Simple nozzle provides dramatic results for sealant dispensing

Loctite has introduced a new design of nozzle for automated dispensing of sealant, to provide a more even sealing bead without gaps due to air entrainment.

To ensure that a liquid gasket does its job effectively, the bead of sealant must be uniform and without any breaks. Problems occur when air bubbles find their way into the sealant, and effectively allow gaps to appear in the bead. If the gasket is being applied with a hand-gun, the operator may notice the problem and rectify the situation immediately. However, when the process is automated, the gap can go undetected.

Problems an be caused when relatively large-diameter nozzles are used to dispense sealant beads in order to achieve the required flow rate of sealant. The rapid movement of the robot causes the sealant to be pulled from the nozzle, which exaggerates any breaks in the bead. The use of smaller-diameter nozzles to reduce pressure can cause blockages.

The new, patented nozzle design is designed to minimize these problems. The size and shape of the outlet enables a small orifice size to be used, preventing the sealant from being pulled from the nozzle, while at the same time allowing air bubbles to be dissipated. The unique nozzle shape allows particles to pass through which would normally block conventional small-diameter designs.

One of the first places to use the new nozzle was a transmission plant. The company in question produced about 1750 components a day, and quickly noticed a considerable improvement in the quality of the joints since the air bubbles have been reduced. The gasketing bead is applied using automated equipment, and then inspected using a UV lamp as part of the process. Once applied, a camera is used to check the efficiency of the bead.

Prior to installing the new design nozzles at the robotic workstations, the rejection rate was greater than 5% caused by breaks in bead formation. Since the nozzle has been available, that rejection rate has been reduced to less than 1%. The new nozzle has been designed to fit existing dispensing equipment, so no modifications are required.

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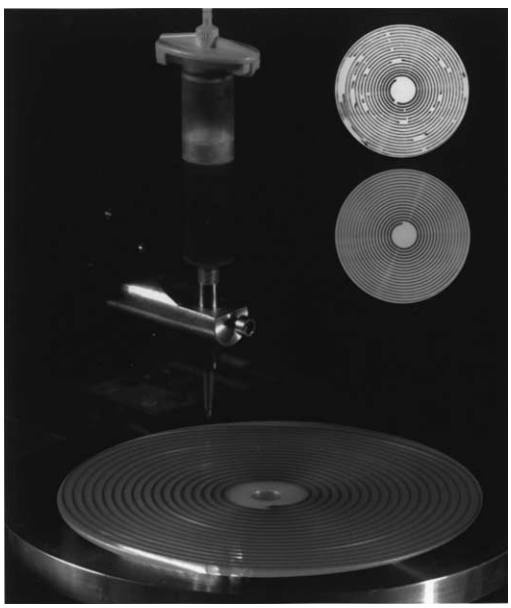

The new Tri-Nozzle from Loctite. The demonstration disks at top right show the result of using a conventional nozzle (top) and the new nozzle design (below).

ERRATUM

Correction: 'From API 682 1st Edition to the ISO 21049 standard'

The title of the feature in the November issue wrongly referred to ISO 1049, rather than ISO 21049 (although references in the text were correct). This is being corrected in the online version (at http://dx.doi.org/10.1016/S1350-4789(04)00411-8). We apologize for any confusion.

Speciality elastomers conference in Switzerland next spring

Rapra Technology has issued a 'call for papers' to be presented at the High Performance and Speciality Elastomers 2005 conference, to be held 20–21 April next year in Geneva, Switzerland.

If you have new materials or developments, application areas or case studies to present on at the conference, the organizers will be interested to hear from you.

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New appointments to support Garlock's European business

Garlock (Great Britain) Ltd has announced two new appointments to support its continuing development of the markets in Europe, Middle East, India and Africa (EMIA).

Stuart Phythian, until recently the company's UK sales & marketing manager, is relocating to Dubai as director of Middle East operations. Taking his place as head of the UK sales team is Darren Turner, who joins Garlock from a leading global group in the materials handling sector. Garlock says that Turner's understanding of the importance of product innovation to maintain market leadership was a key factor in his appointment.

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EnPro reports increased sales in Q3

Stronger markets lead to a 14% increase in sales over 2003 according, to the third-quarter report from EnPro.

Sales in the group's Sealing Products divisions improved by 15% to US$91.7 million, and were higher at each operation in the segment. Sales at Garlock Sealing Technologies were up 13%, primarily driven by higher sales to the nuclear power and steel industries, and to a lesser degree resulting from the effect of a stronger euro.

Sales also benefited from the inclusion of Pikotek, which was acquired in the fourth quarter of 2003. Sales at Stemco improved by 15%, reflecting a substantial increase in demand from Class 8 truck and trailer manufacturers, as well as increased after-market activity.

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