

APPROVED DOCUMENT B: ENSURING FIRE SAFETY IN OFFICE PODS

Fire safety standards for wall linings in office pods are essential to protect occupants and prevent the spread of fire. **Peter Long**, Divisional Fire and Certification Director at Optima Products discusses the significance of incorporating Approved Document B (ADB) into the design and construction of these pods.



Peter Long, Divisional Fire and Certification Director at Optima Products

In the design and construction of office pods, fire safety is of utmost importance. One essential component that architects, designers, and contractors need to consider is Approved Document B (ADB). ADB is an integral part of the Building Regulations in the United Kingdom and provides guidance on fire safety standards for various aspects of building design and construction.

The Role of ADB in ensuring fire resistance in wall linings

Wall linings, which refer to the materials used to cover the interior surfaces of walls, can significantly impact the spread of fire, heat, and smoke within a building. ADB sets out specific requirements and recommendations for wall lining materials to minimise the risk of fire and enhance overall fire safety.

ADB provides guidance on the fire performance of wall linings, including their

reaction to fire, resistance to fire, and the classification of their surface spread of flame. It specifies the fire rating required for different areas of a building and the types of wall linings that can be used in each area. Adhering to ADB's guidelines ensures that the materials used in building interiors meet necessary fire safety standards, protecting occupants and allowing for safe evacuation.

Understanding the reaction to fire of surface finishes

The reaction to fire is a crucial factor in assessing the fire performance of building materials, including wall linings. It refers to the way materials react to an ignition source. Standardised tests are used to measure this behaviour. ADB describes classifications derived from testing in accordance with EN 13501 part one and BS476 parts six and seven. It needs to be understood that while each of these classification regimes

subjects a sample of the material to a controlled ignition source and observes and measures the progression of the flame across the surface, the classifications themselves represent rather different overall outcomes.

EN 13501 part one tests measure flame spread over a much larger, more representative sample, including the critical effects of joints in the system. It also measures the fire growth rate, total heat release, smoke generation and the release of flaming droplets or particles. BS 476 parts six and seven do not measure all of these behaviours and use smaller samples and would be arguably less representative of real-world scenarios.

By considering a material's reaction to fire, including the surface spread of flame, architects, designers, and contractors can select appropriate wall lining materials that meet required fire safety standards. Materials with a lower fire growth rate help limit the spread of fire within a building, allowing occupants more time to evacuate safely.

Limitations of current testing methods

Currently, fabric manufacturers often rely on calcium silicate as a reference substrate for the spread of flame testing. However, this approach has its limitations.

One limitation is the limited realism of using calcium silicate as a standardised material. While it possesses consistent properties, it fails to replicate the complex interactions textiles experience in real-world applications. Fabrics encounter various substrates, ranging from wood to steel, and exhibit different behaviours under these conditions.



Another limitation is the variability in fire risk associated with different substrates. Textiles that perform well on calcium silicate may not provide the same level of protection when exposed to substrates with different flammability characteristics. This mismatch can result in a false sense of security.

Additionally, relying solely on calcium silicate-based tests provides a limited understanding of a fabric's fire performance. It doesn't account for how textiles might interact with other materials, coatings, or finishes commonly used in construction and industry.

The case for real-world spread of flame testing

To address the limitations of current testing methods, there is a need for real-world spread of flame testing. This approach would involve exposing textiles to actual substrates and conditions they would encounter in buildings, vehicles, and other applications. Real-world testing would provide a more accurate assessment of a fabric's fire resistance in practical scenarios.

Real-world spread of flame testing can lead to enhanced realism, improved safety, and informed decision-making. It would enable architects, engineers, and safety regulators to make better choices in material selection, aligning with specific fire safety requirements and potentially saving lives and property. Mandating real-world spread of flame testing would also promote industry accountability, encouraging fabric manufacturers to invest in research and development for safer products.

The importance of specifying fabrics based on ADB guidance

In the context of office pods, it is crucial for manufacturers to correctly specify fabrics based on the guidance of ADB. Office pods are considered occupiable enclosures and must conform to the classifications specified in ADB. This includes considering the classification of wall linings within the pods.

Manufacturers of office pods should carefully consider the available evidence of reaction to fire testing for the desired fabric products. Test reports provided by fabric manufacturers may not always be representative of the fabric's performance in a composite wall construction. It is important to ensure that the fabric has achieved the necessary Euro classification for reaction to fire when mounted in the end-use configuration to the appropriate substrate.

Specifiers should seek assurances from fabric manufacturers regarding the classification of the finish being proposed for use. They should consider the relevant Euro classifications and ensure that the



finish has been tested in its intended end-use configuration and mounted on the appropriate substrate. This includes verifying that the fabric meets the necessary Euro classification when used as a wall lining in office pods.

Combating misrepresentations and misunderstandings

Misrepresentations and misunderstandings regarding fire safety standards for wall linings in office pods are prevalent. Manufacturers may provide test evidence data that is not representative of end-use applications in composite wall systems. Specifiers may rely on misleading statements or incomplete test data when selecting wall lining materials.

To address these issues, there needs to be a collective effort to ensure accurate representation and interpretation of test data. Manufacturers should provide comprehensive and contextual test evidence, specifically related to the use of their products as wall linings in office pods. Specifiers should carefully evaluate the available evidence and seek clarification when necessary.

The importance of compliance with ADB and testing standards

Compliance with ADB and the relevant testing standards, such as EN 13501-1, is crucial in ensuring fire safety in office pods. It is essential to understand and adhere to the definitions and requirements outlined in ADB when classifying wall linings and selecting appropriate materials.

Specifiers should avoid assumptions or shortcuts in meeting fire safety standards. Simply relying on the presence of a sprinkler system or using nonqualifying test evidence is not sufficient. The guidance provided in ADB should be followed, and

any deviations from the standard should be properly documented and supported by an engineered approach.

By prioritising fire safety in office pods and ensuring compliance with ADB, designers, manufacturers, and specifiers can create safer environments for occupants. This includes selecting wall lining materials that have been appropriately tested and classified for their intended use, contributing to the overall fire safety of office pods.

Conclusion

Fire safety standards for wall linings in office pods are essential to protect occupants and prevent the spread of fire. ADB provides guidance on the selection and classification of wall lining materials to ensure adequate fire resistance. However, there are limitations to current testing methods, particularly in relation to fabric spread of flame testing.

Real-world spread of flame testing is necessary to address these limitations and provide a more accurate assessment of fabric fire resistance in practical scenarios. Manufacturers of office pods should correctly specify fabrics based on ADB guidance, considering the relevant Euro classifications and ensuring testing is conducted in the intended end-use configuration.

Combating misrepresentations and misunderstandings requires accurate representation and interpretation of test data. Compliance with ADB and testing standards is crucial to ensure fire safety in office pods. By prioritising fire safety and following the guidance provided, designers, manufacturers, and specifiers can create safer environments and protect occupants from the risk of fire.

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