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OVERHEATING RISK ASSESSMENT

12 Loman Street

12 Loman Street, London SE1 0EH

CLIENT	DOCUMENT REF	REVISION	DATE	RISK SCORE	RISK BAND
Southwark Living Ltd	FA-OVH-0101	P01	17 April 2025	16	High

Contents

Document control

PROJECT	12 Loman Street
REPORT	Overheating Risk Assessment
SITE	12 Loman Street, London SE1 0EH
CLIENT	Southwark Living Ltd
DOCUMENT REF	FA-OVH-0101
REVISION	P01
DATE	17 April 2025
PLANNING STAGE	Full planning application
PREPARED BY	Fortress Associates

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Executive summary

This Overheating Risk Assessment accompanies a full planning application for demolition of the existing single-storey workshop and erection of a six-storey building comprising 24 self-contained flats with cycle and refuse stores, communal amenity space and associated landscaping at 12 Loman Street, London SE1 0EH. It assesses the risk of high indoor temperatures in the completed development and sets out the design measures that control it.

Assessed with the Good Homes Alliance Early Stage Overheating Risk Tool, the development scores 22 contributing points and 6 mitigating points, giving a total of 16. This places it in the high risk band, which the tool defines as a score above 12. The score is driven principally by the geographical location, daytime constraints on opening windows and night-time constraints on opening windows.

For the purposes of Approved Document O the site is in a high risk location and the units are assessed as having cross-ventilation. The development exceeds the simplified method limits for maximum area of glazing in the most glazed room and total minimum free area, so compliance with requirement O1 is demonstrated by dynamic thermal modelling under Section 2. A dynamic thermal model to CIBSE TM59 is undertaken as part of the detailed design, applying the modelling limits of Approved Document O paragraph 2.6.

The cooling hierarchy of London Plan Policy SI 4 has been followed in order, and active cooling is neither proposed nor required. The development is designed to remain comfortable and safe in summer, and there is no overheating reason to withhold planning permission.

Key overheating information

Item	Value
Site address	12 Loman Street, London SE1 0EH
OS grid reference	TQ 31900 79917
Local planning authority	Southwark
Development	Demolition of the existing single-storey workshop and erection of a six-storey building comprising 24 self-contained flats with cycle and refuse stores, communal amenity space and associated landscaping
Assessment tool	Good Homes Alliance Early Stage Overheating Risk Tool, Version 1.0, July 2019
Contributing factors	22
Mitigating factors	6
Total score	16
Overheating risk band	High (score above 12)
Approved Document O location	High risk location (urban and some suburban parts of London)
Cross-ventilation (AD O para 1.4)	Yes - openings on opposite facades
Limits applied	Table 1.1 (solar gains) and Table 1.3 (free area)
Simplified method result	Exceeded: Maximum area of glazing in the most glazed room; Total minimum free area
Compliance route	Approved Document O, Section 2 - dynamic thermal modelling
Dynamic thermal modelling	CIBSE TM59 undertaken at detailed design
Active cooling	Not proposed and not required

Site and development description

Purpose & scope of this assessment

This Overheating Risk Assessment accompanies a full planning application for demolition of the existing single-storey workshop and erection of a six-storey building comprising 24 self-contained flats with cycle and refuse stores, communal amenity space and associated landscaping at 12 Loman Street, London SE1 0EH. It assesses the risk of high indoor temperatures in the completed development and sets out the design measures that control it.

The assessment is carried out on two bases. The Good Homes Alliance Early Stage Overheating Risk Tool is used to establish the scheme's overheating risk profile at the design stage, as the Greater London Authority's energy assessment guidance and a growing number of local authorities require. Compliance with requirement O1 of Schedule 1 to the Building Regulations 2010 is then demonstrated through Approved Document O. The two are reported separately because they answer different questions.

The site & the proposed development

Demolition of the existing single-storey workshop and erection of a six-storey building comprising 24 self-contained flats with cycle and refuse stores, communal amenity space and associated landscaping. The site is currently occupied by a single-storey brick workshop of no architectural merit, occupying the majority of the site with a small yard to the rear. The development comprises 24 dwellings with a residential floorspace of 1980 m² gross internal area. The building rises to 6 storeys. The site lies within Southwark, postcode SE1 0EH. For the purposes of the Approved Document O simplified method the site is in a high risk location.

Climate context & the case for assessing overheating

Summer indoor temperatures in new homes are rising. Higher levels of insulation and airtightness, which are necessary to control heating demand and carbon emissions, also retain heat in summer; denser urban development raises local air temperatures through the urban heat island effect; and the frequency of hot spells is increasing. Requirement O1 was introduced in 2021 to address this directly, and requires reasonable provision to limit unwanted solar gains in summer and to provide an adequate means of removing heat from the indoor environment.

