

DESIGN & SPECIFICATION CONSIDERATIONS

SUSTAINABILITY AND ENVIRONMENTAL IMPACT – RECYCLED CONTENT

The Waste and Resource Action Programme (WRAP) have produced documents aimed to guide businesses and consumers to be more efficient in their use of materials. In an introduction to the document 'Calculating and declaring recycled content in construction materials' WRAP sets out a rule of thumb which includes a paragraph suggesting possible wording organisations may wish to use to set their requirements for projects.

'... at least 10% of the total value of materials used should derive from recycled and reused content in the products and materials selected. In addition, show that the most significant opportunities to increase the value of materials derived from recycled and reused content have been considered, such as the top ten Quick Wins or equivalent, and implement good practice where technically and commercially viable.'

Source WRAP 'Calculating and declaring recycled content in construction materials'

Although the extract is suggesting 10% of the total value of materials used in a building should derive from recycled or reused content (not 10% of the total quantity), some specifiers are mistakenly seeking that all individual products contained within that building contain 10% or more recycled material.

Materials which are currently allowed to be classed as recycled include pulverised fuel ash (PFA) or fly ash, waste gypsum, blast furnace slag, fireclay extracted as a result of opencast operations, window fabrication scrap and recycled newspaper.

Clay facing bricks are currently manufactured from predominantly naturally occurring materials extracted from the ground adjacent or close to the manufacturing site.

To achieve required technical and aesthetic characteristics is dependent on the materials used, the source of clay, body additives and how the products are manufactured.

Taking its guidance from ISO 14021, WRAP explains;

“ Whilst recycled content is a single indicator and cannot address all of the issues surrounding sustainability and environmental impact, this Guide was produced with the following guiding principles in mind:

- resource efficiency – use fewer virgin materials;
- send less to landfill and close the loop by reusing waste materials;
- discourage wasteful or inefficient processing;
- reduce environmental impact wherever possible; and
- recognise commercial as well as environmental drivers.

Across all the 'Quick Win' product categories where higher recycled content can commonly be found at competitive cost and where sufficient data exist for conclusions to be drawn, on average, selecting options with higher recycled content within a category achieves lower overall environmental impact. However, it must be recognised that higher recycled content in an individual product does not always guarantee a lower impact. ”

Source: WRAP 'Calculating and declaring recycled content in construction materials'

Adding recycled material to all brick product is likely to alter the properties and aesthetics, plus the transportation of recycled material to the manufacturing unit for inclusion may increase the carbon footprint.

Currently the only materials that can be classed as recycled and which are not detrimental to the integrity of clay brick by their addition are **fireclay** and **PFA**.

Fireclays produce buff coloured bricks; products manufactured solely from fireclay can claim 100% recycled content; however the specifier is limited with colour and technical properties.

PFAs are often added in small amounts to aid firing and/or create a rustic look to the finished aesthetic.

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To achieve the engineering properties required for many building and civil applications currently no materials classed as recycled achieve the required technical properties such as strength and water absorption of the product although manufacturers continue to trial recycled material to this end.

Although Ibstock is working towards finding suitable inert materials to enable a recycled content classification, to base the choice of clay facing brick solely on its recycled content exceeding 10% is not the intention of WRAP and, as suggested, does not compromise the final environmental and sustainable impact.

- Ibstock Brick Limited manufacture to the Environmental Standard ISO 14001
- Ibstock also has BES 6001 accreditation to 'Very Good', allowing extra points in the Code for Sustainable Homes.
- Ibstock have a number of manufacturing locations countrywide reducing the impact of transportation with local supply.
- All recognised building applications involving clay brick achieve a Green Guide rating of A+.
- There is little waste on construction sites as products can generally be used internally, externally, above and below ground or crushed as inert hard-core.
- Furthermore clay facing bricks require little or no maintenance over their lifespan and can in turn be recycled to be used in other buildings if appropriate mortar specification is addressed.



By choosing brick the original recycled content becomes irrelevant compared to the longer term benefits of this sustainable and durable material.

Further information and advice can also be found at the Brick Development Association website www.brick.org.uk

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