

**32-34 Marine Parade
Worthing**

Overheating Strategy



Planning Ref: AWDM/1174/23

On behalf of: Connaught House
(Marine Parade) Ltd

Reference D0126

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Version	Date	Author	Checked	Notes
Draft	12/01/26	JM	Client	
V1	22/01/26	JM		

1. Introduction and Design Approach

- 1.1.1.1. MURAA Ltd has been appointed by the client to prepare an overheating prevention strategy in support of the discharge of Condition 12 of the planning permission for the proposed redevelopment at 32–34 Marine Parade, Worthing.
- 1.1.1.2. This statement addresses the requirement within Condition 12 for a *strategy to prevent overheating* and has been prepared as a qualitative, design-led assessment, proportionate to the nature of the development. The scope of the appointment is limited to the review of the approved architectural proposals and the identification of passive measures integrated into the design to mitigate the risk of summertime overheating.
- 1.1.1.3. The strategy has been developed with reference to the approved plans and elevations and is coordinated with the acoustic mitigation approach.
- 1.1.1.4. The strategy has been developed specifically for the conversion nature of the scheme and responds to the constraints and opportunities of the existing building, including its orientation, heritage context, acoustic environment and coastal location.
- 1.1.1.5. An Energy and Sustainability Statement was previously prepared by B Sussed, and submitted in support of the planning application for the development, which was approved by the Local Planning Authority. That report set out the overarching fabric-first, passive design approach to energy efficiency, climate change adaptation and overheating risk, including solar gain control, enhanced insulation, natural ventilation and the use of roof overhangs to penthouse glazing.
- 1.1.1.6. This overheating prevention strategy has been prepared to expand upon and formalise those principles specifically for the purpose of discharging Condition 12.

2. Site Location and Development Proposal

- 2.1.1.1. The site comprises two grand, historic buildings which are linked internally at first, second, third and fourth floor, located on Worthing seafront, opposite Worthing Pier. The surrounding area is a mix of town centre uses, such as shops, restaurants, offices and leisure venues, as well as residential dwellings.



Figure 1: Google map image

- 2.1.2. The proposed development comprises the conversion and extension of the existing building at 32–34 Marine Parade, Worthing to provide residential accommodation across multiple floors, with flexible commercial use retained at ground and basement levels. The scheme includes internal reconfiguration to form residential units, external alterations to the upper levels to accommodate new penthouse dwellings, and associated fabric upgrades to the existing building envelope. Works include the replacement of existing windows with new high-performance glazing, the introduction of a new roof structure with integrated photovoltaic panels, architectural overhangs at upper levels, and improvements to external walls and roof construction. The proposal is implemented in accordance with the approved planning drawings and elevations.

3. Assessment of Overheating Risk (Design-Based)

Potential overheating risk has been considered at an early stage of the design process, with particular regard to those dwellings typically most susceptible to elevated internal temperatures, including upper-floor accommodation, single-aspect dwellings and spaces with larger areas of glazing associated with open-plan living layouts.

The assessment recognises that the most exposed areas of the building are located at third and fourth floor (penthouse) level, where

increased solar exposure and proximity to the roof could otherwise increase overheating risk. As a result, enhanced and targeted mitigation measures have been incorporated at these levels, ensuring that the highest-risk dwellings receive the greatest degree of passive protection.

3.1. Solar Gain Control and Architectural Shading

- 3.1.1. A primary component of the overheating strategy is the control of solar gains before heat enters the building. At penthouse level, the architectural design incorporates fixed roof overhangs positioned above the principal glazed openings serving open-plan living spaces. These overhangs are clearly shown on the approved General Arrangement plans and south and west elevations and form an integral part of the building's massing and roof design.

