

## CASE STUDY: Preventing spontaneous glass breakage

### Building

London Transport Museum

### Location

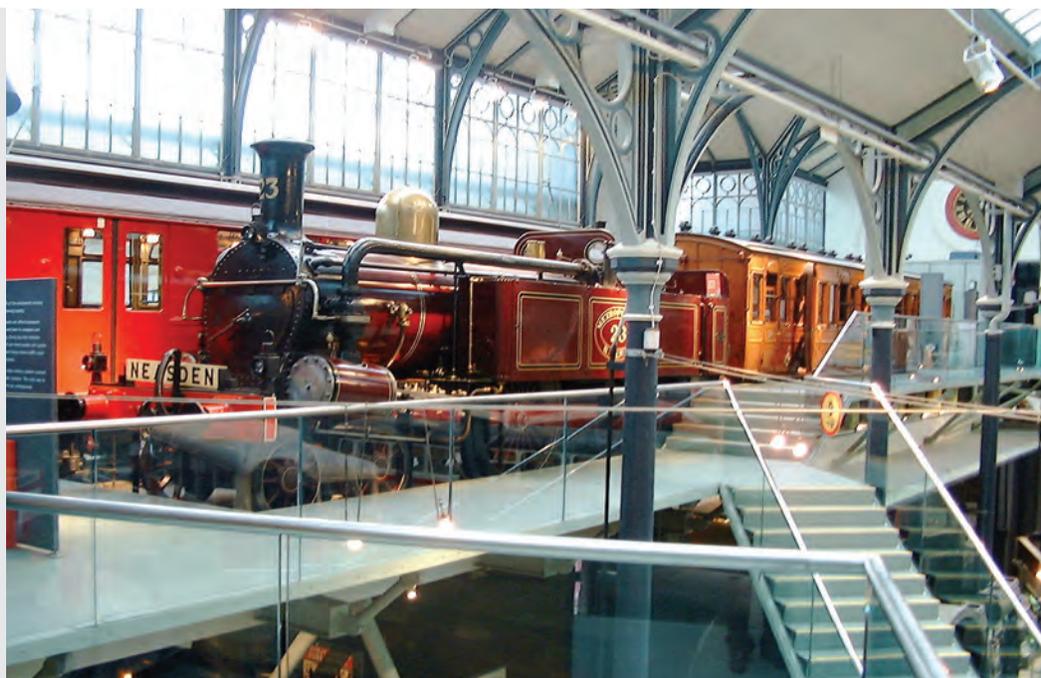
London, United Kingdom

### Window Film

SCL SR PS7 (Clear)

### Type

Protective Film



## SITUATION

When a glass panel on the mezzanine floor of the London Transport Museum in the heart of London's Covent Garden shattered last year in a suspected case of spontaneous glass fracture, Alan Brooker, head of security and operations, took immediate steps to safeguard staff and visitors at the popular tourist attraction by calling an accredited LLumar dealer to specify a high performance safety film.

## SOLUTION

Optically clear, 175-micron-thick LLumar SCL SR PS7 safety film was chosen for the job. The mezzanine panels in the museum are vertical and required an edge retention system in addition to film. The LLumar dealer installed a proprietary silicone glazing bead to hold the film to the frame, allowing the LLumar protective film to hold in place any shattered pieces of glass in the event of failure.

## RESULT

Some time after the installation, the museum again contacted the LLumar dealer following the failure of another panel on the mezzanine. This time, however, because the protective film was in place, the panel was safely and securely removed without damage or injury. "Very impressive," said Rob Lansdown, head of systems and infrastructure at the museum. "It did exactly what it said in the brochure!"

## Performance Data

	% Total Solar Transmittance	% Total Solar Reflectance	% Total Solar Absorptance	% Visible Light Transmittance	% Visible Reflectance (exterior)	% Visible Reflectance (interior)	Winter U-value	Shading Coefficient	% Ultraviolet Ray Protection (wavelengths 280-380nm)	Emissivity	Solar Heat Gain Coefficient	% Total Solar Energy Reflected	Light-to-Solar Heat Gain Ratio (LSG)	% Summer Solar Heat Gain Reduction	% Winter Heat Loss Reduction	% Glare Reduction
Clear Glass	83	8	9	90	8	8	1.03	1.00	29	0.84	0.86	14	1.05	0	0	0

### Clear Series

Clear safety films can be applied over tinted glass to improve aesthetics, solar performance and glare. These thicker films meet the most stringent standards for burglary resistance, blast mitigation, wind-borne debris, and basic safety glazing.

SCL SR PS7 (Clear)	81	9	10	88	10	10	1.03	0.96	95	0.84	0.84	16	1.05	4	0	2
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## Physical Properties

	Film Thickness (inches)	Appearance	Film Structure	Tensile Strength (constructed)	Tensile Strength (average as reported)	Break Strength (peak load)	Break Strength (average load)	Elongation at Break	Peel Strength	Puncture Strength
SCL SR PS7 (Clear)	0.007	Clear	Single	31,050	32,000	230	211	>100%	>2720(>6)	145

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The solar performance data reported for LLumar architectural window films was captured using the National Fenestration Rating Council's (NFRC) standard guidelines for window film solar performance measurement as measured on single pane, 1/8 inch (3mm), clear glass. All values averaged from routinely accumulated quality control data.

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