

Plastics for medical technology

**CYROLITE® meets the highest standards for plastics for the centric plate system (Zentrik-Platten-System – ZPS®) from Baumann Dental**

- **Baumann Dental is relaunching the proven Zentrik-Platten-System (ZPS®) with CYROLITE®**
- **CYROLITE® medical plastic is biocompatible, resistant to disinfectants and easy to process**
- **Röhm impresses with material quality, delivery reliability and service**

Manufacturing dental prostheses is one of the most complex tasks in dentistry. It requires absolute precision on the part of the dentist and dental technician. Empathy is an important factor as well, considering that the final product directly impacts the patient's health and quality of life. Therefore, all materials used for oral products must meet the highest standards for quality and biocompatibility. The CYROLITE® molding compounds from Röhm completely fulfill these fundamental requirements. CYROLITE® molding compounds are acrylic-based copolymers which were specifically developed for medical applications.

Baumann Dental, an international manufacturer of dental equipment, uses the CYROLITE® G-20 material to manufacture its Zentrik-Platten-System (ZPS®) and relaunch this classic industry product. This product plays a decisive role to ensure that dentures are subsequently custom-fit and positioned comfortably in the patient's mouth.

The ZPS® system consists of a plate for the upper jaw and one for the lower jaw and a small register plate made from CYROLITE® G-20, as well as a centering screw. This system is inserted in the patient's mouth to determine the maxillomandibular relationship and analyze the individual movement mechanisms between upper and lower jaws. The centric register is then prepared in the dental laboratory. The dental technician adjusts the upper and lower jaw plates of the ZPS® by grinding them to the size of the bite templates created on the patient in advance, and then bonding these to the plates.

**High demands on processing and durability**

"The requirements for the material used to manufacture our ZPS® plates are numerous" says Wolfgang Dawedeit, CEO at Baumann Dental. The requirements include: "Easy processability for high volume injection molding and machinability without smearing or burning. Good ductility and flexibility are also required to prevent breakage during the threading of the centering screw in the upper jaw plate. In addition, the plate material also needs to be able to be glued to other dental plastics, or joined using cold polymerization. Finally, it also needs to be resistant to many chemicals, particularly virucidal disinfectant agents." CYROLITE® G-20 has impressed Dawedeit in all these aspects.

**CYROLITE®: Plastics specifically for medical technology**

"Our CYROLITE® molding compounds are amongst the highest performance, acrylic-based medical plastics in the world," says Siamak Djafarian, Head of the Molding Compounds business unit at Röhm. Sergio Corbella, Director Medical Europe at Röhm, adds: "We have equipped these plastics with carefully balanced properties, enabling them to be used for numerous applications in medical technology. They provide the best properties for processing and can be joined to other materials using various methods. CYROLITE®

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products are impact-resistant and very robust, as well as resistant to bodily fluids, pharmaceutical agents and a myriad of chemicals.”

### **Ideal for medical products**

It is vital that medical products are safe in every regard. Röhm’s medical plastic fully meets this requirement and is free of Bisphenol A. “Our Zentrik-Platten-System made from CYROLITE® met all the requirements of the cytotoxicity tests,” says Dawedeit. He also confirmed that the CYROLITE® product successfully passed the “Biological evaluation of medical devices DIN EN ISO 10993-5 Tests for in vitro cytotoxicity” as well as “10993-10 Tests for irritation and skin sensitization” performed at the HygCen Germany medical product testing laboratory.

### **Reliable material availability and service**

“Alongside the product properties, the availability of CYROLITE® G-20 and the customer service were the main arguments for choosing Röhm,” praises Dawedeit. “The best material is of no use if it’s not available. Röhm delivers reliably, and all my requests were processed within a short period of time. We also received all the required data sheets for our MPG documentation.” The Medizinproduktegesetz (medical product law, in short: MPG) is the national implementation of EU Directives for medical products. Baumann Dental was therefore able to relaunch the ZPS® made from CYROLITE® G-20 in compliance with the Directives for medical products.



The Zentrik-Platten-System (ZPS®) from Baumann Dental is comprised of a plate for the upper jaw and one for the lower jaw and a register plate made from CYROLITE® G-20, as well as a centering screw.

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In the dental laboratory, the dental technician glues the bite templates created using an imprint from the patient, to the upper and lower jaw plates of the ZPS®. The modeled impression is subsequently clamped in an articulator to simulate jaw movements.

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#### **About Röhm**

With 3,500 employees and 15 production sites worldwide, Röhm is one of the world's leading manufacturers in the methacrylate business. The medium-sized company with branches in Germany, China, the USA, Russia, and South Africa has more than 80 years of experience in methacrylate chemistry and a strong technology platform. Our best-known brands include PLEXIGLAS®, ACRYLITE®, MERACRYL™, DEGALAN®, DEGAROUTE® and CYROLITE®.

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