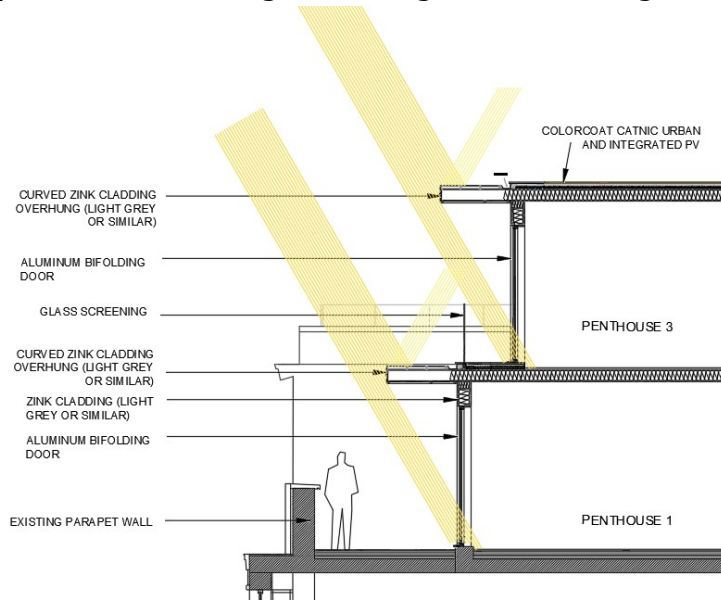


Figure 2: Overhang detail to the third and fourth floor penthouses

- 3.1.2. The overhangs are specifically intended to reduce high-angle summer solar radiation during periods when the risk of overheating is greatest. By shading glazed openings at peak sun angles, the overhangs significantly reduce direct solar penetration into internal spaces, limiting internal heat build-up. At the same time, their fixed geometry allows lower-angle winter sun to pass beneath the overhangs, ensuring that daylight and passive solar benefits are retained during cooler months.
- 3.1.3. This approach provides a robust, maintenance-free and visually integrated form of solar control that is particularly well suited to

penthouse accommodation and avoids reliance on mechanical or operational systems.

3.2. Fabric-First Thermal Performance Improvements

- 3.2.1. The overheating strategy is reinforced through significant improvements to the thermal performance of the building envelope. Existing external walls are upgraded with additional thermal insulation, improving overall thermal resistance and reducing the rate at which external heat is transmitted into the internal environment during warmer periods. This enhancement also improves thermal stability, reducing internal temperature fluctuations and contributing to a more comfortable internal environment throughout the year.
- 3.2.2. At roof level, a new insulated roof construction is introduced as part of the penthouse development. The upgraded roof build-up significantly improves thermal performance at the most exposed part of the building, where solar heat gains would otherwise be greatest. The roof design incorporates an integrated photovoltaic (PV) array, which not only contributes to renewable energy generation but also provides additional surface shading to the roof structure, further limiting solar heat absorption.

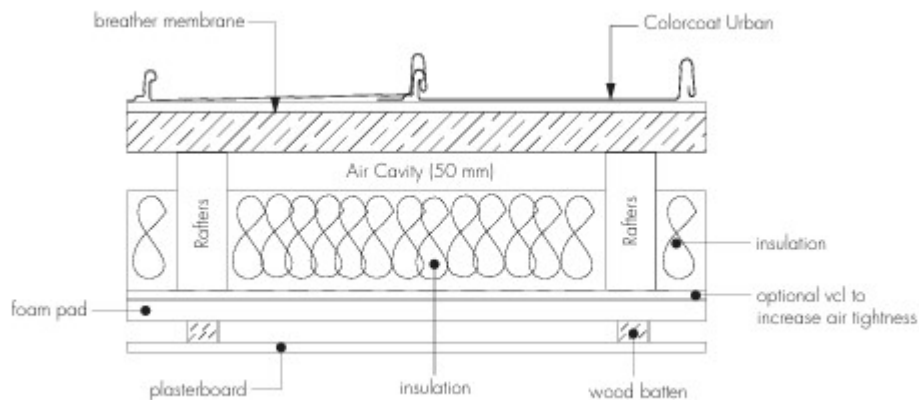


Figure 3: Warm room construction detail

- 3.2.3. Together, the wall and roof upgrades ensure that heat ingress is reduced at fabric level, addressing overheating risk at its source rather than relying on active systems to remove excess heat once it has entered the building.

3.3. Glazing Strategy and Internal Solar Control

3.3.1. The proposed glazing specification has been selected to balance acoustic performance, daylight provision and control of solar gains, with specific regard to mitigating the risk of summertime overheating. The glazing comprises high-performance double-glazed units incorporating laminated acoustic glass and a low-emissivity coating, as set out within the submitted glazing technical datasheets

