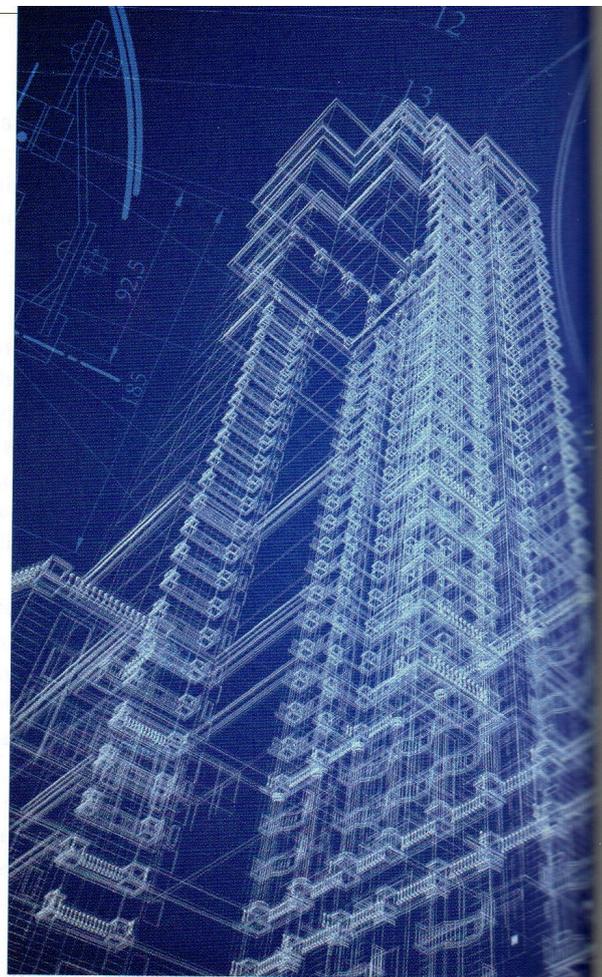


Fire safety should be a shared responsibility and there is a duty of care at all stages along the chain from building design to construction, according to **Bob Williamson and Mike Wood**, on behalf of ASDMA (the Architectural and Specialist Fire Door Manufacturers Association)

A key fire safety principle: respect and maintain the specification



The performance specifications determined for the products that are to be selected for any building project involving fire safety are fundamentally and potentially critically important.

Those specifications spring from the building design and its overall performance objectives. They are related to the occupancy, building and design profiles; and, accordingly, they need to take into account the potential risks that can arise based on a reasonable analysis.

It is easy to assume that the specifications for fire safety are fixed at an early stage and subsequently maintained throughout the involved process that unrolls as the building is constructed.

But specifications are rarely one dimensional. And specifications can easily mutate and drift off target as they travel along what can be an extended and fragmented procurement, supply and construction chain. Several factors can come to influence the product specification and the final product selection. For example, focusing on just a limited number of performance objectives can come to dominate, with a risk that the necessary attention on fire safety slips off the priority list.

Information flow along the supply-construction chain is vital. The roles of the specifier and the product manufacturer, and especially the communication links between them, are crucial if the fire safety performance determined at the outset in design is to be delivered.

Fire door assemblies are common fire safety elements in buildings. And the issues that can arise from experience in supplying fit-for-purpose fire doors, especially custom-made doors for particular design requirements, can usefully be taken to illustrate some key principles that should apply to all fire safety products.

Multiple Requirements

There is an increasingly challenging set of requirements to be considered in arriving at a suitable fire door assembly design, some of which may well interact so that they cannot be treated as fully independent. Those arise from the application, backed by regulations and standards. For example, important aspects for fire doors typically include the following:

- fire resistance – typically from 30 to 120 minutes (AD B, BS 476 Part 22 or BSEN1634);
- smoke control (eg BS 476 31.1), requiring special door leaf edge seals;
- durability and strength – often at least heavy duty and sometimes more in especially mechanically challenging applications (DD171, EN1191, EN1192, PAS23/24);
- acoustic insulation, using special seals (AD E, BS EN ISO 140);
- ease of operation, opening and closing, equal access for all (AD M);
- environmental Chain of Custody certification (related to sustainable timber resources);
- third-party fire door certification (important for independent confirmation of the level of performance and product quality regarding consistency and reliability);
- security against illegal break-in, especially for external doors or internal doors at critical locations (eg PAS 24, AD Q).

Aesthetic considerations may also be important, especially for bespoke and custom-made designs. It is important that such requirements do not come to overshadow key performances. Demands of the budget and the commercial procurement process naturally impose restraints. And the consequences of any budget cuts need