

RAMPF Presents Gap Filler Know-How

Battery Show Europe 2019: New silicone elastomer RAKU[®] SIL 27-1004 / K-DP piston dispensing pump for maximum precision and speed

© RAMPF Holding GmbH & Co. KG

Page 1 of 3

Grafenberg, Germany, April 16, 2019. Material and machine for effective thermal management: At Battery Show Europe – Stuttgart, May 7 to 9, Booth 830 – the international RAMPF Group is presenting its new two-component silicone elastomer RAKU[®] SIL 27-1004 as well as K-DP piston dispensing pumps for processing highly filled and abrasive materials.

Gap fillers are mainly used in components of the power electronics and battery industries to close air gaps between the component and the heat sink. The high thermal conductivity of the gap filler is further increased by thinner glued joints and good wetting properties.

At Battery Show Europe 2019, the companies RAMPF Polymer Solutions and RAMPF Production Systems are presenting the following gap-filler highlights:

RAMPF Polymer Solutions – Gap-Filler RAKU[®] SIL 27-1004

RAKU[®] SIL 27-1004 is a soft, thermally conductive, paste-like, two-component silicone elastomer that features

- > very good thermal conductivity
- > quick reaction at room temperature
- > fast cure when exposed to heat
- > low shore hardness
- > good electrical values

The form-in-place resin system has a temperature range from -60 to +200 °C and is used, amongst others, in electronic assemblies in the automotive, electronic components, and computer industries.

K-DP Piston Dispensing Pumps



Enabler of electro mobility: In traction batteries, gap fillers ensure for optimum heat management – but only if the thermal compound is of the highest quality and efficiently processed.

RAMPF Production Systems has developed the low-wear, low-maintenance piston pumps KDP for the precise and high-speed application of gap fillers. KDP pumps are very versatile and can process thermal

RAMPF Presents Gap Filler Know-How

Battery Show Europe 2019: New silicone elastomer RAKU[®] SIL 27-1004 / K-DP piston dispensing pump for maximum precision and speed

pastes with a dispensing capacity of more than 10g/sec. The system works according to the principles of volumetric forced dispensing and, for the most part, processes independently of pressure and viscosity.

The servo-drive technology allows for a variable rate of material discharge, so that all mixing ratios for two-component materials can be adjusted. The optimum adaptation to the process conditions is rounded off by the servo-electric transmission principle.

Further Highlights at the RAMPF Booth:

- > **Silicone foam gaskets** – RAKU[®] SIL 37-1210 is listed with leading manufacturers in the automotive industry and exhibits low hardness and low compressive strength for low assembly forces. The foam also features high temperature resistance (up to 220 °C) and excellent chemical resistance. RAKU[®] SIL 37-1210 is used, amongst others, for sealing battery covers, charging stations, and charging connectors.
- > **Electro casting resins** based on polyurethane, silicone, and epoxy exhibit high thermal, chemical, and mechanical resistance. Battery sensors and charging stations, charging plugs for electric vehicles, relays, and transformers are reliably and efficiently protected against chemical substances and environmental influences such as heat, cold, and moisture.
- > **Automation of production facilities with integrated dispensing technology** – In addition to the company's competence of mixing & dispensing technology, RAMPF Production Systems also provides product-specific automation concepts, which include handling and robotics, component transport, control technology, and the recording of all process parameters with MES connection. Constructing tools and equipment, the pre-treatment of materials (activation), heat treatment, image processing, and sensors as well as contactless measuring technology are also part of the process automation portfolio.

RAMPF Presents Gap Filler Know-How

Battery Show Europe 2019: New silicone elastomer RAKU[®] SIL 27-1004 / K-DP piston dispensing pump for maximum precision and speed

www.rampf-group.com



The RAMPF Group stands for **engineering and chemical solutions** and caters to the economic and ecological needs of industry.

The range of competencies includes:

- > production and recycling of **materials** for modeling, lightweight construction, bonding, and protection;
- > technical **production systems** for precise, dynamic positioning and automation, as well as technologies for complex composite parts production;
- > comprehensive range of **solutions and services**, particularly for innovative customer-specific requirements.

With this know-how, RAMPF helps its customers to achieve profitable and sustainable growth.

The Group secures its presence on the international markets with more than 880 employees and six core competencies:

- > **RAMPF Machine Systems** based in Wangen (Göppingen), Germany, develops and produces multi-axis positioning and moving systems, trunk machines, and basic machines based on high-precision machine beds and machine bed components made from alternative materials.
- > **RAMPF Production Systems** based in Zimmern o. R., Germany, develops and produces mixing and dispensing systems for bonding, sealing, foaming, and casting a wide variety of materials. The company also offers a wide range of automation skills relating to all aspects of process engineering.
- > **RAMPF Composite Solutions** based in Burlington, Ontario, Canada, is a holistic composites supplier to companies in the aerospace and medical industries. The company offers a complete suite of services including composite part design and engineering, metal-to-composite conversion engineering, and composite manufacturing to very tight tolerances.
- > **RAMPF Eco Solutions** based in Pirmasens, Germany, develops chemical solutions for the manufacture of high-quality alternative polyols from PU and PET waste materials. This expertise is also put to use in the planning and construction of customer-specific facilities for manufacturing polyols.
- > **RAMPF Polymer Solutions** based in Grafenberg, Germany, develops and produces reactive resin systems based on polyurethane, epoxy, and silicone. Its product portfolio includes liquid and thixotropic sealing systems, electro and engineering casting resins, edge and filter casting resins, and adhesives.
- > **RAMPF Tooling Solutions** based in Grafenberg, Germany, develops and produces board and liquid materials for cutting-edge modeling and mold engineering. The range of skills includes made-to-measure services and products such as pastes, large-volume and full-size castings for Close Contour models, and prototyping systems.

RAMPF has subsidiaries in Germany, the U.S., Canada, Japan, and China.

All RAMPF companies are united under a holding company – RAMPF Holding GmbH & Co. KG – based in Grafenberg, Germany.

Published by:
RAMPF Holding GmbH & Co. KG
Albstrasse 37
72661 Grafenberg
Germany
T + 49.71 23.93 42-0
F + 49.71 23.93 42-2050
E info@rampf-gruppe.de
www.rampf-group.com

Your contact for images and further information:
Benjamin Schicker
RAMPF Holding GmbH & Co. KG
Albstrasse 37
72661 Grafenberg
Germany
T + 49.71 23.93 42-1045
F + 49.71 23.93 42-2045
E benjamin.schicker@rampf-gruppe.de