The design responds to this at the earliest stage, where the decisions that govern overheating risk are made: orientation, glazing proportion, aspect, ceiling height, thermal mass and the size and security of

openings. Those decisions are recorded and scored in this assessment.

Figure 1 - Site location plan

Legislation and planning policy

Building Regulations Part O & requirement O1

Requirement O1 of Schedule 1 to the Building Regulations 2010 applies to new residential buildings. It requires reasonable provision to be made to limit unwanted solar gains in summer and to provide an adequate means to remove heat from the indoor environment, taking account of the safety of occupants and their reasonable enjoyment of the residence. Mechanical cooling may be used only where insufficient heat is capable of being removed without it.

Compliance is demonstrated by one of two methods: the simplified method in Section 1 of Approved Document O, or the dynamic thermal modelling method in Section 2. The scheme exceeds the limits for maximum area of glazing in the most glazed room and total minimum free area, so the simplified method of Section 1 is not available and compliance is demonstrated by dynamic thermal modelling under Section 2.

Regulation 40B requires that information about the overheating mitigation strategy is provided to the owner on completion.

National planning policy

Section 14 of the National Planning Policy Framework requires new development to be planned for in ways that avoid increased vulnerability to the impacts of climate change, taking account of the long-term implications of rising temperatures. Paragraph 159 requires that development is designed to minimise vulnerability and improve resilience. This assessment demonstrates that the scheme is designed to remain comfortable and safe in the summer conditions expected across its lifetime.

Local & regional policy

The development plan requires new residential development to be designed to avoid overheating and to minimise the need for active cooling. This assessment is submitted in respect of London Plan Policy SI 4 and Southwark Plan Policy P69. Where the London Plan applies, Policy SI 4 requires major development to demonstrate that it reduces the potential for internal overheating and reliance on air conditioning by following the cooling hierarchy in order, and the Mayor's energy assessment guidance requires the Good Homes Alliance early stage tool to be submitted. The cooling hierarchy is followed in full in the mitigation chapter of this assessment.

Scope of requirement O1

Building type	Within the scope of Approved Document O
Residential (dwellings) - dwellinghouses and flats	Yes
Residential (institutional) - homes, schools and similar where people sleep on the premises	Yes
Residential (other) - residential college, hall of residence, student accommodation, living accommodation for children aged 5 and over	Yes
Shared communal rooms and common spaces of buildings containing more than one residential unit	Yes
Live/work unit where the commercial part can revert to residential use	Yes
Non-residential building (including one containing a small manager's flat)	No

Assessment methodology

Two assessments are reported. The Good Homes Alliance tool establishes the overheating risk profile at the design stage. Approved Document O establishes compliance with requirement O1. They answer different questions and are reported separately.

The Good Homes Alliance early stage tool

The Good Homes Alliance Early Stage Overheating Risk Tool, Version 1.0 of July 2019, is a pre-detail design assessment. It scores fourteen questions across four groups: geographical and local context, site characteristics, scheme characteristics and dwelling design, and solar heat gains and ventilation.

Seven questions identify factors that increase the likelihood of overheating and seven identify factors that reduce it; question 3 is scored separately for daytime and night-time conditions.

The total score is the sum of the contributing factors minus the sum of the mitigating factors. A total below 8 is a low risk, a total of 8 to 12 is a medium risk, and a total above 12 is a high risk. Two of the mitigation scores are conditional: the credit for external shading depends on the glazing proportion answered at question 6, and the credit for openings depends on whether the dwellings are single or dual aspect. Both are scored on that basis here.

The Approved Document O compliance route

The Approved Document O simplified method categorises the building by its location and by whether it has cross-ventilation, that is openings on opposite facades. It then applies a maximum glazing area for the whole dwelling and for the most glazed room, both determined by the orientation of the facade with the largest area of glazing, and a minimum free area for removing excess heat.

This development is in a high risk location and is assessed as having cross-ventilation, so the applicable limits are those in Table 1.1 and Table 1.3. Because the building is in the high risk location, the additional shading provision of paragraph 1.9 also applies to glazed areas between north-east and north-west via the south.

Basis and scope of the assessment

The assessment is based on the design as shown on the application drawings, the ventilation strategy described in this report, and the glazing and shading specification committed to below. The Good Homes Alliance tool is answered for the majority of the units, which is the basis the tool sets out for a scheme-wide assessment. The constraints on window opening recorded at question 3 are noise / acoustic risk and poor air quality or smells (busy road, car park, factory, commercial kitchen).

Internal blinds, curtains and tree foliage are excluded from the assessment of solar control, as Approved Document O paragraphs 2.8 and 2.9 require.

