
Building with Confidence: The Rigorous Testing of Clay Bricks

Essential Guide

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The Brick Development Association

The Brick Development Association (BDA) is the national authority on clay bricks and pavers. The membership accounts for almost 99% of the bricks produced in the UK; the BDA members are committed to manufacturing products of outstanding quality and developing one of the nation's most productive and sustainable supply chains.

The BDA Guides, Technical Guides and Essential Guides are continually updated to take account of the latest materials, systems and products developed in the clay brick and paver sector.

Better with Brick

The Better with Brick campaign, launched by the BDA in February 2024, underscores clay brick as a versatile, sustainable, and high-performance building material. With a minimum lifespan of 150 years, clay brick offers exceptional durability. Its natural composition from locally sourced clay, water and sand contributes to its low carbon footprint, one of its many sustainable attributes. The campaign showcases the material's versatility and design flexibility, demonstrating how clay brick can complement modern architecture while upholding traditional aesthetics. Additionally, clay brick's compliance with evolving regulatory standards, such as the Building Safety Act and Future Homes Standard, reinforces its position as a reliable and responsible building material. By emphasizing these key benefits, Better with Brick aims to inspire a renewed appreciation for clay brick as a sustainable and enduring choice for construction. We extend our sincere gratitude to our team, members, and industry experts for their invaluable contributions to the campaign's success.

Scope of Document

This is a top level essential guide. Please refer to the BDA general, technical and structural guides for more in-depth information.

Published by the Brick Development Association. (BDA).

The BDA are committed to providing impartial and authoritative information. We make every effort to ensure the accuracy and quality of information and guidance when it is published. However we can take no responsibility for the subsequent use of this information, nor for any errors or omissions it may contain.

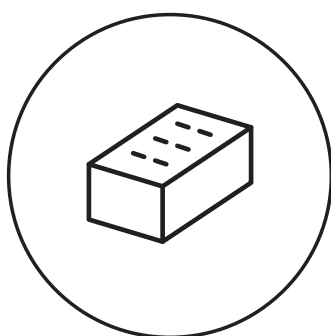
Our members are committed to providing the highest quality clay bricks for construction projects across the UK. This dedication to excellence is reflected in the rigorous testing processes employed throughout the entire brick manufacturing journey.

Before clay brick production begins, chemical and physical properties of the clay are meticulously assessed to ensure suitability for brick production. These tests include:



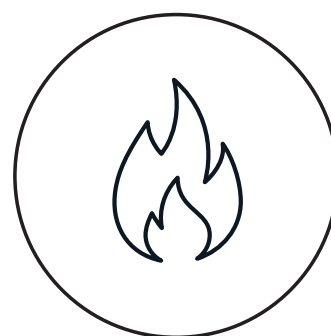
Chemical Composition

Analysing the clay’s composition for key elements like alumina, silica, and iron oxide, which influence the final brick properties.



Plasticity

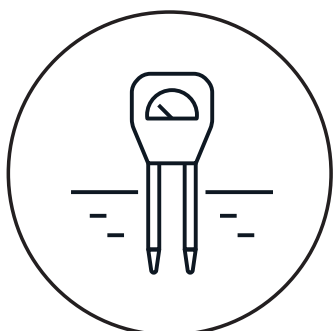
Determining the clay’s ability to be moulded and retain its shape.



Drying and Firing Characteristics

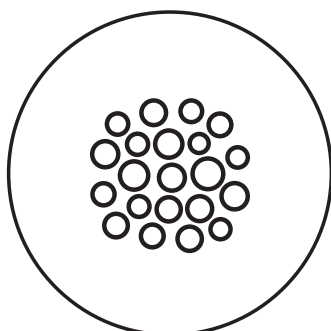
Evaluating how the clay behaves during drying and firing processes to prevent cracking or warping.

Throughout the manufacturing process, ongoing testing ensures consistent quality:



Moisture Content Monitoring

The clay’s moisture content is continuously monitored for optimal shaping and firing.



Density

Brick density is regularly checked to meet specific performance.



Visual Inspection

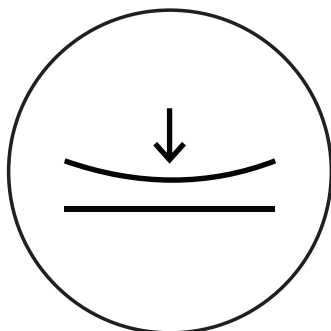
Trained professionals conduct thorough visual inspections to identify any defects in shape, colour, or texture.

