

# Safeguarding the Heritage of Battersea

**People worldwide are familiar with Battersea Power Station's four famous chimneys. They featured in the opening and closing ceremonies of the 2012 London Olympics and on the cover of Pink Floyd's seminal 1977 album.**

As part of the redevelopment of Battersea Power Station into a mixed-use neighbourhood with new homes, restaurants, shops, parks and cultural spaces, the chimneys have been carefully taken down and rebuilt. The new chimneys are outwardly identical to the original structures and the paint has even been colour matched with the old chimneys.



One other similarity is that the chimneys have been waterproofed using mastic asphalt. The chimneys were originally waterproofed using mastic asphalt in two stages between 1935 and 1955 and provided years of weatherproof protection. Historic England was involved in discussions to use mastic asphalt as a direct replacement to meet with the expectations for retaining as many original features of the building as possible.

Over 250 new homes are being created in the iconic Grade II\* listed Battersea Power Station. Architects WilkinsonEyre approached the

redevelopment with the requisite amount of care - paying homage to its history but infusing it with a 21st-century sensibility.

Mastic asphalt is considered to be one of the most traditional waterproofing materials available, having provided protection from water penetration for centuries. Like many long-lasting materials that have stood the test of time, it is being re-imagined and modified in a modern way.

Traditionally consisting of graded limestone aggregate bound together with bitumen, today's mastic asphalt systems are now manufactured using advanced polymer modified formulations to ensure all the performance characteristics of traditional asphalt, with increased flexibility, enhanced handling and sustainability.

Mastic asphalt was applied to the chimneys at a thickness of 20mm, totalling 500m<sup>2</sup> over the four chimneys. The skilled work involves ensuring that asphalt is at the correct temperature, and then spreading it to coat the surface. A thermoplastic material that changes shape when



heated, mastic asphalt cures to form a hard, durable, finished product. To maintain the industry's reputation and ensure high quality applications for every single project, only trained applicators are permitted to install mastic asphalt under the Mastic Asphalt Council's (MAC) stringent rules.

A MAC contractor member has been involved in the Battersea Power Station redevelopment project continuously since 2014 and Managing Director David Maginnis said: "Mastic asphalt was already proven to provide exceptional weatherproof protection over a number of years on the chimneys and by specifying the product again, it was possible to create the original appearance. Mastic asphalt is ideal for use on historic projects and as it is applied in-situ, it offers a multitude of design possibilities so we were able to replicate the original design.

"This was a challenging project in terms of logistics as the base of the chimneys is 18 floors above ground. A high level of craftsmanship was required by our applicators, as well as traditional design knowledge coupled with an understanding of the possibilities of using polymer modified mastic asphalt to achieve the complex interfaces required," he continued.

The Building Research Establishment (BRE) has stated that mastic asphalt is capable of lasting 50-60 years,

but MAC has many examples well in excess of this. Once it has reached the end of its useful life, it can be recycled or used as roof screed. Back in 2008, MAC achieved the CarbonZero standard. Since then mastic asphalt has offset thousands of tonnes of carbon dioxide - underlining its status as a green waterproofing material.

As only traditional materials were to be used for this project, rolled lead was initially considered but this was not in line with the original waterproofing to the chimneys. The environmental and cost benefits also drove the decision in favour of mastic asphalt. The mastic asphalt solution was more economical than sheet lead and mastic asphalt's seamless structure means it can easily be spot repaired if required.

The Mastic Asphalt Council (MAC) is the trade association for the mastic asphalt industry in the UK. Representing more than 70 companies operating in the sector, MAC members include mastic asphalt manufacturers, specialist application contractors and associated suppliers of equipment and services. With thanks to contractor BriggsAmasco and manufacturer IKO for assistance in putting this editorial together.