Good Homes Alliance risk bands

Total score	Band	Action the tool prescribes
below 8	Low	Ensure the mitigating measures are retained, and that risk factors do not increase (e.g. in planning conditions).
8 to 12	Medium	Seek design changes to reduce risk factors and/or increase mitigation factors AND carry out a detailed assessment (e.g. dynamic modelling against CIBSE TM59).
above 12	High	Incorporate design changes to reduce risk factors and increase mitigation factors AND carry out a detailed assessment (e.g. dynamic modelling against CIBSE TM59).

Overheating risk assessment

Each of the fourteen questions is answered below with the score it contributes. Question 3 is scored separately for daytime and night-time conditions, as the tool requires. Questions 13 and 14 are scored conditionally, on the glazing band answered at question 6 and the aspect answered at question 7 respectively.

Geographical and local context (#1-#2, #8)

The scheme is in the Thames area, Southeast England and southern England, which scores 4 under question 1. The site is in central London and is exposed to an urban heat island effect, scoring 3 under question 2.

The surroundings within a 100 metre radius are not predominantly blue or green, so no mitigation point is available at question 8.

Site characteristics (#3, #9-#10)

Question 3 is scored separately for day and night. By day the position is: barriers some of the time, or only for some windows (e.g. on a quiet side), scoring 4. At night: bedroom windows can be assumed to be open, but barriers elsewhere, scoring 4. The constraint arises from noise / acoustic risk and poor air quality or smells (busy road, car park, factory, commercial kitchen).

The hard surfaces and cladding within 10 metres of the building are pale in colour or blue/green, earning the mitigation point at question 9. There are no existing trees or buildings positioned to shade the solar-exposed glazing, so question 10 scores zero.

Scheme characteristics and dwelling design (#4-#5, #11-#12)

The dwellings are flats, which the tool treats as combining several risk factors, scoring 3 at question 4. The scheme is not served by community heating, so question 5 scores zero.

The construction provides high exposed thermal mass together with a secure and quiet route for night ventilation, earning the mitigation point at question 11. The construction comprises exposed concrete soffits to living areas with acoustically attenuated night-vent louvres. Floor-to-ceiling heights are below 2.8 metres, so question 12 scores zero.

Solar heat gains and ventilation (#6-#7, #13-#14)

The average glazing ratio across the solar-exposed elevations is 35-50%, scoring 4 at question 6. The ratio is measured across the east, south and west facing elevations and everything in between, including areas that are shaded; the effect of shading is credited separately at question 13.

The dwellings are dual aspect, which supports cross-ventilation, so question 7 scores zero.

External shading is provided: full - effective shading on all solar-exposed areas. 600 mm reveals throughout, with projecting balconies shading the south and west elevations. At the 35-50% glazing band this earns 2 mitigation points at question 13.

The openings are sized beyond the Approved Document F purge minimum: 50% over the Part F minimum. For dual aspect dwellings this earns 2 mitigation points at question 14.

Score, band and what drives it

The contributing factors total 22 and the mitigating factors total 6, giving a total score of 16. This places the development in the high risk band, which the tool defines as a score above 12.

The score is driven principally by the geographical location (4), daytime constraints on opening windows (4) and night-time constraints on opening windows (4). The design earns mitigation credit for pale surrounding surfaces, exposed thermal mass with night ventilation, external shading and openings sized beyond the Part F purge minimum.

Incorporate design changes to reduce risk factors and increase mitigation factors AND carry out a detailed assessment (e.g. dynamic modelling against CIBSE TM59).

Key factors increasing the likelihood of overheating

#	Question	Answer	Score
#1	Where is the scheme in the UK?	The Thames area, Southeast England and southern England	4
#2	Is the site likely to see an Urban Heat Island effect? [Southwark falls within the seven boroughs the guidance names for the central London score.]	Central London	3
#3 day	Does the site have barriers to windows opening?	Barriers some of the time, or only for some windows (e.g. on a quiet side)	4
#3 night	Does the site have barriers to windows opening?	Bedroom windows can be assumed to be open, but barriers elsewhere	4
#4	Are the dwellings flats?	Yes	3
#5	Does the scheme have community heating?	No	0
#6	What is the estimated average glazing ratio for the dwellings?	35-50%	4
#7	Are the dwellings single aspect?	Dual aspect	0
	Sum of contributing factors		22

