



CASE STUDY

KENOTEQ®

Client Name: Kenoteq
Location: Edinburgh, UK
Product Sector: Materials
BBA Service: Agrément Certificate

“Obtaining a BBA Agrément Certificate was essential for Kenoteq. The process has helped us to grow as a business and to validate the properties and functionality of the product.”

PROJECT OVERVIEW

With growing demand for more sustainable buildings that meet net zero targets, the emphasis on innovative materials to reduce a building's carbon footprint has become a key focus. Architects and specifiers are increasingly exploring new recycled building products that align with circular economy principles, whilst also needing to maintain compliance with UK standards and legislation. This led the founders of Kenoteq to seek third party certification from the British Board of Agrément (BBA) for their K-BRIQ.

When introducing an innovation to the market, one of the challenges for manufacturers is understanding which standards and performance their product must achieve. This is where the BBA Agrément's approach of assessing fitness-for-purpose can assist. The assessment process will guide on the performance expectations for the product, technology or process, its intended use and potential application(s). This will ensure the uniqueness of the innovation is fully understood and will provide invaluable insight of associated performance benchmarks. The framework of assessment required is guided by the BBA technical team, based on its knowledge of how the new material needs to perform, and how its structure is likely to impact on its performance relative to the traditional

product. This will include details of what additional evidence is required to verify and validate the performance claims, providing tangible outputs for both the innovator and the market.

Recycled materials are by their nature inherently inconsistent, and the BBA provided Kenoteq with details of the additional evidence required to verify the K-BRIQ's fitness-for-purpose. In the case of the K-BRIQ, the BBA team instructed Kenoteq that additional testing was required before it could validate that the product performance at least matched that of a traditional similar brick, especially around durability, functionality and safety.

Approximately 2.5 billion bricks are required to fulfil UK requirements each year, and over 500 million of these are currently imported from countries across the globe, adding to the carbon intensity of a building. Now Kenoteq, thanks to automation and their BBA certification, is ramping up to produce two million of its recycled K-BRIQ'S per year, with plans to double this to four million as demand increases, helping to lower the carbon footprint of thousands of new buildings.

The K-BRIQ from Kenoteq is manufactured from recycled waste from construction and demolition sites.

The product started initially as part of a structural engineering PHD project with research around lifecycle carbon assessments with Professor Gabriela Medero and Dr Sam Chapman, now co-founders of Kenoteq. Sam and his colleagues were challenged to find new innovative ways to utilise waste handling demolition materials from a nearby site, where 70% of the materials needed to be recycled into the production of a new product. This was needed for the industry to close the loop and create a circular economy, instead of the waste going directly to landfill. Following years of research and development and seed investment, the project evolved into a commercial entity with the support of various funding mechanisms and industry partnerships, and the K-BRIQ went through numerous tests to ensure that it was robust and fit for purpose.

Sam Chapman, Co-Founder and Executive Director of Kenoteq commented, "When considering third party testing, everyone has heard of and values the quality and standards set by the BBA, which is considered the 'gold standard' of testing. It was a key milestone in our journey for Kenoteq. BBA is the certification that most architects and specifiers ask for, so we considered it crucial to the future growth and scalability of the K-BRIQ product."

The Review Process

When starting the process of gaining third party certification with the BBA, it is important to understand the commitment required to complete the process, the data and testing required on the products, plus the scrutiny of the manufacturing sites needed. For those considering, but not quite ready to go through a full Agrément certification process, the BBA has service offerings specifically available which help manufacturers develop, learn and refine their new products and processes, getting ready to scale up and to reach the standards and quality required to bring them to market.

Sam added, "The range of data the BBA required meant extensive testing, including providing data and tests on the mechanical resistance and stability, fire safety, noise protection, energy economy and heat retention and the overall durability of the product itself. The intensive scrutiny of the BBA factory audits helped us refine our processes. Working with new recycled materials is a learning curve for all concerned. The process looks at what's in the materials and what possible pitfalls should be considered with the applications that we are looking at using it for. Through continuous communication and feedback, we worked diligently to ensure that the product meets the highest standards of safety, robustness, and functionality. This



This collective effort was crucial in delivering a product that not only meets but exceeds user expectations."

Conclusion

With manufacturers investing in new technology to develop new materials, such as those like the K-BRIQ which made from recycled materials, validating the functionality and safety of the product is vital. Traditional clay bricks are kiln fired and have a long history of use in the industry, with the material being well known, durable and proven to reach specific standards. Katy Roberts, Sales and Marketing Director for the BBA, summarises, "With the new recycled building products coming into the market, manufacturers like Kenoteq use the rigorous assessment provided by an Agrément Certificate to prove that their new product's performance can at least match that of the more traditional product. BBA certification has ensured that the K-BRIQ is a viable option for specification in the UK market."

Sam further added, "Obtaining a BBA Agrément Certificate was essential for Kenoteq. The process has helped us to grow as a business and to validate the properties and functionality of the product. It will support future property owners to obtain building warranties, satisfying insurance and mortgage lenders. This certification unlocks the ability to supply those larger commercial projects, where third party certification is an absolute requirement. Furthermore, we are now engaging with architects and other key stakeholders through CPDs and direct communication to promote the now BBA-certified K-BRIQ."