Figure

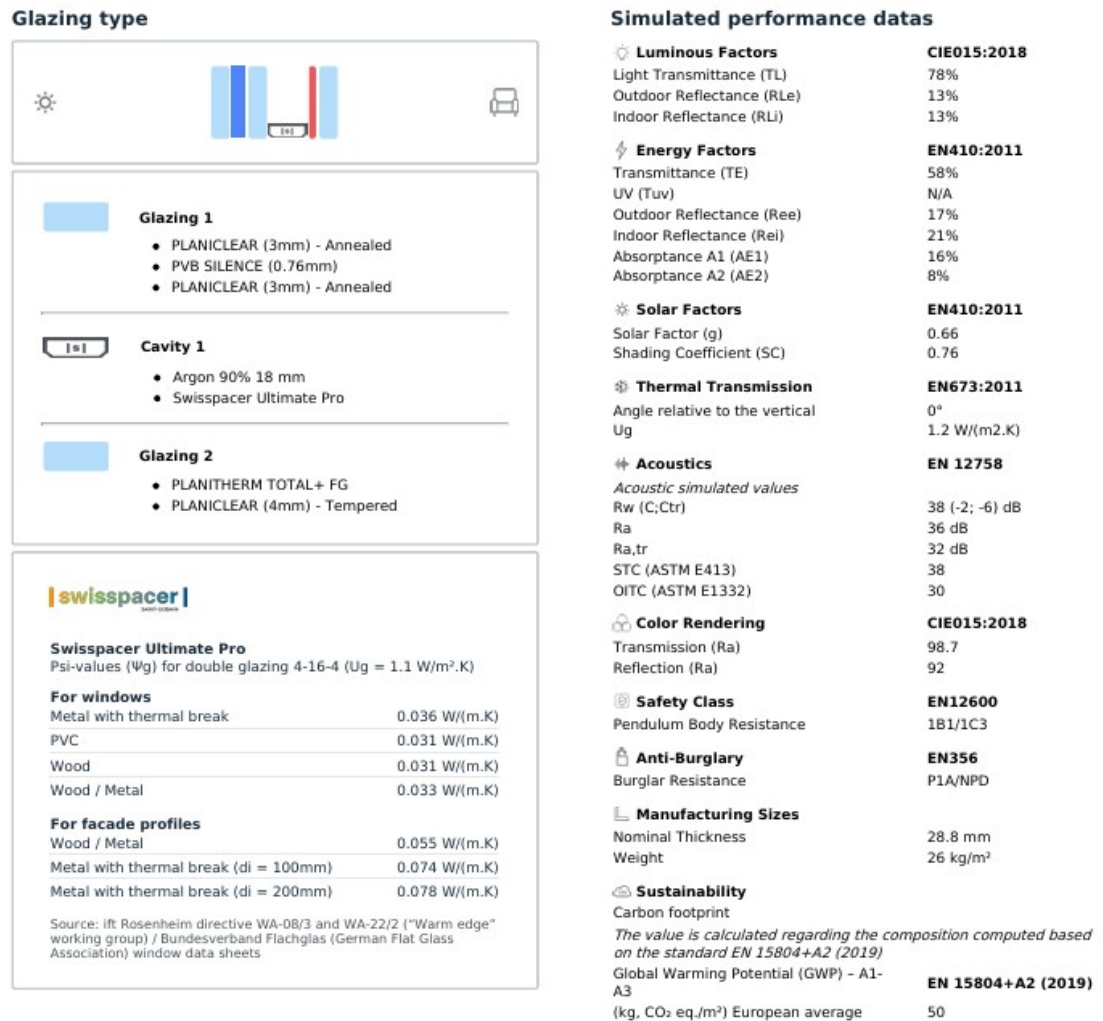


Figure 4: Proposed glazing specifications

- 3.3.2. The glazing achieves a moderated solar factor (g-value of approximately 0.66), which limits excessive solar heat transmission through glazed areas during periods of high solar exposure while still allowing beneficial levels of natural daylight. This controlled level of solar gain is appropriate for residential accommodation and assists in reducing peak internal temperatures during warmer conditions without the use of highly reflective or heavily tinted glass.
- 3.3.3. High visible light transmittance (approximately 78%) ensures that internal spaces remain well day lit, reducing reliance on artificial lighting and associated internal heat gains. The glazing also provides improved thermal performance through the incorporation of low-emissivity coatings and insulated cavities, contributing to a more thermally stable internal environment and limiting unwanted heat ingress during summer months.
- 3.3.4. In addition to the fixed performance of the glazing, internal solar control can be provided through the use of internal blinds or blackout curtains. These allow occupants to further manage short-term solar exposure and reduce direct solar gains during periods of elevated external temperatures. This user-controlled measure complements the external architectural shading and glazing specification, providing an adaptable and non-intrusive means of mitigating overheating risk without altering the external appearance of the building or introducing mechanical systems.
- 3.3.5. The glazing strategy has been carefully developed to balance acoustic performance, daylight provision and control of solar gains. High-performance double-glazed units with low-emissivity coatings and laminated acoustic layers are specified throughout the development. This specification limits excessive solar heat transmission while maintaining good levels of natural daylight, thereby reducing reliance on artificial lighting and associated internal heat gains.

3.4. Natural Ventilation Strategy

- 3.4.1. Natural ventilation forms a key component of the overheating strategy and is provided through openable windows to all habitable rooms, as shown on the approved floor plans. This enables both background ventilation and purge ventilation to be achieved through simple occupant operation, without reliance on mechanical systems.