Once fired, the bricks undergo final tests to confirm they meet stringent quality standards:



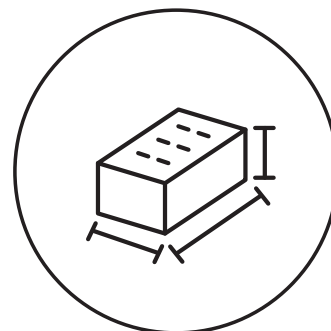
Water Absorption

Measuring the brick's ability to absorb water, influencing factors like weather resistance and durability.



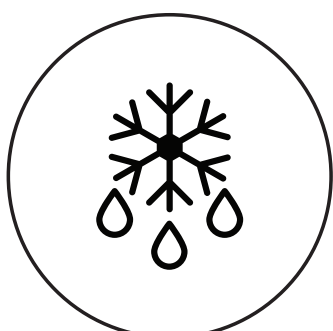
Compressive Strength

Assessing the brick's ability to withstand compressive loads, crucial for structural applications.



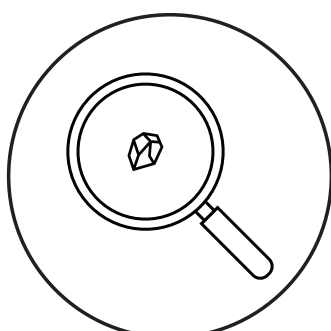
Dimensional Accuracy

Brick dimensions are measured for compliance with British Standards (BS) specifications (BS EN 771-1).



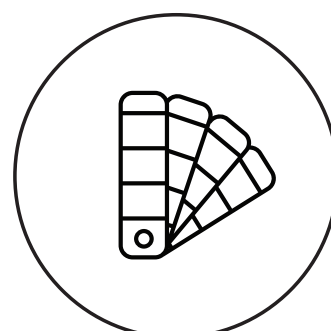
Freeze-Thaw Resistance

Bricks are subjected to cycles of freezing and thawing to assess their durability in harsh weather conditions.



Efflorescence

Testing for the presence of white mineral deposits (also known as 'salts') on the brick surface, which can be aesthetically displeasing.



Colour Consistency

Any colour variations that might affect aesthetics are identified after firing, guaranteeing a uniform appearance for your project.

These tests are conducted to ensure that clay bricks meet the rigorous quality, safety, and performance standards set by British Standards.

By undergoing these comprehensive laboratory and manufacturing stage tests, UK clay brick manufacturers are confident their products are safe, durable, and meet the performance expectations for various construction projects.

Brick Development Association Products and Services

Brick Awards

The Brick Awards celebrate the best examples of clay brick in our built environment. Each year the awards attract over 350 entries from leading architects, housebuilders, developers and contractors; across 18 hotly contested categories. It is FREE and simple to enter on our website: www.brick.org.uk

Brick Works Events

The BDA regularly runs courses and seminars for all those professionals involved with the design and construction of brick buildings. Please contact George Spreckley our Events & PR Manager on email: georgespreckley@brick.org.uk

The Brickmakers Quality Charter

The Brickmakers Quality Charter is a globally recognised scheme for ensuring that the bricks you procure are made by brickmakers who follow clearly identified and well established business norms in the manufacture of their clay brick & paver products.

The use of the Brickmakers Quality Charter logo on the brickmakers branding and web site, identifies those brickmakers that meet those norms and hold correctly assessed credentials in real time. Thus we are able to assure the purchaser of the credentials expected of a responsible brickmaker meaning that the manufacture of clay bricks and pavers has reached a set of internationally recognised product, labour, quality, energy, environmental and other standards.

A full list of certified companies is available here: www.brick.org.uk/bqc/bqc-approved-brickmakers
Further details can be obtained by email at: brick@brick.org.uk



Brick Bulletin

This widely acclaimed e-magazine features the latest developments in brick design and is recognised world wide as the foremost journal of contemporary brickwork. It is available free through the 'Brick Bulletin' tab our website: www.brick.org.uk.

Technical Publications

The BDA provides a range of technical publications and guides; which are freely available to Architects, Developers, Builders and General public on our web site: www.brick.org.uk

The Fourth Edition of 'Guide to Successful Brickwork' is available at all good book shops.

Training and Education

The BDA offers lectures and other educational services for Architects, Engineers, Developers as well as support for students and public interested in creating successful brickwork. We also provide technical input to events for practicing architects, engineers and organisations involved in continuing professional development.

Research and Testing

The BDA identifies specific areas where independent research and testing programmes are required to further the confident use of clay brick and to ensure quality.

Statistical and Marketing Information

The Brick Development Association is an independent body committed to providing authoritative information about the use of clay brick in construction.

We collate statistical information on brick production, UK deliveries, and related supply for imported products together with volume information including testing, research and development.

We provide free technical support on the use of clay brick, and encourage best practice in the use of brick in the built environment.



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