STANDARDS THAT ARE FAR FROM STANDARD

CASE STUDY

B&Q I RETAIL

fds consult

CASE STUDY - B&Q I RETAIL

The new B&Q store in New Malden is a flagship store, designed to provide a contemporary and sustainable retail environment. However, the building is situated on a problematic triangular site and maximising the useable floor space was vital. In order to help the project team achieve the store's proposed layout, FDS Consult was brought on board to focus its innovative, solutions-driven fire engineering approach to the scheme's unique challenges.

The extended travel distances and escape widths designed into the retail building did not meet the requirements recommended by Approved Document B so, using the team's extensive fire engineering knowledge, FDS Consult successfully developed the scheme's fire strategy to allow for a more flexible approach that would both meet approvals and answer the need to maximise floor space and minimise costs. Thanks to FDS Consult's value-engineering expertise, the result was a successful store layout that gained fire approval whilst delivering total cost savings of more than £2.6 million.

FDS Consult's creative approach to the fire strategy at B&Q New Malden allowed:

- Omission of costly sprinklers in the car park
- Justification for reduced venting to the car park
- Omission of fire detection to the car park, saving significant costs
- Justification of bespoke fire service access routes
- Omission of smoke venting in the retail store
- Justification of the use of stepped back natural vents from the car park boundary by using fire spread calculations and a smoke venting analysis

Having developed the fire strategy, FDS Consult's expert team was able to demonstrate that it provided for a safe evacuation procedure by using Consolidated Fire and Smoke Transport (CFAST) zone modelling software to carry out a comparison of ASET (Actual Safe Evacuation Time) and RSET (Required Safe Evacuation Time) data. By analysing the smoke filling time within the building, the FDS Consult team was able to:

- Prove that all the occupants could safely leave the building before fire exists became untenable
- Avoid reducing travel distances or increasing exit widths

Client:
B&Q Plc

Architect:
Black Architecture

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