Key factors reducing the likelihood of overheating

#	Question	Answer	Score
#8	Do the site surroundings feature significant blue/green infrastructure?	No	0
#9	Are immediate surrounding surfaces in majority pale in colour, or blue/green?	Yes	1
#10	Does the site have existing tall trees or buildings that will shade solar-exposed glazed areas?	No	0
#11	Do dwellings have high exposed thermal mass AND a means for secure and quiet night ventilation?	Yes	1
#12	Do floor-to-ceiling heights allow ceiling fans, now or in the future?	Below 2.8 m	0
#13	Is there useful external shading? (conditional on #6 glazing band 35-50%)	Full - effective shading on all solar-exposed areas	2
#14	Do windows and openings support effective ventilation? (conditional on #7 aspect Dual aspect)	50% over the Part F minimum	2
	Sum of mitigating factors		6

Total score

Item	Value
Sum of contributing factors	22
Sum of mitigating factors	6
TOTAL SCORE	16
Risk band	High - the tool defines this as a score above 12
Action	Incorporate design changes to reduce risk factors and increase mitigation factors AND carry out a detailed assessment (e.g. dynamic modelling against CIBSE TM59).

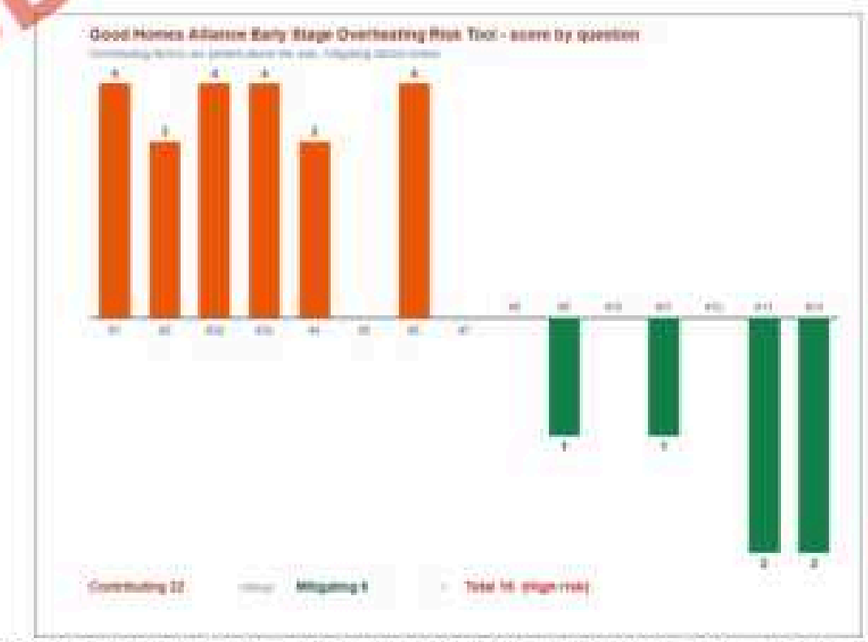

Figure 2 - Good Homes Alliance tool - score by question. Contributing factors above the axis, mitigating factors below.

