

Subject: Ventilation Strategy	Project: Cable Street
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Background

This design note outlines the ventilation strategy for the proposed development at Cable Street, Manchester. The scheme comprises the conversion of the existing building into new apartments over five stories and includes communal areas & a refuse stores. As part of the refurbishment & conversion, the apartments shall be provided with new M&E services, including the ventilation system described below.

Mechanical Ventilation system

The proposed mechanical ventilation system is **Continuous Mechanical Extract (CMEV)**, or system 3 as defined in Building Regulations Approved Document Part F (ADF) 2013.

The apartments as basement, ground, first & second floor will be service via a **central fan** within a communal space. The duplex apartment on the third floor & mezzanine will be served by **standalone fans** within the apartment.

The system will extract air from wet rooms, kitchens, and utility cupboards, with makeup air via undercut doors.

Purge ventilation for rapid clearance of odours and for summertime cooling will be achieved through opening windows. Refer to drawings WECE-286-M-113 to 118 for further details of the ventilation system.

Due to the building having an intrinsically low air tightness due to its age of construction (circa 1990) it is proposed that no trickle vent will be provided to the windows. The paragraph from **ADF, table 5.2C** below, confirms that this approach is justifiable, provided the air permeability of the room is ($>$) $5\text{m}^3/(\text{h.m}^2)$ at 50Pa.

Due to the age of the building, and absence of any existing insulation, and the building pre-dating the introduction of air tightness requirements, there will be a high level of intrinsic infiltration through the building fabric, meaning the air permeability will be higher than the threshold and trickle vents are not required.

Background ventilators

For any design air permeability, controllable **background ventilators** having a minimum **equivalent area** of 2500 mm² should be fitted in each room, except **wet rooms**, from which air is extracted. As an alternative, where the designed air permeability is leakier than (>) 5 m³/(h.m²) at 50 Pa **background ventilators** are not necessary, but see the cautionary advice in paragraph 5.10. Where this approach causes difficulties (e.g. on a noisy site) seek expert advice.

Where **background ventilators** are fitted:

- they should be located to avoid draughts, e.g. typically 1.7 m above floor level;
 - fans and **background ventilators** fitted in the same room should be a minimum of 0.5 m apart;
 - **background ventilators** may be either manually adjustable or automatically controlled (see paragraphs 4.18 to 4.20).
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