



Proven by name,  
proven by nature

Proven Energy

Rapid plastic injection moulding specialist, Protomold®, is supplying high accuracy plastic bobbins to fast-growing wind turbine manufacturer, Proven Energy. The project is providing a number of benefits, including product quality improvements and a significant reduction in assembly time.

Renewable energy is big business and a growing number of turbine manufacturers are entering the global market for alternative power generation. Established wind turbine manufacturers are constantly seeking ways to differentiate themselves in the marketplace.

Proven Energy's turbines are down-wind models, which means that they work with nature and not against it, as upwind turbines do. The main benefit is that Proven turbines can be used in even the most severe winds, without danger of damaging the unit.

By turning to Protomold to supply the only plastic moulded component used on its range of small scale, down-wind turbines, Proven is simultaneously improving build-quality whilst saving both assembly time and also labour costs.

Based at Stewarton in Ayrshire, Proven Energy was established 27 years ago and has installed over 1000 small-scale wind turbines worldwide since the business began producing turbines, in 1991.

The company's range consists of three models: the 2.5kW unit, which is often used for powering a typical three-bedroom house in the UK; the 6kW turbine, which gives about three times more yield than a 2.5kW model and therefore is better suited to a larger house or to someone who wants to generate an excess of electricity for exporting to the national grid; and the Proven 15kW, the most recent addition to the range for light industrial, light commercial and agricultural use.

“We had a couple of rounds of modifications and material changes, throughout which the guys at Protomold were extremely efficient and very helpful.”

With each model subject to ongoing improvement, a recent production initiative at the company has been to focus on automating the winding of the generator core on the 6kW model.



“We knew that automating the winding of the generator would save bundles of labour time and bring a real quality improvement to the end product, explains Jonathan Nowill, Proven Energy's Engineering Director. “However, this process relies on the accurate spacing of the actual winding. With this in mind we approached

Protomold to produce the moulded part designed to do the job – a plastic bobbin that acts as an accurate spacer on the core.”

Proven designed a model of the part and submitted it to Protomold for review.

“Protomold came back with a few suggested modifications that would help the moulding process, both in terms of the actual product design, and the material used,” says Mr Nowill. “We had a couple of rounds of modifications and

material changes, throughout which the guys at Protomold were extremely efficient and very helpful.”

With 18 bobbins on each 6kW machine, the annual volumes when production commences in the coming months will be around 10,000 a year. Once extended to Proven Energy's other models, this will escalate further.

“We are not quite in production yet, but so far I have been very impressed with Protomold,” states Mr Nowill. “Not only have they reacted quickly and professionally to all of our requests, the turnaround times have been very impressive. The nature of our business means that unfortunately we always need things in a hurry.

Protomold proved considerably faster than a conventional injection mould tool maker.”



Products falling within certain size and design parameters can now be delivered in as little as 1 working day. Customers submitting part models using the Protomold web-based quoting system ProtoQuote® can receive detailed manufacturability analysis and an all-in production price in just hours. Once any part modifications have been made, the company can deliver finished parts in a production-intent material in one business day.

“This is a major step forward,” says Managing Director John Tumelty. “There is no other way of getting high-quality, precision plastic parts manufactured as quickly or for such a low price.

“By providing design engineers with 1-business day turnaround, we're giving them the ability to better manage their product design, reduce the number of pre-production difficulties and bring products to market quicker than ever before.”