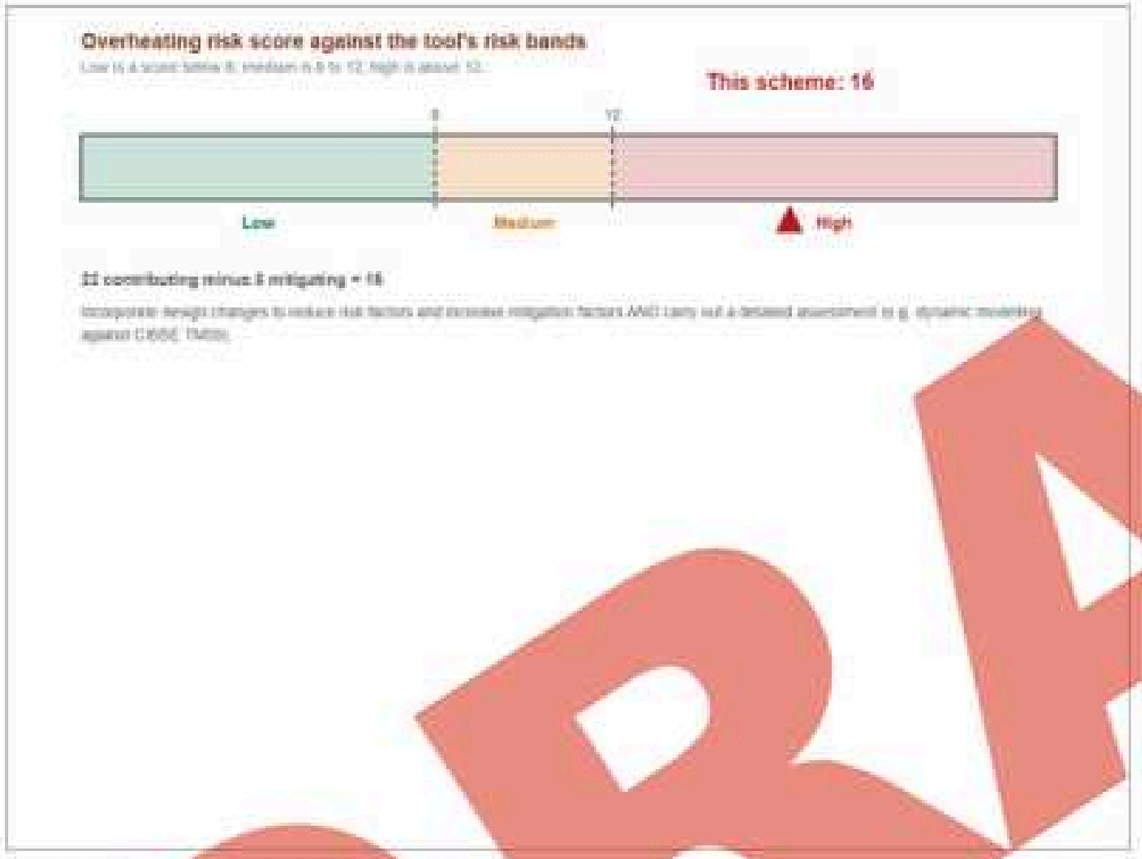

Figure 3 - Total score against the tool's risk bands.

Approved Document O compliance check

The simplified method categorises the building by location and by whether it has cross-ventilation, then applies a maximum glazing area and a minimum free area. The orientation of the facade with the largest area of glazing is given both glazing limits.

Location category and cross-ventilation

The site postcode places the development in a high risk location - the urban and some suburban parts of London listed in Appendix C, identified from AD O Appendix C, Table C1.

The units have openings on opposite facades and therefore have cross-ventilation as Approved Document O paragraph 1.4 defines it. The applicable limits are therefore those in Table 1.1 for solar gains and Table 1.3 for removing excess heat.

Limiting solar gains

The facade with the largest area of glazing faces south, which sets the limits for both the whole-dwelling and the most-glazed-room tests.

The maximum glazing area for the dwelling is 15% of the floor area, being 11.7 m². The design provides 11.2 m², which is 14.4% of the floor area - within the limit with 0.5 m² to spare.

The maximum glazing area in the most glazed room is 22% of the floor area of that room, being 5.3 m². The design provides 6.8 m², which is 28.3% - above the limit by 1.5 m².

Because the building is in the high risk location, paragraph 1.9 requires shading to glazed areas between compass points north-east and north-west via the south. This is provided by glazing with a maximum g-value of 0.4 and a minimum light transmittance of 0.7.

Removing excess heat

Excess heat is removed through openings sized to the free areas in Table 1.3. The total minimum free area is the greater of 6% of the floor area and 70% of the glazing area; here that is 4.7 m² and 7.8 m² respectively, so the requirement is 7.8 m², governed by the glazing area. The design provides 7.4 m² of equivalent area, which is 0.4 m² short.

Each bedroom is tested individually against 13% of the floor area of the room. Both bedrooms meet the requirement.

Equivalent areas are established in accordance with BS EN 13141-1 or calculated using Appendix D of Approved Document O. Where openings are used to remove excess heat the provision exceeds the purge ventilation required by Part F, and the higher figure governs.

Compliance route and dynamic modelling

The scheme exceeds the limits for maximum area of glazing in the most glazed room and total minimum free area, so the simplified method of Section 1 is not available and compliance is demonstrated by dynamic thermal modelling under Section 2.

A dynamic thermal model to CIBSE TM59 is undertaken as part of the detailed design, applying the modelling limits set by Approved Document O paragraph 2.6. The model demonstrates that living rooms, kitchens and bedrooms do not exceed the threshold comfort temperature by 1 °C or more for more than 3% of occupied hours; that bedrooms do not exceed 26 °C for more than 1% of annual hours between 22:00 and 07:00; and, where communal corridors are served, that 28 °C is not exceeded for more than 3% of annual hours.

Categorisation

Item	Value
Location category	High risk location (urban and some suburban parts of London)
Source	AD O Appendix C, Table C1
Cross-ventilation	Yes - openings on opposite facades
Largest glazed facade orientation	South
Solar gain limits	Table 1.1
Free area requirements	Table 1.3

