

Fire performance of facades - Guide to the requirements of UK Building Regulations

Introduction

UK Building Regulations require buildings to be designed and constructed to limit the spread of fire:

- Within the building
- Over the external surface of the building
- From one building to another.

In England this can be achieved by constructing the building in accordance with prescriptive guidance set out in Approved Document B: 2013 (ADB). ADB allows testing to be used as an alternative to some of the prescriptive guidance. The Building Regulations can also be satisfied in other ways and for more complex buildings a fire engineering approach may be adopted. Measures to be taken to satisfy the Regulations will affect the design of the whole building including the façade. For example compartment floors may be used to limit fire spread within a building and this will affect the façade design at interfaces with the compartment floors. The strategy to be adopted must therefore be coordinated by the building designer and the façade cannot be designed in isolation.

The measures taken to control the spread of fire include the use of fire resisting construction, limits on the use of combustible materials, limits on the response to fire of the surfaces of the building, division of the building into compartments and the provision of barriers in cavities.

For many buildings the approach adopted by the building designer is to satisfy the prescriptive guidance in ADB. This Technical Note provides a summary of this guidance as it relates to the design and construction of facades.

It should be noted that following the prescriptive guidance given in ADB is unlikely to be sufficient for large and complex buildings. In such situations the requirements for the façade will depend on the specific fire strategy for the building, as set out by the fire engineer.

Strict compliance with ADB does not necessarily guarantee adequate performance of a given facade in a fire. It is incumbent on the building designer to ensure that the guidance given in ADB is relevant to their building and what additional measures (if any) are required to ensure the façade achieves the required performance standard.

The Building Regulations are concerned with life safety. Additional measures may be required by clients or insurers to limit damage to property, for example the guidance given in The LPC design guide for the protection of buildings, published by the Fire Protection Association.

This Technical Note is primarily concerned with curtain walls and rainscreen cladding (i.e. excluding the back wall). Walls that are required to be fire resisting are outside the scope of this Technical Note.

ADB may be interpreted in different ways. It is important that the fire performance of the façade is discussed with all relevant parties early in the design process and an appropriate strategy agreed.