

Company Name Broanmain Plastics

Location Dorking, UK

Industry Plastic Moulding

Product Baty R14 Profile Projector

APPLICATION BACKGROUND

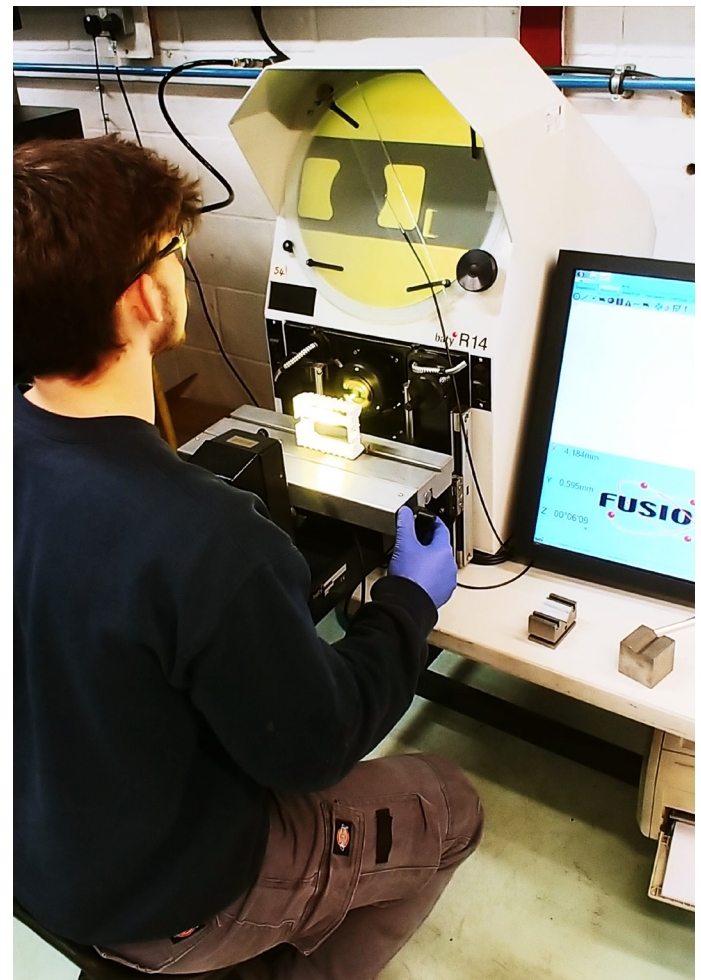
As part of the Bowers Group, Baty International supplied Broanmain Plastics with a Baty R14 profile projector to assist with their inspection and quality processes. The Baty range of profile projectors, which are often referred to as shadowgraphs or optical comparators, has enjoyed a resurgence since the introduction of the FT2-E touch screen DRO.

As a family-run technical trade moulder, Broanmain Plastics manufactures compression and injection moulded components used in various applications throughout many industries including, aerospace, electronics, railway signalling, filtration, and climate management systems.

Having expertise in many different processes in the plastics industry, such as thermoplastic injection, vacuum forming, thermosetting injection, compression, and transfer moulding, precision and conformity is paramount to the business.

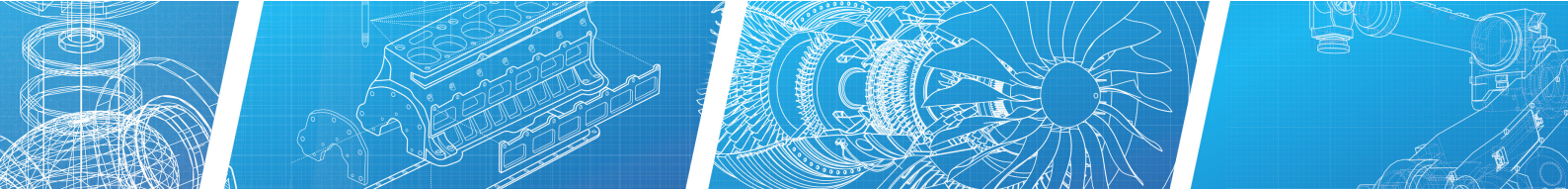
THE CHALLENGE

Between two sites based in Surrey and West Sussex, Broanmain Plastics houses machinery with capacities up to 550 tons and a shot weight of over 1500 grams, providing extremely high production volumes in which consistency of the finished product is vital. It is imperative to not



only make sure the part is visually perfect but also fail-safe where customers require the utmost safety from the part.

With injection moulding particularly, the parts are under extremely high pressure as the plastic is pushed harder against the mould when compared to other moulding processes.



This makes it possible to add complex detail into the design of the part that, in turn, requires a closer inspection to ensure strict quality standards are met.

THE SOLUTION

Looking to improve on the consistency of produced parts, and to work more effectively within time constraints, Broanmain Plastics decided to invest in the Baty R14 profile projector to support their Quality Team in measuring complex components, helping to achieve accurate, repeatable results.

The R14 is a bench mount profile projector that provides high-accuracy, non-contact optical measurement and inspection, with a large 175mm x 100mm measuring range. Optical measurement offers effective non-contact inspection using a light source that projects onto the part, casting a silhouette, or shadow, into the camera. This allows the software to quickly gather data from the profile of the part and undertakes thorough inspection that can show even the most minuscule of faults.

The Quality Control team at Broanmain Plastics use the projector most days, overseeing the inspection process to ensure that manufactured parts are accurate, that there are no faults or weak spots in the output, and that the quality of the mouldings is constant in any run size to satisfy the customer's high-quality requirements.

By using the Bowers Group-supplied Fusion software with the R14, and thanks to its simple and easy-to-use user interface, operators without previous experience of the software, or shadowgraphs in general, can learn to confidently use the machine within a short space of time.

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COMMENT

Managing Director of Broanmain Plastics, Jo Davis, said, "Quality is critical for different reasons. For some, it is safety-critical, for others its requirement may be more aesthetic. But what is always required is a consistency."

"I've been really pleased with the help, support and services from Bowers Group. Whilst I don't use the machine myself, the Shadowgraph is also used in our tool room for measuring tooling components. The Baty R14 makes the process quicker and easier. It has been an invaluable installation to both the Quality team and the company as a whole."

Speaking of the Fusion Software, Tool Room Manager, Kamil Stec, said: "Working with Injection moulding, the parts we measure are often hard to fixture. We've found that the software's feature align option saves a lot of setup time. There is also a lot of handy construction options available. Before using the Fusion software, we sometimes had to use CAD software to check certain dimensions, now it is done in the software.

"Generally, after experiencing what the software can do, I would not like to be using the shadowgraph with a simple DRO. We've recently bought Aberlink CMM which is using the same software. This was a major selling point for us as we are already familiar with it, know what it is capable of and we can standardize our measuring software."