Compliance checks

Check	Basis	Required	Provided	Result
Maximum area of glazing (whole dwelling or unit)	AD O Table 1.1, South-facing largest glazed facade	11.7 m2 (15%)	11.2 m2 (14.4%)	Meets
Maximum area of glazing in the most glazed room	AD O Table 1.1, South-facing largest glazed facade	5.3 m2 (22%)	6.8 m2 (28.3%)	Exceeds
Total minimum free area	AD O Table 1.3 - the greater of 6% of floor area and 70% of glazing area	7.8 m2	7.4 m2	Exceeds
Bedroom minimum free area (2 bedrooms)	AD O Table 1.3 - 13% of the floor area of the room	13% of each room	2 of 2 meet	Meets
Shading for the high risk location	AD O para 1.9	One of the AD O 1.9 means	g-value 0.4 max, LT 0.7 min	Meets

Bedroom free areas

Bedroom	Floor area	Required (13%)	Provided	Result
Bedroom 1	13.5 m2	1.8 m2	1.9 m2	Meets
Bedroom 2	11.2 m2	1.5 m2	1.6 m2	Meets

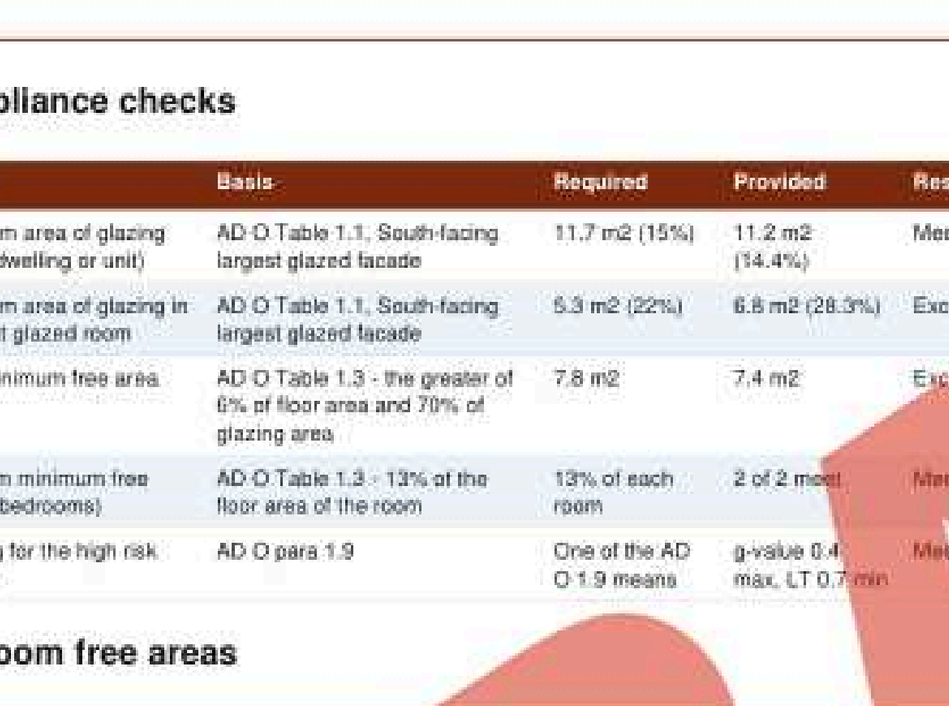

Figure 4 - Approved Document O simplified method - provision against each limit.

Solar control

Approved Document O paragraphs 2.7 to 2.9 govern what may be counted as solar control.

- Fixed shading devices - shutters, external blinds, overhangs, awnings
- Glazing design - size, orientation, g-value, depth of the window reveal
- Building design, for example the placement of balconies
- Shading provided by adjacent permanent buildings, structures or landscaping

The following are expressly excluded and are not relied upon in this assessment:

- Internal blinds and curtains (AD O 2.8 - they provide some reduction but must not be taken into account)
- Foliage and tree cover (AD O 2.9 - must not be taken into account)

Compliance route and dynamic thermal modelling

The route is established in the preceding chapter. The criteria and modelling limits that apply to it are set out below.

CIBSE TM59 criteria

Criterion	Scope	Test
A	Living rooms, kitchens and bedrooms	The indoor operative temperature must not exceed the threshold comfort temperature by 1 C or more for more than 3% of occupied hours (May to September).
B	Bedrooms	The operative temperature between 22:00 and 07:00 must not exceed 26 C for more than 1% of annual hours.
C	Communal corridors	The threshold temperature of 28 C must not be exceeded for more than 3% of total annual hours.

Modelling limits applied by Approved Document O paragraph 2.6

- Rooms occupied during the day (08:00-23:00): openings start to open above 22 C, are fully open above 26 C, start to close below 26 C and are fully closed below 22 C.
- At night (23:00-08:00): openings are modelled fully open only where the opening is on the first floor or above and not easily accessible, and the internal temperature exceeds 23 C at 23:00.
- Ground floor and easily accessible rooms when unoccupied: modelled open in the day where this can be done securely, and closed at night.
- An entrance door is included in the model and is shut at all times.

