified to meet the more basic
demands of regulatory compliance based
on required performance parameters.



Z E N O N®
O P T I M U M



An enhanced range of assemblies featuring
high performance, low embodied carbon
components delivering extended periods of
non-fragility and service life combined with
high performing insulation options.

Rooflight Characteristics

Light Transmission

Designing a building to benefit from a free, natural resource is the most important reason for choosing to include GRP rooflights.



Good, naturally diffused daylight reduces the need for energy consuming artificial lighting irrespective of the energy source. Reduced energy usage, along with maintenance of faulty or deteriorating artificial lighting, has obvious financial benefits in addition to the reduction in carbon emissions of the building in its operational phase.

Many studies recognise the health and well-being benefits for the building occupants. A natural daylight space is a more pleasant, safer and healthier environment to operate in.

Solar Gain

With all rooflight systems in the industrial sector, there is a very close correlation between the heat energy and the visible light transmitted. It is therefore impossible to have high levels of light transmission and low levels of solar gain.



In the UK, excessive solar gain is only an issue during the hottest few weeks of the year. During the colder months, it has a real and positive benefit of reducing demand on any heating systems. Solar gain should not be considered a limiting factor in a rooflight performance specification as overheating risks may be mitigated by the provision of natural ventilation. In buildings where overheating through solar gain is perceived to be an issue, additional ventilation and passive cooling strategies should be considered in preference to powered cooling systems.

Thermal Performance

Insulated rooflight assemblies have been required for Part L compliance since 2002. As a provider of products that allow natural daylight into a building, it is important for the insulant layer not to reduce the light transmission excessively in pursuit of improved thermal performance.



Multiple layers of some insulants can have a significant and detrimental impact on light transmission, therefore in a good design, the right balance of high light transmission and good thermal performance should be achieved.

The Zenon range includes the unique Insulator core made from a fully compostable, fully recyclable material with a significantly reduced embodied carbon content when compared to other rooflight insulants. Not only is it better for the environment, but the light transmission levels also remain greater.

Thermal transmittance values stated in this document relates to product performance in the horizontal plane as required by the recent update to Part L.





Non-fragility

For the buildings constructed in the industrial and commercial sector, the CDM and Health & Safety requirements are generally to achieve Class B non-fragile, particularly when new. The expected periods of non-fragility cover the early years, up to 25 years and where required, up to 30 years.



The Premier range will achieve Class B non-fragility with an expected period of up to 25 years when tested in accordance with the Advisory Committee for Roofsafety ACR[M]001 'Red Book'. The Optimum range offers an extended 30-year non-fragility period. The non-fragile classification relates to a complete assembly rather than a component and is conditional upon all other parts of the assembly retaining their integrity for the same period.

Service Life



The service life of the product is about remaining fit for purpose for a given period of time i.e., allowing natural daylight into a building and keeping the weather out. Improvements in manufacturing technology in terms of UV stabilised resins and bonded surface protective films deliver long and trouble-free service, however this should not be confused with the expected periods of non-fragility.

Embodied Carbon



The drive for Net Zero and lower embodied carbon in the built environment has resulted in advances in the rooflight sector and Hambleside Danelaw are proud to be leading the way. Providing rooflight solutions that offer good light transmission with lower embodied carbon and minimal cost uplift can only benefit our industry and the planet.

As the first UK GRP rooflight manufacturer to achieve an Environmental Product Declaration (EPD) for its products, this is taken very seriously. The Life Cycle Analysis (LCA) carried out on the product range delivers meaningful statements on embodied carbon content and in the EPDs.

ZENON PREMIER SYSTEMS - BUILT UP											
System Reference	U-value W/m ² K	L-Solar %	T-Solar %	Embodied Carbon kgCO ₂ e/m ²	Premier System Characteristics						
					LT	CO ₂ e	U	g	B	25	£
Premier PB-01	1.3	56	58	37.5	●	●			●	●	
Premier PB-02	1.3	43	46	46.3				●	●	●	
Premier PB-03	1.7	53	54	42.1	●				●	●	●
Premier PB-04	1.3	56	57	37.5	●	●				●	
Premier PB-05	1.3	43	45	46.3				●		●	
Premier PB-06	1.7	53	54	42.1	●					●	●

ZENON PREMIER SYSTEMS - FACTORY ASSEMBLED											
System Reference	U-value W/m ² K	L-Solar %	T-Solar %	Embodied Carbon kgCO ₂ e/m ²	Premier System Characteristics						
					LT	CO ₂ e	U	g	B	25	£
Premier PF-01	1.2	60	60	38.2	●	●			n/a	●	
Premier PF-02	1.2	43	45	47.7				●	n/a	●	
Premier PF-03	1.5	53	53	43.6	●				n/a	●	
Premier PF-04	1.8	60	59	37.6	●	●			n/a	●	●



Zenon Premier and Zenon Optimum rooflight performance benefits (●) are based on averaged data from a wide range of in-plane rooflight assemblies.

ZENON OPTIMUM SYSTEMS - BUILT UP											
System Reference	U-value W/m ² K	L-Solar %	T-Solar %	Embodied Carbon kgCO ₂ e/m ²	Optimum System Characteristics						
					LT	CO ₂ e	U	g	B	30	£
Optimum ZB-01	0.79	41	41	36.4		●	●	●	●	●	
Optimum ZB-02	0.99	41	41	34.4		●	●	●	●	●	
Optimum ZB-03	1.3	46	47	32.4		●		●	●	●	●
Optimum ZB-04	0.79	40	41	39.8			●	●		●	
Optimum ZB-05	0.99	40	41	37.7		●	●	●		●	
Optimum ZB-06	1.3	46	46	35.7		●		●		●	●

ZENON OPTIMUM SYSTEMS - FACTORY ASSEMBLED											
System Reference	U-value W/m ² K	L-Solar %	T-Solar %	Embodied Carbon kgCO ₂ e/m ²	Optimum System Characteristics						
					LT	CO ₂ e	U	g	B	30	£
Optimum ZF-01	0.78	46	44	35.6		●	●	●	n/a	●	
Optimum ZF-02	0.94	46	44	34.2		●	●	●	n/a	●	
Optimum ZF-03	1.2	50	50	33.1	●	●			n/a	●	●

ZENON SYSTEM CHARACTERISTICS KEY			
LT	High Light Transmission	B	Class B Non-Fragility at Liner Stage
CO ₂ e	Low Embodied Carbon	25	25-year Service Life
U	Low U-value	30	30-year Service Life
g	Low g-value	£	Reduced Cost Option



HambleSide Danelaw Ltd has a continuing product development programme. In accordance with our policy for continuous improvement we reserve the right, should the need arise, to amend product specifications without prior notice.