



LITTLEHAMPTON ACADEMY | EDUCATION

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FDS Consult, one of the UK's leading experts in fire engineering, has lent its expertise to the construction of a new academy in West Sussex.

When it came to designing Littlehampton Academy, both the project's architect, Architecture PLB, and the school wanted to create a comfortable space for students with an 'open plan' feel.

FDS Consult was tasked with creating a bespoke fire engineering solution for a 5,600m<sup>2</sup> floor area, which is well above the maximum 2,000m<sup>2</sup> compartment size detailed under the Building Bulletin 100 (BB100): design for fire safety in schools.

Drawing on experience gained from previous school projects, the FDS Consult team recommended a combination of systems including a sprinkler system, which are common in schools with areas spanning more than 800m<sup>2</sup>, together with a natural smoke ventilation system - a component not usually required in a school environment.

This highly innovative ventilation system utilised existing windows at the ends of the building's wings and at the head of the central voids to allow smoke to move from floor to floor and out through the clear stories - ensuring that regardless of the location of the fire, the smoke would not spread over a 2,000m<sup>2</sup> area - using smoke venting methods to achieve the virtual compartmentation. This solution also enabled the school to achieve an open classroom door policy, meeting one of the end client's main aims.

Alex Hutchinson, Senior Architect at Architecture PLB, said: "FDS Consult's innovative approach to fire engineering enabled our client to achieve their vision of a whole school building in excess of 10,000sq m as a single compartment without any cross corridor doors. This combined with clearstory windows and wing-end glazing which could both be used for smoke venting enabled excellent internal daylight and internal visibility- a primary client objective and an innovative approach to school design."

Such instances of value engineering were also evident during the specification of the commercial sprinkler

systems. While these usually require dual tanks, dual pumps, dual valves and zoning to conform to life safety standard, the FDS Consult team were able to engineer the system down to the exact size and specification of the sprinkler system required - resulting in the installation of a single tank and the removal of zoning, given that the school acts as a single zone. Furthermore this system became a property protection system with life safety enhancements, satisfying both insurers and Building Control.

Michel Wizenberg, Managing Director at FDS Consult, added: "Working on a new build project from an early stage gave us opportunity to help the teams achieve design freedom whilst ensuring the safety of students and staff. In recommending a solution that goes above and beyond the usual requirements for fire safety in school environments, we were able to justify the design of a large floor area - providing cost savings for our client and a safe, functional space for the school."

Type of project:  
Education

Client:  
Littlehampton Academy

Architect:  
Architecture PLB



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