Weather files

- DSY1 - moderately warm summer (the base compliance case)
- DSY2 - short intense warm spell

- DSY3 - long less intense warm spell

Predominantly mechanically ventilated dwellings are assessed against the fixed 26 C criterion for all occupied rooms rather than the adaptive criterion.

Mitigation strategy and the cooling hierarchy

London Plan Policy SI 4 requires the cooling hierarchy to be followed in order, with active cooling considered only where the preceding steps cannot remove sufficient heat.

Reducing heat entering the building

The first step of the cooling hierarchy is to reduce the amount of heat entering the building in summer. Glazing proportions on the solar-exposed elevations are limited to those recorded in this assessment, and the glazing specification controls solar transmittance. The glazing specification is double glazed units with a g-value of 0.40 and light transmittance of 0.70.

Internal blinds and curtains are not relied upon, and neither is tree foliage; Approved Document O excludes both from the assessment of solar control.

Minimising internal heat generation

The second step is to minimise internal heat generation through energy efficient design. All fixed lighting is low energy with an efficacy of at least 95 luminaire lumens per circuit watt, so the heat rejected into the dwellings from lighting is minimal. Heating and hot water distribution pipework is insulated throughout and, where it passes through internal areas, is sized and routed to limit summer heat gains into occupied and circulation spaces.

Managing heat within the building

The third step is to manage the heat that does enter the building. Exposed thermal mass with a secure night ventilation route and floor-to-ceiling heights of 2.6 m. Exposed thermal mass slows the rate at which internal temperatures rise, and the night ventilation route allows the stored heat to be purged before the following day.

Ventilation strategy

The fourth and fifth steps are passive and then mechanical ventilation. The development is served by MVHR with a summer bypass, plus openable windows. Openings are sized beyond the Approved Document F purge minimum, giving occupants a greater capacity to dissipate heat than the minimum standard provides.

Openings are designed to be usable in practice: they are secure when open, they are operable within reasonable reach, and they are protected against falls in accordance with Approved Document K. Where external conditions restrict window opening, the ventilation strategy does not depend on windows being open to achieve the required heat removal.

Active cooling

Active cooling is not proposed and is not required. Sufficient heat is removed from the indoor environment by the passive and mechanical measures above, so the sixth step of the cooling hierarchy is not engaged. No provision for future retrofit of comfort cooling is made, and none is necessary.

Cooling hierarchy

Step	Measure	Applied in this scheme
1	Reduce the amount of heat entering the building in summer	Yes
2	Minimise internal heat generation through energy efficient design	low energy lighting throughout, and heating and hot water distribution insulated and controlled to limit summer gains
3	Manage the heat within the building	Exposed thermal mass with a secure night ventilation route and floor-to-ceiling heights of 2.6 m
4	Provide passive ventilation	openable windows and purpose-provided openings sized beyond the Part F purge minimum
5	Provide mechanical ventilation	MVHR with a summer bypass, plus openable windows
6	Provide active cooling systems	Not engaged

Usability of the strategy and information for occupants

Ensuring the strategy is usable (AD O Section 3)

Section 3 of Approved Document O requires the overheating mitigation strategy to be usable. The strategy here relies on measures that operate without occupant intervention - glazing proportion, orientation, external shading and thermal mass - together with openings that occupants control.

Where openings are relied upon they are secure when open, so that occupants can leave them open at night without a security risk; they are protected against falls in accordance with Approved Document K, with restrictors where the opening is accessible; and the noise ingress through the opening does not exceed the levels that would deter their use. Controls are positioned within reasonable reach in accordance with Approved Documents K and M.

Information for occupants (regulation 40B)

Regulation 40B requires that information about the overheating mitigation strategy is given to the owner when the building work is completed. A home user guide is issued to each dwelling on handover. It explains how the ventilation openings and any shading devices are intended to be used through a hot spell, the sequence for night purging, how any mechanical ventilation boost operates, and the maintenance the strategy depends on.

Conclusion

Overall conclusion

The Good Homes Alliance Early Stage Overheating Risk Tool returns a total score of 16, comprising 22 contributing points and 6 mitigating points, which places the development in the high risk band.

Against Approved Document O, the development exceeds the simplified method limits for maximum area of glazing in the most glazed room and total minimum free area, and compliance is therefore demonstrated by dynamic thermal modelling under Section 2.

A dynamic thermal model to CIBSE TM59 is undertaken as part of the detailed design and confirms that the criteria are met. The cooling hierarchy has been followed in order, and active cooling is neither proposed nor required. The development is designed to remain comfortable and safe in summer, and there is no overheating reason to withhold planning permission.

Summary of commitments

The following are commitments of the application and are written so that the local planning authority can secure them by condition.

