Building Systems UK

A Tata Steel enterprise

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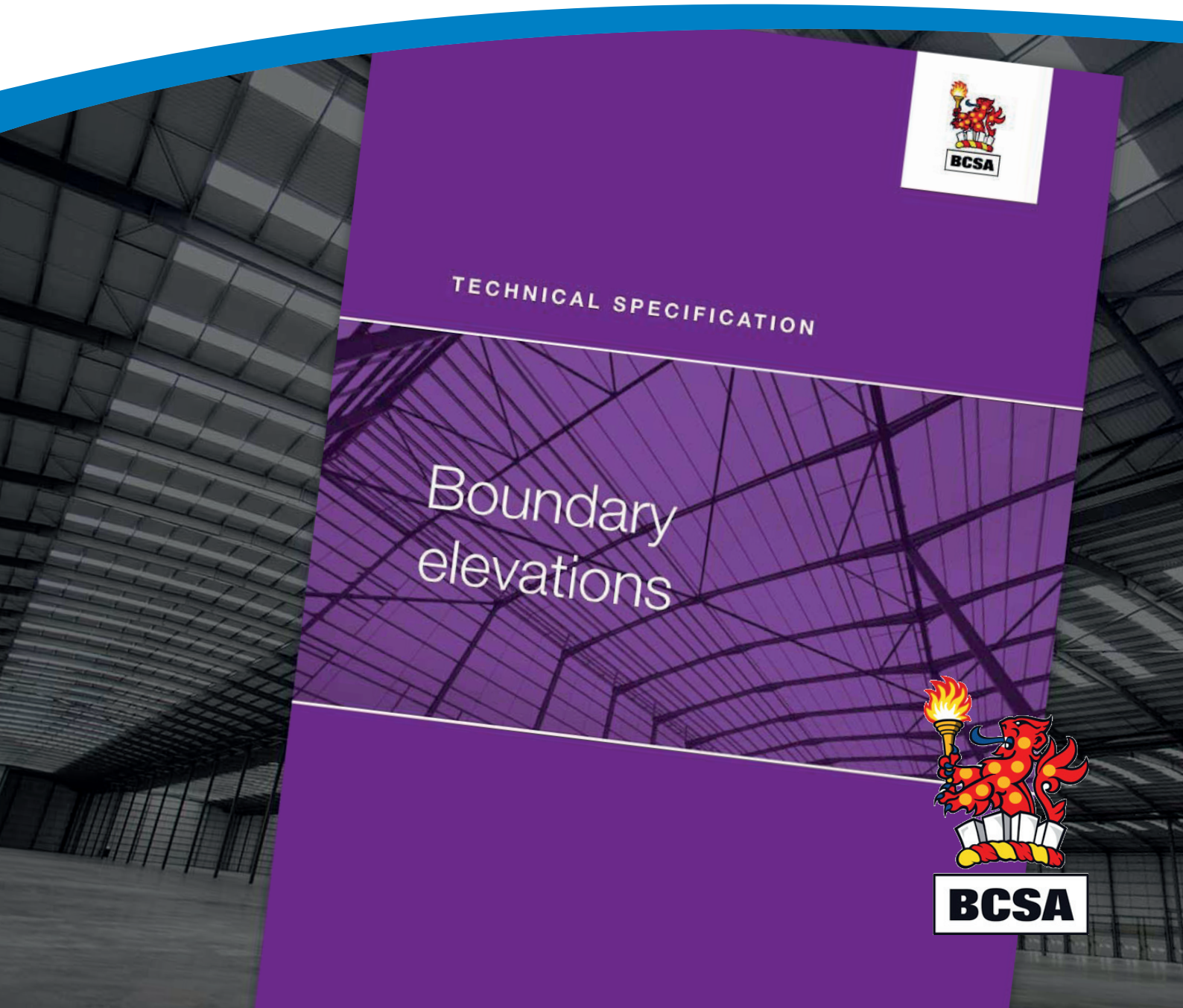
Technical note

Boundary elevation guidance



Introduction

Boundary elevation guidance

The Technical Specification for Boundary Elevations came into force on 1st July 2025. For a copy of the specification document please download here.

This technical guidance document provides an introduction to the specification, clarity on its practical use, and our part in advising designers and other stakeholders on meeting its requirements.

