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Paul deBretton Gordon, Design Director, Robert Welch Design

## ROBERT WELCH DESIGNS: Creating timeless beauty in SOLIDWORKS



Since it was established in 1955 in an old silk mill in Chipping Campden, Robert Welch Designs has built up a world-class homeware product brand that is steeped in silversmithing and craftsmanship. From cutlery to candlesticks, a small design team has created 3,418 individual new products that offer its customers a “timeless beauty” that has led to sales of over 46 million items around the world.

As a prolific designer of iconic cutlery and kitchenware, Robert Welch needed a 3D CAD software for solid modelling that was both functional and aesthetic. Working predominately in stainless steel, the company was developing a new plastic Signature Non-stick Utensil range and needed simulation and surfacing tools that would meet their high standards of precision engineering.”

### SOLIDWORKS

The company had been using Deskartes for its CAD modelling. When its design director Paul deBretton Gordon arrived nine years ago from Wedgwood, he found an old seat of SOLIDWORKS ‘knocking around’ that was unused and put it to the test.

“We quickly realised that SOLIDWORKS was a lot more advanced than what we had been using. I got the essentials from a 3-day NT CAD/CAM training course at their offices in Haddenham and from there I’ve been learning on the job. If we had any issues we could call up their technical team and when there was a product we couldn’t get to grips with, NT CAD/CAM would come out, stay with us for a few days and do some on-site training with us. As we got more designers onboard, we’ve quickly moved up to four seats of SOLIDWORKS Professional and now use it for practically 98 per cent of everything we make. It’s been the best package for us to use in terms of functionality and aesthetics.”

### The Design

Designing a new plastic Signature Non-Stick spoon was one of the hardest challenges Paul and hsi team faced, due to the surfacing issues. “On the face of it a big spoon looks very easy to design but due to the

### The Challenge

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surfacing issues it was one of the hardest we faced. We worked with NT CAD/CAM to get it exactly how we wanted it," says Paul. "From sketching out an idea, we like to get into SOLIDWORKS very quickly. From there, these utensils were designed purely in SOLIDWORKS, not even using a plastics add on. With a spoon you have different thicknesses and different areas that need to blend together perfectly. Surfacing within SOLIDWORKS gave us that control and we were able to create organic ergonomics in one single piece of plastic."

Using Finite Element Analysis, Paul also simulated for stress to see where the overloading was going to concentrate. "It's quite a big spoon and I wanted to know where it was going to bend. If we had built it the same thickness as the steel range, it wouldn't have worked. But by simulating we could avoid over-engineering and achieve the same optimum design that we use for our Signature stainless steel utensils."

#### Product Innovation

Robert Welch Designs continue to use SOLIDWORKS to innovate in every stage of their design process. Their Signature design pattern, which is a cross of four ovals, is made using Pattern Wizard in SOLIDWORKS and adds lightness to the metal throughout their signature range. It was one of the outstanding features in their award-winning Signature Cookbook and Tablet Stand at the Excellence in Housewares Awards 2014. The multi-functional stand features a fully adjustable arm, allowing for use with all sizes of tablet, book and thanks to a magnetic steel back, a single sheet of paper which can be held in place using two black magnets.

Paul also recently experimented with Power Surfacing for SOLIDWORKS, a new surfacing plugin to overcome some design challenges with their kitchen scissors. "We trialled Power Surfacing for our new scissors and it was very good for this type of product. You need a certain type of product to get the best out of this particular software, it is a very organic product and wasn't quite right for us to use it across our entire product range. However, at NT CAD/CAM's Dare To Design conference recently we were able to see the latest version and it has come on such a lot since we first worked with it. SOLIDWORKS and their Gold Partners do listen to the feedback from its user community. A lot of the issues and glitches we raised have been ironed out and we are now considering a full seat of Power Surfacing for SOLIDWORKS."

"NT CAD/CAM are very much part of that community and the design processes we use. They are always very helpful and we are confident they are the right partner for us in going forwards."

#### Benefits:

- Seamless Surfacing
- Award -winning products
- Accelerated development time
- Faster time to market

#### Industry:

- CAD Design/Consumer Products

#### Product Used:

- SOLIDWORKS Professional (4)



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