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Sonderhoff presents FIP Closed-Cell sealing technology

Fakuma 2018

Sonderhoff • Hall A5Stand A5-5109

At Fakuma 2018, the Sonderhoff Group will focus on the Formed-In-Place Closed-Cell (FIP CC) technology successfully introduced into the market last year. The highlight of the physical foaming process is that already at the metering stage, the closed-cell foam is stable in almost complete sealing dimension applied to the part contour. According to the company, FIP CC technology is therefore particularly suitable for 3D applications and process-oriented quality control.



The Fermapor CC seal made of polyurethane is robust and also ice water resistant. (Source: Sonderhoff)

The DM 402 CC mixing and dosing system developed for the new FIP CC foaming process will be demonstrated live at the Sonderhoff stand. It is used to meter the very fine-cell, predominantly closed-cell PU soft foam seals Fermapor CC. With a slightly glossy surface, the foam seals are also visually appealing. They have been developed especially for applications with high demands on water resistance. The seals combine the high water resistance of predominantly closed-cell material systems such as silicone foams and the cheaper mixed-cell PU foam seals. At the trade fair stand, the company will demonstrate the low water absorption of the CC foam seal with an endurance test for water resistance.

The Fermapor CC foam seals are room temperature curing two-component polyurethane-based systems that cure without oven or moisture. According to the company, they represent a less expensive alternative to one-component and silicone applications. Unlike comparable mixed-cell seals, the CC foam seals require less compression with the same sealing performance. A robust, mounting-resistant surface of the CC foam seal withstands possible mechanical stresses in the parts handling. Even after damage to the surface, such as tears, the water absorption changes only slightly. Fermapor CC foam gaskets are very weatherproof and even ice water resistant at water temperatures up to 1 °C. They comply with REACH/EC regulation 1907/2006 and RoHS and are generally used for sealing components at temperatures from –40 °C to 80 °C, for short periods even up to 160 °C.

The FIP CC application process with the dosing system DM 402 CC follows the well-known Formed-In-Place Foam Gasket (FIPFG) process. What is new is that already with the metering, the CC foam is applied stable to the component contour in an almost complete sealing dimension by physical foaming. As a result, the user can check immediately after applying the seal whether the seal has been applied at the same height over the entire component contour. Fermapor CC is therefore particularly suitable for 3D applications and process-oriented quality control.

In addition, foam density and hardness can be adjusted in the current process via the machine parameters. The DM 402 CC has a much shorter set-up time, because the classic air loading via the storage containers is eliminated. The change of material is easier, because no material circulation is necessary for the CC foaming process. This simplifies and speeds up potential process adjustments. Due to the increased efficiency of the FIP CC technology, automated seal foaming opens up new fields of application, said Sonderhoff.

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The Sonderhoff Group, since July 2017 part of Henkel AG & Co. KGaA, specialises in customised sealing, gluing and potting solutions with FIP(F)G technology. The company is a manufacturer of foam sealing, adhesive and potting systems based on polyurethane, silicone, or PVC, as well as mixing and dosing systems for the automated application of materials to industrial components. In addition, Sonderhoff also offers OEMs and suppliers individual automation concepts and application engineering consulting. At various toll manufacturing sites, the company provides foam sealing, gluing and potting of components for customers. The offering ranges from the sampling of prototypes over small series to mass production on a production scale.