

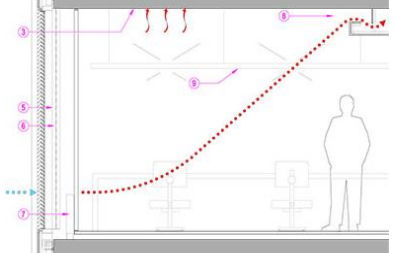


IE_Cork_St. Patrick's Place Development, Cork		
Image 01: South view © Scott Tallon Walker Architects	Image 02: Northeast view and external facade © Scott Tallon Walker Architects	Image 03: Building Section © Scott Tallon Walker Architects
		
Building Specifications		
Address	St. Patrick's Place, Wellington Road, Cork, Ireland	
Building Category	Mixed Use (Commercial/Residential)	
Year of Construction	2009	
Special Qualities	Timber Slotted Louvre Ventilation Openings with combined manual/automated operation	
Location	51° Northern latitude, -8° Eastern longitude. Located in the centre of the city of Cork in an area which has schools, residences and businesses.	
Climate	Cfb (warm temperate climate, moist with adequate precipitation in all months and no dry season, warm summer)	
Vent. Cooling Site Design Elements (Solar Site Design and Wind Exposure Design, Evaporative Effects from Plants or Water)		
<p>A high performance glazed curtain wall solution was employed to deal with the main south facing envelope (image01 above). There are insulated timber doors employed as ventilation opening components to reduce noise pollution from the city centre location. Windows are largely sealed. The site is elevated so has access to improved wind driven ventilation.</p>		
Vent. Cooling Architectural Design Elements (Form, Morphology, Envelope, Construction & Material)		
<p>The building has exposed ceiling slabs throughout the occupied spaces coupling the heat storage potential of the structure to the ventilation airflow and shifting peak temperatures to later in the day by delaying the solar contribution to the space. A centralized shaft through all floors facilitates full building height stack driven ventilation. The south facing nature of the restricted city centre location resulted in a high performance façade with low g value glazing.</p>		
Vent. Cooling Technical Components (Airflow Guiding Components, Airflow Enhancing Components, Passive Cooling Components)		
<p>The building makes use of architectural timber slotted louvre components within the façade as purpose provided air intake points and as airflow guiding components. These are accessed using manual and automated timber doors inside each office. Air is exhausted at roof level for all floors through independent vertical duct shafts. These ducts are distributed horizontally at each office level. At roof level swirl wind catchers are utilized to enhance buoyancy driven air exchanges during warm periods. The system is a crossflow system with opportunity available for flow from the north to south façade when airflow is wind driven (as opposed to through vertical shafts). The cool north side of the building (image02) can generate substantial airflow from the warm south side further improving ventilate cooling.</p>		

IEA EBC Annex 62 Ventilative Cooling

Building Energy Systems (Heating, Ventilation, Cooling, Electricity)
There is no air conditioning system in the building. The heating system is a natural gas fired boiler with radiators for heat distribution. The radiators are low height to avoid obstruction of city views. There are also heating elements with the ventilation intakes to temper cool winter air when fresh air is needed in the heating season. The heating system also utilizes solar panels at roof levels for hot water generation.
Actuators, Sensors and Control Strategies
Actuators are applied on some air intakes, though control is primarily manual throughout.
Building Ownership and Building Facility Management Structures
Building is owned and operated by Grangefield Developments. The apartments are privately owned. Architect: Scott Tallon Walker; Energy Systems Engineers: Varming Consulting Engineers
Acknowledgements
n/a
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