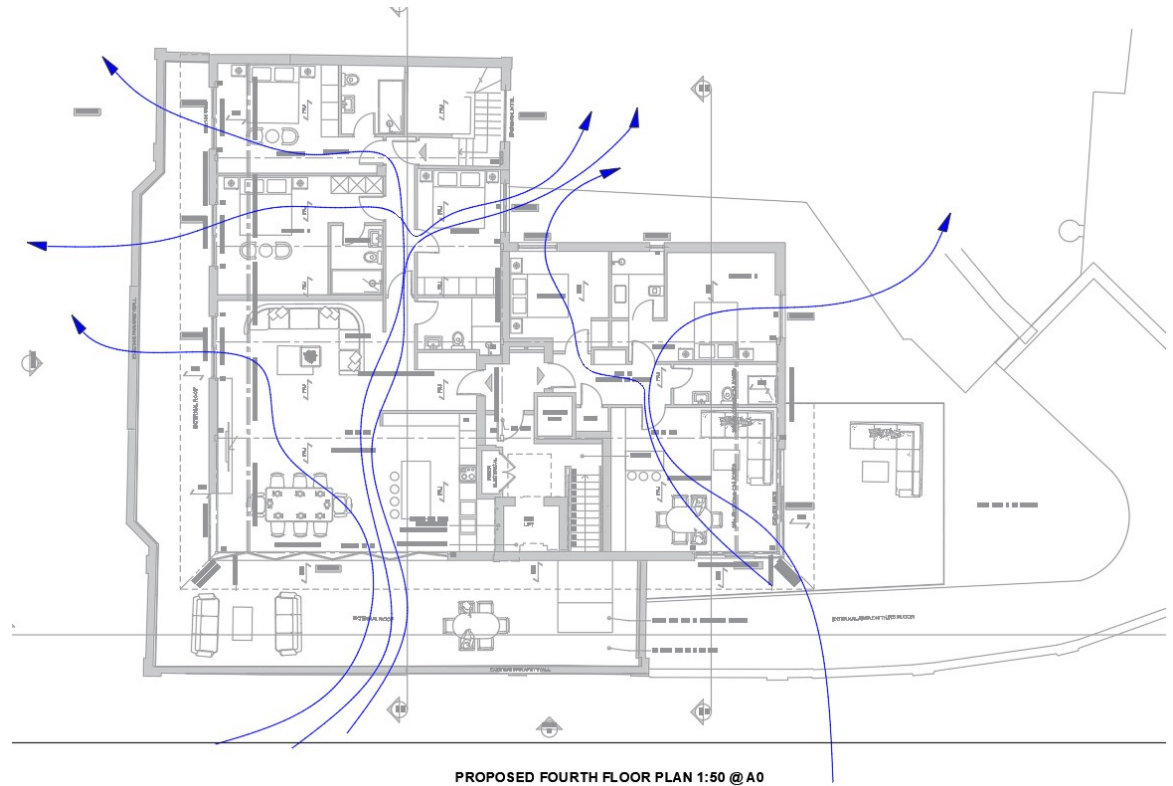


Figure 4: Natural ventilation through openable windows and doors

- 3.4.2. Occupants are able to regulate internal temperatures by opening windows during favourable external conditions, including cooler periods during the day and evening. Secure opening positions allow controlled ventilation while maintaining safety and residential amenity. The provision of purge ventilation enables rapid removal of warm internal air during hotter periods, helping to restore comfortable internal conditions.
- 3.4.3. The strategy recognises that natural ventilation is inherently responsive and occupant-controlled, providing flexibility that is well suited to residential use and seasonal variation.

3.5. Occupant Control and Management

- 3.5.1. A central principle of the overheating strategy is occupant empowerment. Residents are provided with multiple passive means of controlling their internal environment, including architectural shading, improved fabric performance, controllable window openings and internal blinds or curtains.

- 3.5.2. To support effective use of these measures, a resident user guide can be provided before occupation, explaining how best to operate windows, shading and internal controls during warmer weather, including guidance on daytime shading and evening ventilation to minimise overheating risk.

4. Integration with Acoustic Mitigation

- 4.1.1. The overheating strategy has been developed in parallel with the approved acoustic mitigation measures to ensure that the two do not conflict. High-performance acoustic glazing allows acceptable internal noise levels to be achieved when windows are closed, in accordance with BS 8233:2014. This ensures that residents are not forced to choose between thermal comfort and acoustic comfort.
- 4.1.2. Where occupants elect to open windows for natural ventilation during warmer periods, the enhanced acoustic performance of the glazing provides improved noise attenuation compared to standard glazing, allowing a reasonable degree of flexibility while maintaining acceptable internal conditions. The combined approach ensures that overheating mitigation and noise protection operate cohesively rather than in competition.

5. Compliance Statement

- 5.1.1. The proposed development incorporates a comprehensive, passive and design-led strategy to prevent summertime overheating in accordance with Condition 12. The approach mitigates overheating risk through architectural shading, enhanced thermal insulation, controlled solar gains and occupant-managed natural ventilation, without reliance on mechanical ventilation or cooling systems. The strategy is proportionate to the nature of the development and is fully integrated into the approved architectural design. Should the Local Planning Authority require further information, this can be provided upon request.