Scope:

- The document outlines the structural design requirements for single-storey steel framed buildings constructed in a boundary condition, where it is necessary to prevent the spread of fire.
- It covers primary frame, secondary steelwork (side rails & purlins), and external wall cladding.

Objective:

- To ensure a robust and continuous load path under fire conditions, enabling the fire-resistant cladding to remain securely supported.

Engineered concept:

- The cladding system is to be suspended from a protected structural element, referred to as a 'capable member', which has been designed to perform during fire exposure.
- No reliance is placed on unprotected secondary steelwork.

To provide clarity, the term 'capable member' is explained in greater detail below.

'Capable member'

- A capable member is a protected structural support beam, designed to carry vertical loads in fire when exposed to the standard temperature-time curve defined in BS EN 1991-1-2.
- Typically located at the top of a cladding drop.
- Intermediate capable members may be needed for tall elevations or at system transitions (e.g. vertical/horizontal cladding changes) or at joints in the cladding (e.g. liner overlaps)
- When designing the capable member, or its connection, to perform during a fire event, this should be treated as an accidental limit state. No wind loads need be included in the design of this member.
- It is envisaged that engineering, supported by component tests or analysis if required, is used to demonstrate that the cladding connection to the capable member has sufficient resistance in the fire condition.

Responsibility

The Technical Specification for Boundary Elevations provides a full breakdown of design responsibilities with Building Systems UK (the cladding manufacturer) being as follows:

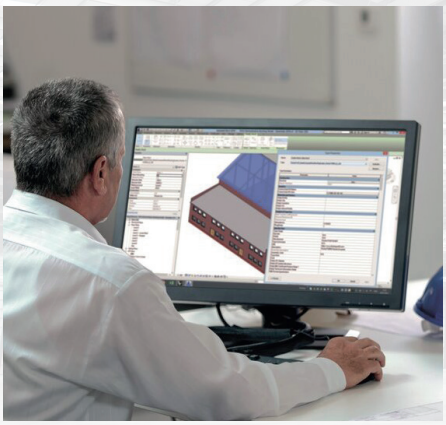
- Ensure the fire resistance of the cladding system (tested data to BS EN 1364-1 or BS 476-22).
- Provide design advice to ensure that the cladding remains connected to the capable member in a fire scenario, including sufficient resistance of the fixings and any necessary load paths within the cladding.
- Defining support requirements for horizontally laid cladding in fire conditions.

Importance of supply chain coordination

Traditionally, steelwork and cladding have been designed and procured separately, either as a combined package or under separate contracts for primary and secondary steelwork (including side rails, purlins, cleats, braces, etc).

Steelwork was often finalised before the cladding system was selected, allowing minor adjustments (e.g., extra rails or purlins) later in design. However, a compliant boundary wall solution now demands earlier coordination, as the choice of cladding can directly influence both the quantity and the design and performance requirements of the supporting members. This understanding of the specification, position and connection to the capable member will allow tenders to be accurately priced and scheduled.

The BCSA guidance anticipates that the Principal Designer will lead this coordination.



Building Systems UK's role in streamlining the process

Building Systems UK's techncial team has collaborated with the BCSA, MCRMA, secondary steelwork suppliers, fastener manufacturers, and third-party test facilities to develop robust engineering methodologies for integrating capable members into both their panel and site-assembled systems.

Once a fire-resistant system is selected from our library, either via our **SPECGEN tool** or through consultation with our specification or technical teams - we will calculate and provide the required capable member specification and connection details, along with any additional support elements within the system build-up (e.g. liner laps).

Through our collaboration, engineering knowledge and advanced high-temperature stress testing of connections, we will be able to provide the most efficient cladding support arrangement and connection designs to minimise cost impact to your project.

Please initiate early contact with our technical team to establish communication and align on design requirements, ensuring a smooth and efficient design process - **Click Here.**

www.buildingsystemsuk.com

Building Systems UK (A Tata Steel Enterprise)
Shotton
Deeside
Flintshire
CH5 2NH
United Kingdom
T: +44 (0) 1244 892199
E: technical.structuralproducts@tatasteeleurope.com

Registered Office: 18 Grosvenor Place, London, SW1X 7HS, Registered in England No. 05957565

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