

BRICKS, BLOCKS & HARD LANDSCAPING



Engineering excellence

Alex Patrick-Smith, Managing Director of Ketley Brick, speaks to PBM about why builders should use Class A engineering bricks and the ensuing considerations for merchants.

PBM: In general terms, what are the particular advantages of engineering bricks?

APS: Engineering bricks are much denser than ordinary facing bricks and incredibly strong, so are often used for projects where high compressive strength, low levels of water absorption and resistance to frost attack are important factors.

PBM: What quality standards are there for British Engineering bricks?

APS: In 1946 there used to be a British Standard for clay engineering bricks (before they were devised for other brick types), which defined them as Class A or B according to their water absorption and compressive strength.

However, these days there aren't any

quality standards specific to engineering bricks. Instead, they come under the general European Standard EN771-1, but are still traditionally rated as Class A or Class B.

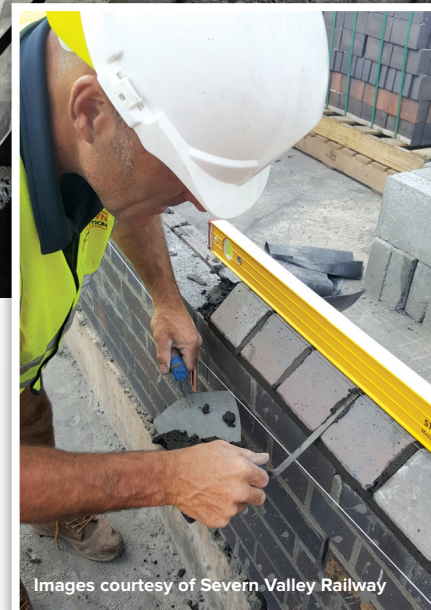
PBM: And what is the main difference between Class A and Class B bricks?

APS: The key difference between Class A and Class B bricks is that Class A have much lower water absorption and higher compressive strength:

Class A compressive strength is: $\geq 125\text{N/mm}^2$ and water absorption $\leq 4.5\%$

Class B compressive strength is: $\geq 75\text{N/mm}^2$ and water absorption $\leq 7.0\%$

This makes Class A bricks not only the toughest bricks on the market by far, but also the only bricks that can give you complete assurance against frost failure.



Images courtesy of Severn Valley Railway

PBM: What sort of projects should you use Class A bricks for?

APS: Class A bricks have traditionally been used for their physical rather than aesthetic characteristics, such as in the construction of bridges, canals, tunnels and other civil engineering applications. They are also used for retaining walls and paving, ground works and damp proof courses, copings, cappings, window sills or any other application that is particularly exposed to the weather.

In fact, the Brick Development Association's 'Brickwork Durability' guide specifically recommends that the brickwork

below the DPC, which is likely to be regularly exposed to water, should have maximum water absorption of <4.5%, thereby minimising any potential problems.

As Class A quality bricks have an attractive uniform appearance, they are also suitable for most facing brick situations. For instance, Ketley's Staffordshire Reds and Blues are often specified on projects where their natural tones add contrast and detail in brickwork, as a feature brick or for contrasting banding or geometric patterns.

PBM: What can happen if you use the wrong brick?

APS: Builders should always check with their builders' merchant whether the engineering bricks they are buying are Class A or Class B. If they intend to use them in a severely exposed position and they are not Class A, they may absorb water and suffer frost damage in winter. With some meteorological experts forecasting increasing moisture levels during the winter, this is now a very important consideration to ensure they remain fit for purpose into the future.

PBM: Are all Capping and Special Shaped Bricks made to a Class A Standard?

APS: No. The standard for special bricks and cappings only relates to their shapes and size tolerances and does not cover any technical specification over and above the EN771-1. If non-Class A 'specials' are used in exposed situations, they could be susceptible to frost damage.



As the many deteriorating boundary walls around the country demonstrate, it's difficult to know whether bricks are adequately frost proof or not unless they carry the Class A certification.

PBM: Are all Class A bricks blue in colour?

APS: No. Although historically most Class A engineering bricks have been blue — and if you look around railway and canal works in the south and the midlands that is certainly the case — Ketley Brick manufactures three different colours of brick: Staffordshire Blue, Staffordshire Red and Staffordshire Brown Brindle, all of which meet the Class A standard.

The majority of engineering bricks sold in the UK are Class B bricks, which generally have a smooth red colour and are amongst the cheapest bricks available.

Class A bricks may cost more than Class B, but they are the 'gold standard' for bricks, so you can rest assured that they will stand the test of time in any demanding environment. Ketley Brick offers both solid and perforated Class A bricks, the perforated bricks being the cheaper of the two.

PBM: And what sizes are available?

APS: Engineering bricks are available in 65mm and 73mm as standard. Special sizes can also be made, such as 80mm, on request.

PBM: What innovation are you seeing with Class A bricks?

APS: There is a growing trend in modern architecture for textured, hit and miss or



lattice brickwork, where some of the bed face of the brick is exposed to the weather. Class A bricks are particularly suitable for this type of brickwork, which can be seen on the Victoria Gate Arcade in Leeds, which has won several RIBA architectural awards as well as the 2017 Brick Development Association (BDA) Brick Awards.

PBM: Finally, what message is Ketley Brick presenting to merchants?

APS: Ketley offers extra flexibility to merchants who are ordering product into stock by delivering minimum 10 pack loads with haulage paid, rather than the typical full loads of minimum 20-25 packs. These 10 pack loads can be made up of any combination of Ketley products from 'Class A' solid or perforated bricks in any of their available colours to creating tiles, specials, pavers and so on.

Ketley Brick manufactures a wide range of Class A bricks for both facing and engineering applications, as well as brick slips, special bricks, clay pavers, quarry tiles and accessories.

■ For more information about the company's range of products and services circle readerlink 105