



NBS Section F30 and masonry ties

The use of basalt fibre and composite wall ties has become increasingly common due to their improved thermal performance in cavity walls, including both traditional masonry cavities and SFS structures with masonry cladding. A widely specified product is the Ancon Teplo range, which currently comprises five standard variants. These ties have undergone continuous development, resulting in periodic updates and superseding earlier types

Issue Identified

A recent project has identified shortcomings in the F30 clause of the NBS specification, resulting in the selection and installation of inadequate masonry ties and subsequent remedial works to completed masonry panels. Contributing factors

Outdated Specification

Designers have specified Teplo ties that are no longer available. In this instance, the specified tie had been superseded for approximately 24 months.

Uncontrolled Product Substitution

The subcontractor selected an alternative tie due to the product non-availability. The selected tie was 10mm shorter than that specified as the revised range of Teplo ties had changed tie lengths. The selection by the sub-contractor was based on achieving the specified minimum embedment depth of 50mm, as referenced in the F30 clause. This change was not notified to Morgan Sindall.

Technical Embedment Depth Requirements

The NBS F30 clause typically defaults to a minimum design embedment of 50mm into the masonry bed joint. This value is commonly derived from PD 6697, but is frequently misinterpreted as a minimum installed embedment, rather than a design embedment and inclusive of site tolerances, which is incorrect.

This misinterpretation of minimum embedment of ties into masonry beds was a key factor in the findings of the 2017 Edinburgh Schools masonry wall failure investigation.

Manufacturer Requirements

The BBA certificate for Ancon Teplo BF and BFR ties specifies a minimum design embedment of 62.5mm, clearly stated throughout the certification. Leviaat Technical confirms this as a design minimum and failure to comply is a non-compliant installation with respect to the certified performance.

Risks

Non-compliance with BBA certification requirements
Reduced structural performance of masonry panels
Requirement for disruptive remedial works

Next Steps

Check current projects F30 specification are correct for the tie type specified
Check previous projects and SIMS inspections for ties provided and compliance with the manufacturer's installation requirement.

Key Lesson

Default specification values (in this instance embedment depths) must not override manufacturer-certified requirements.
Specifications must be actively maintained and tailored to the products used to ensure compliance and performance.

	Brickwork / Blockwork	☒	Design	☐	DFMA (Offsite Manufacture)	☒	Doors & Windows	☐	Drainage	☐	Electrical	☐	FFE (Furnishings, Fixing & Equipment)
☒	Fire & Lightening	☐	Floor Coverings	☐	Frames & Superstructure	☐	Internal Walls, Partitions & Ceilings	☐	Joinery & General Carpentry	☐	Miscellaneous	☐	Painting
☐	Public Health (Water)	☐	Roads, Paths, Paving & Surfacing	☐	Roof	☐	Services & Systems	☐	Site Preparation Works	☐	Substructure	☐	Walling (Tiling & Finished)