

Case Study | Newton House

Natural smoke ventilation utilising a variety of certified solutions



Project

Newton House is a brand new Housing 21 Extra Care Living development in Penrith. It promotes independent living for people over the age of 55, with access to on-site care. The development offers 54 one and two bedroom apartments.

Newton House provides fully accessible facilities for residents and visitors. These include a restaurant, hair salon, residents' lounge, activity room and communal gardens.

Location:

Penrith, Cumbria

Products:

NSHEV rooflights, KA 54 chain drives
 NSHEV louvres, with LDF louvre drives
 Lobby smoke dampers
 RT 45 breakglass units
 CPS-M control panel

System

For the natural smoke ventilation system at Newton House, D+H UK provided roof vents, dampers and louvres, and supplied and installed the controls in order to ventilate the communal areas.

Three staircases are ventilated by certified smoke vent rooflights, each fitted with a KA 54 chain drive.

Each of the three internal corridors are ventilated via smoke shafts with smoke dampers and grilles (with concealed drives) at each corridor level and a rooflight at the head of the shaft.

Dual colour aluminium double glazed louvres each fitted with a single LDF louvre drive, ventilate the six corridors.

All staircase roof vents and louvres are CE marked and tested to EN 12101-2. The shaft dampers are CE marked and tested to EN 12101-8.

D+H UK supplied and installed a multizone smoke ventilation control panel with 72 hour battery back up, with one breakglass reset switch for each zone. The control panel will receive signals from the fire alarm to individually trigger each zone. When a corridor zone is triggered, the vent at the head of the adjacent staircase will open. If a smoke shaft inlet vent is triggered, all remaining vents will be locked in the closed position to prevent spread of heat and smoke between floors.

The end of corridor louvres can be used for natural day-to-day ventilation when required. Each has a switch located nearby, when pressed, will open the louvres to 25%, allowing fresh air to enter the corridors.



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