

Prefabricated lightweight brick clad arches

Comprising cement particle or fibre cement boards, injected polyurethane core, clay fired brick slips attached with epoxy adhesive for use as a decorative non-loadbearing arch above openings in masonry cavity walls.

(April 2022)



Question

What are NHBC's warranty requirements for the acceptance of prefabricated lightweight brick clad arches?

Considerations

- NHBC Standards Technical Requirement R3 Materials states that all materials, products and building systems shall be suitable for their intended purpose and provides guidance on how materials used for critical functions can comply e.g. in accordance with relevant British Standards or European specifications and codes of practice.
- Prefabricated lightweight brick clad arches provide critical functions e.g. thermal, durability and weathertightness.
- Prefabricated lightweight brick clad arches should be fabricated in controlled conditions to ensure the process occurs in optimum conditions free from wet weather, extreme temperatures and excessive dust.
- Durability i.e. the ability of prefabricated lightweight brick clad arches to perform their required functions under the influence of agents for the intended 60-year design life.
- Detailed technical design e.g. position of cavity trays, stop ends and weep holes.

Answer

- Assessment of the fitness for purpose of prefabricated lightweight brick clad arches and certification by an independent technical approval's authority acceptable to NHBC is required to demonstrate compliance with Technical Requirement R3 Materials. More information is provided within TG 2.1/20.

The scope of certification shall include:

- Inspection & regular surveillance of factory production,
- Strength,
- Fire performance,
- Thermal performance,
- Durability
- Condensation risk,
- Resistance to weathering,
- Design considerations,
- Installation guidance.

- Prefabricated lightweight brick clad arches are non-loadbearing and should be supported by a loadbearing lintel.
- Cavity tray/ damp proof protection should be provided directly over all openings by either;
 - Being combined as part of the lintel, provided it has a suitable profile and durability,
 - Placing a separate cavity tray direct onto the lintel as per performance standard 6.1.17 with a minimum up-stand of 140mm, or if the height of the brick slip arch is greater than 140mm, at least the height of the brick slip arch.

Please note that cavity trays (combined or separate) should project at least 25mm beyond the cavity face of the cavity closure, have stop ends and weep holes provided at each end of the arch to discharge water and prevent it spilling over the ends of the lintel as this could cause potential damp penetration at a vulnerable part of the opening where both horizontal and vertical damp proofing meet.