Commitment	Detail
Overheating assessment	The development is assessed with the Good Homes Alliance Early Stage Overheating Risk Tool v1.0, returning a total score of 16 (High risk).
Compliance route	Approved Document O, Section 2 - dynamic thermal modelling
High risk location shading	Glazing with a maximum g-value of 0.4 and a minimum light transmittance of 0.7, to glazed areas between north-east and north-west via the south (AD O para 1.9).
Glazing specification	Double glazed units with a g-value of 0.40 and light transmittance of 0.70
External shading	600 mm reveals throughout, with projecting balconies shading the south and west elevations
Thermal mass and night ventilation	Exposed concrete soffits to living areas with acoustically attenuated night vent louvres
Ventilation strategy	MVHR with a summer bypass, plus openable windows
Dynamic thermal modelling	A dynamic thermal model to CIBSE TM59 is undertaken as part of the detailed design, applying the limits of Approved Document O paragraph 2.6 and reported against the DSY1 weather file.
Active cooling	Not proposed. Sufficient heat is removed by the passive and mechanical measures above.
Information for occupants	A home user guide explaining the overheating mitigation strategy is issued on completion, as regulation 40B requires.

Data sources and basis of assessment

Dataset / service	Detail	Access
Good Homes Alliance Early Stage Overheating Risk Tool	Version 1.0, July 2019, with the accompanying guidance	goodhomes.org.uk/overheating-in-new-homes
Approved Document O: Overheating	2021 edition, republished with corrections 25 February 2022	gov.uk
CIBSE TM59:2017	Design methodology for the assessment of overheating risk in homes	cibse.org
Approved Document F, Volume 1: Dwellings	2021 edition - purge ventilation provisions	gov.uk
Ordnance Survey / OS Names	Site location and coordinates	api.os.uk
postcodes.io	Local planning authority, ward and administrative geography	postcodes.io
planning.data.gov.uk	Conservation areas, listed buildings and other designations	planning.data.gov.uk
Open-Meteo climate reanalysis	Site summer air temperature normals	open-meteo.com

All datasets were accessed on 17 April 2025 under the Open Government Licence v3.0 / ODbL. Contains public sector information licensed under the Open Government Licence; base mapping (c) OpenStreetMap contributors.

Guidance applied

- Approved Document O - Overheating, 2021 edition
- Requirement O1 - Overheating mitigation - Schedule 1 to the Building Regulations 2010
- Regulation 40B - Providing information on the overheating mitigation strategy
- CIBSE TM59:2017 - Design methodology for the assessment of overheating risk in homes
- CIBSE TM52:2013 - The limits of thermal comfort: avoiding overheating in European buildings
- GHA tool v1.0 - Early Stage Overheating Risk Tool, July 2019
- London Plan Policy SI 4 - Managing heat risk
- GLA Energy Assessment Guidance - June 2022
- BS EN 13141-1 - Ventilation for buildings - performance testing of components
- NPPF - National Planning Policy Framework, Section 14

Basis of assessment

- The overheating risk score follows the Good Homes Alliance Early Stage Overheating Risk Tool, Version 1.0 of July 2019, and its accompanying guidance. Every score is taken from the published instrument.
- Question 3 is scored separately for daytime and night-time conditions, as the guidance directs. Question 13 is scored on the glazing band established at question 6, and question 14 on the aspect established at question 7.
- The tool is answered for the majority of the units, which is the basis it sets out for a scheme-wide assessment. Where a question does not apply it scores zero.

- The Approved Document O location category is taken from the site postcode against Table C1 of Appendix C. Cross-ventilation means openings on opposite facades; openings on facades that are not opposite do not meet the definition.
- Glazing areas are measured from the application drawings. Equivalent areas are established in accordance with BS EN 13141-1 or calculated using Appendix D of Approved Document O.
- Internal blinds, curtains and tree foliage are excluded from the assessment of solar control, as paragraphs 2.8 and 2.9 of Approved Document O require.
- The specifications stated in this report are commitments of the application and are written so the local planning authority can secure them by condition.

Closure

This Overheating Risk Assessment demonstrates that the proposed development has been designed to limit unwanted solar gains in summer and to provide an adequate means of removing heat from the indoor environment. Assessed with the Good Homes Alliance Early Stage Overheating Risk Tool the development returns a total score of 16, placing it in the high risk band. Compliance with requirement O1 is demonstrated by dynamic thermal modelling under Section 2 of Approved Document O. The cooling hierarchy of London Plan Policy SI 4 has been followed in order and active cooling is neither proposed nor required. The development accords with the National Planning Policy Framework and the climate resilience policies of the development plan. There is no overheating reason for planning permission to be withheld.

Prepared by
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