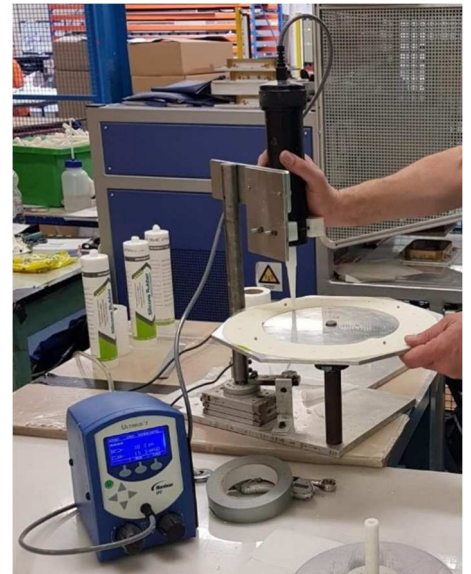


Flexible Adhesive with Precision Dispensing Reduces Production Costs and Provides a Better Bond

In this case study Techsil provided Speed Plastics Ltd with a flexible silicone adhesive and in collaboration with dispensing specialists Nordson provided a fast, reliable, consistent dispensing solution.

Our Customer

Speed Plastics Ltd



Techsil Products Used

Momentive IS5628E

And

Nordson EFD Ultimus 1 dispenser with a 310ml Cartridge assembly

Customer Benefits

- Reliable, uniform, flexible, repeatable bond
- Improved productivity and accuracy
- Less wastage of adhesive

Speed Plastics Ltd specialise in high frequency welding of flexible plastics such as PVC, polyurethane film, polyester and polyurethane-coated textiles. As well as manufacturing their own range of pioneering products, Speed Plastics also offer customers bespoke engineering solutions and are active in sectors such as healthcare, aviation, defence and marine.

Application

Speed Plastics were involved in manufacturing a Smoke Hood for a customer and needed a transparent flexible adhesive to bond the mouthpiece to the hood and to plan a method of production. They had tried a number of adhesives such as cyanoacrylates but these were proving too brittle and the contours of the mouthpiece made applying the adhesive by hand very tricky.

Solution 1 – Adhesive

The substrates were silicone rubber and cotton backed PVC and the bond needed to be flexible and reliable under duress and stress tests. Momentive's IS5628E silicone adhesive was recommended to them by one of Techsil's Application Development Engineers who are experienced in this sector. Momentive IS5628E is a transparent one-component, ready-to-use, high strength adhesive/sealant with a flowable consistency. On

exposure to atmospheric moisture at room temperature this product cures to a very tough, durable, resilient silicone rubber. It offers high and low temperature resistance (-60°C to +200°C) and provides excellent adhesion to silicone rubbers.

The material performed very well under stress tests and provided a reliable, aesthetically pleasing bond.

Solution 2 – Dispensing Method

With the right adhesive in place it was time to devise a semi-automatic production process. Speed Plastics required a system that produced a circular even bead of adhesive. Techsil and Nordson attended a production meeting at Speed Plastics and it was agreed that a Nordson EFD Ultimius 1 dispenser complete with a 310ml Cartridge assembly would be deployed. Speed Plastics devised a fly press that could be adapted to deliver adhesive via a dispenser. The hood and mouthpiece is placed on a turntable and is rotated 360 degrees during dispense.

Conclusion

This project has increased the speed of the manufacturing process. The Momentive IS5628E adhesive, produces a sound bond which is uniform and repeatable due to the automated dispensing. In addition adhesive wastage has been eliminated, which was an inevitability of hand application.

Contact us for more information on our range of adhesives and dispensing equipment:

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