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ATSPACE

DELIVERING BEYOND COMPLIANCE

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Commercial Air Leakage Hints & Tips

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Commercial Air Leakage Hints & Tips

Blockwork	All blockwork leaks - from 0.1 to 60 m3/h/m2. Plastered blockwork does not leak, however any area that is not plastered is a potential problem i.e. above false ceilings and below raised floors. Painting good quality blockwork reduces leakage, but painting poor quality blockwork has little effect.
Pipework & Electrical Services	Pipework and electrical penetrations through the envelope into plant rooms & electrical switch rooms all should be sealed -as collectively they can add up to a large area of leakage.
Beams & Steelwork	Steelwork encased in fire cladding, and hollow concrete beams if not properly sealed, will provide opportunities for air flow. Attempting to seal these after construction could prove either futile or at the very least, expensive.
Ceilings	All types of ceilings are a potential area of leakage due to light fittings.
Curtain Walling Systems	All joints are weak points, especially where it abuts the floors, walls and roof sections.
Dry Lining Systems	Dry lining systems should be sealed with a continuous bead of plaster along the length of the bottom of the board. All penetrations should be sealed. Where these systems join the external walls extra care must be taken to ensure that there are no leakage paths.
Lift Shafts	Lift doors should have adequate seals. Special attention must be made to any raised floors adjacent to the lift. The vent at the top of the shaft should not be sealed for the test.
Profiled Metal Decking	The underside of profiled metal decking and all joints will require effective sealing during the laying of the sheets. Perforated liner sheets and relying on the vapour barrier should be avoided as they under perform.

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Windows & Door Frames	Windows and doorframes need to be sealed to the inside surface of the envelope. Any openings to cavities must be sealed before final finishes are made.
Wall to Ceiling & Roof Joints	All walls to ceiling and roof joints need to be sealed properly at the time of construction, as these areas are the hardest to reach and not easily inspected after construction. All expansion joints between concrete beams and blockwork should be deep filled with an airtight compound.
Riser Shafts	Riser shafts need to be very tightly air sealed to prevent leakage into plant rooms and the building cavity.
Steelwork Penetrations	Steelwork penetrations that pass through the internal surface must be sealed with a compound that will allow for expansion and contraction.
Loading Bay Doors	Loading bay doors should preferably be of the panel type, with adequate seals.
Roller Shutter Doors	BS EN 12426 classifies the air permeability of doors. The seven Classes run from 0 – 6. The higher the class, the lower permeability. A Class 1 door has a permeability of 24m^3/m^2h at 50 Pa. Each class has a permeability rate half that of the previous Class.
Water & Condensation Traps	Water and condensation traps should be filled at the time of the test.
Materials that MUST BE AVOIDED when sealing any joints	Mineral wool, Rockwool – this material does not provide an adequate seal as they are permeable to air. Tape and expanding foam – the life span of tape and expanding foam is too short for the use in a building that would be standing for many years. Only foam designed for air sealing should be used.