

Greater efficiency thanks to transparency

ACIS manufactures efficient filter technology for swimming pools with a transparent ACRYLITE® housing

- **Pool equipment manufacturer ACIS has designed powerful cartridge filters with transparent cylinders made from Röhm's PMMA molding compounds**
- **Transparent filter chambers reduce the time and effort required to clean and replace filters**
- **ACRYLITE® Resist is robust, pressure-proof and resistant to pool chemicals**

Sand filter or cartridge filter? This is a fundamental question to operators of swimming pools. Those two systems require cleaning after a certain amount of time, depending on the size of the pool and many factors. Cartridge filters must be removed frequently for cleaning or replaced after a certain period of time, as dirt adhering to the filter compromises its performance. With systems of this type, it is highly advantageous to equip the cartridge filter with a transparent filter chamber, making the level of contamination easily visible from the outside. Compared to opaque housings, this saves time and effort when maintaining the pool and ensuring water quality, as the filter cartridge only has to be removed when necessary.

The French company ACIS, a specialist for high-quality swimming pool equipment, is one of the few manufacturers that also offer very large cartridge filters with completely transparent filter chambers. They are made of ACRYLITE®, the brand polymethyl methacrylate (PMMA) from Röhm in the Americas.

According to the ACIS design office, ACIS is the first manufacturer to market transparent cartridge filters in such large sizes. In Vipool 6-Clone filters, the ACRYLITE® chamber takes up as much as 67 percent of the housing. Depending on the model it is 266 or 516 millimeters tall and has a diameter of 300 millimeters. These powerful cartridge filters are a resource-saving alternative to sand filters in pools with a volume of up to 95 cubic meters, as the regular backflushing required for sand filters consumes a lot of tap water, state the product designers.

ACRYLITE® offers the right material properties

“For our Vipool 6-Clone cartridge filters, we were looking for a material that is transparent while also being highly robust and resistant to chemicals,” explains Laurent Lévêque from the ACIS design office, describing the requirements for product development. “We chose ACRYLITE® because this established brand is well known for the high quality of its products. In addition, Röhm was able to supply the molding compound product in a finishing that matched our product design perfectly.” The cylinder is made of impact-resistant ACRYLITE® Resist in a transparent, smoky gray color that blends in with the black of the housing and base plate.

“ACRYLITE® is a high-quality and durable plastic for all kinds of molded parts. Our molding compounds are available for transparent applications in various degrees of transmittance, with a wide range of properties and in virtually any color,” comments Françoise Schmit, Senior Business Manager at the Molding Compounds business unit of Röhm GmbH.

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Transparent material for the filter – clear water in the pool

Despite their economic and ecological advantages, cartridge filters made from transparent materials are not the standard in the pool filter market. According to the ACIS design office this is because manufacturing them is technically complex as the housing has to withstand intensive mechanical and chemical loads. Ideal material and processing properties are essential for large transparent components in particular, such as the Vipool 6-Clone pool filters from ACIS.

Resistant to impacts and pressure

ACIS specifies strict quality criteria to ensure that the cartridge filters offer the very highest degree of toughness during both installation and operation. The housing must be shockproof and pressure-resistant. Lévêque clarifies what this means: “With regard to safety and longevity, our cartridge filters comply with the standard NF EN 16713-1. This requires that they withstand a maximum static test pressure of 3.5 bar as well as cyclical pressure fluctuations. All of our filters are tested carefully before they leave our plant in France. In everyday use, they are exposed to an operating pressure of 0.8 to 1.4 bar.” Alongside mechanical stability, chemical resistance was also a crucial factor for ACIS when selecting a material.

“We recommended our ACRYLITE® Resist zk5HC for the special requirements of the pool filter,” says Schmit. And she adds: “ACRYLITE® Resist is impact-modified and very robust. In addition, the products from the zkHC range possess very high stress crack resistance, which means this material is especially well suited for parts that come into contact with chemicals.”

ACRYLITE® Resist withstands pool chemicals and UV radiation

A swimming pool is a complex chemical environment with fluctuating water quality and a variable pH value. Pool operators have to monitor the water quality constantly and keep it at an equilibrium. Among other methods, they use chlorine to fight bacteria and add other chemical additives such as acids or bases to regulate the pH value. “That’s why an appropriate degree of chemical resistance is essential for the longevity of our pool filters,” stresses Lévêque.

The brand PMMA from Röhm also contributes to the longevity of the filters thanks to its outstanding UV stability, as it does not turn yellow or brittle even when subjected to intensive solar radiation. The transparent cartridge filters for swimming pools are just one of many examples of how ACRYLITE® molding compounds can contribute to sustainable product design with their varied properties.

[Images]



ACIS manufactures the Vipool 6-Clone cartridge filters in four sizes, each with a transparent cylinder made of smoky gray ACRYLITE® zk5HC from Röhm. The chambers are between 266 and 516 millimeters tall, with a diameter of 300 millimeters and a wall thickness of 6 millimeters.

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Only change filters when it is needed: The level of contamination of the filter leaves is clearly visible thanks to the transparent filter chamber made of ACRYLITE® molding compound, here in a gray color. This saves both time and effort for pool operators.

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Tested safety and longevity: The cartridge filters from ACIS comply with the standard NF EN 16713-1. The housing with the filter chamber must withstand a test pressure of 3.5 bar. This is no problem for ACRYLITE® Resist, as it is highly robust and pressure-proof.

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