Article

Schaffhausen
5 December 2022

The triumph of polyethylene: over 25 years of ELGEF Plus by GF Piping Systems

The ELGEF Plus electrofusion system by GF Piping Systems, the leading provider of flow solutions made of plastic, has already been on the market for over 25 years. Three men who paved the way for the product explain how ELGEF Plus was developed and why it still holds a place in the company's portfolio.

An exotic material thirty years ago, polyethylene (PE) is now an industry standard for the transport of water and gas. The advantages compared to metal materials are clear: PE is corrosion-free and requires very little maintenance which makes it a durable and cost-effective material, while its low weight makes the components easy to handle. At the same time, PE systems can be quickly and easily installed with processes such as electrofusion or butt welding. This is made possible with modular systems such as ELGEF Plus by the Swiss company GF Piping Systems. ELGEF Plus is a solution for pressurized piping systems used for water, gas, and multiple industrial applications.

However, the predecessor ELGEF 24V had a hard time in the early 1980s, as Dr. Nabil El Barbari, who was Product Manager for the utility segment at the time, remembers. "The utility industry is particularly conservative and was skeptical about the new material PE80." But the 24V ELGEF system actually had a number of important benefits. It included an automated electrofusion machine that only featured one button. In addition, fittings in certain dimensions shrank when they were exposed to heat which led to especially secure connections. "Initially, many companies did not know how to work with polyethylene," Martin Reisacher adds. As an expert for electrofusion and butt welding, he has visited many countries over the years to conduct training sessions. "But when the utilities recognized that polyethylene could offer them a corrosion-free and durable alternative to traditional piping systems, interest quickly grew. Because of this, we introduced training sessions at an early stage to demonstrate what is possible. The GF certificate is still a valid welding certificate in some countries."

In a dynamic market where an increasing number of suppliers was focusing on PE, GF Piping Systems wanted to continue developing its modular system for pressurized piping systems and therefore presented ELGEF Plus 25 over years ago. "The 'Plus' signaled an evolution of proven technology," explains El Barbari. At the time, he was the project manager of the new development and fondly remembers the interesting development phase. "GF Piping Systems has always enjoyed close relationships with industry associations and international standardization bodies. As a result, we knew the needs and requirements very well." This close exchange not only impacted the material for ELGEF Plus but also determined important functionality. "The customers decided what the product had to be capable of," he adds. "Additionally, we had a strong focus on cost-effectiveness and automation, which meant that all parties from the product development team to the logistics and product engineering departments combined forces – it was pretty much simultaneous engineering," El Barbari laughs.

The result was a system that introduced two important new features. The first was traceability – customers were able to completely trace all products and materials with the help of a bar code, which made construction projects more transparent and easier to manage. "We also developed a tapping saddle with a rotatable outlet for ELGEF Plus," Peter Barth emphasizes, who supported and shaped the ELGEF Plus product family for many years. "This meant that customers could reduce their storage costs and rely on the modularity of the system."

Looking towards the future, the experts from GF Piping Systems believe there are still many opportunities as the market has drastically changed since the introduction of ELGEF Plus, according to

Martin Reisacher. “On a technological level, much more is possible today. For polyethylene, dimensions above d315 mm used to be impossible, now they go up to d1600 mm or d2000 mm. Thanks to continuous development, the system is now also suited for increasingly important applications such as transporting hydrogen or energy networks.” Sustainability is especially important for the future, as Dr. Nabil El Barbari stresses: “Polyethylene can make an important contribution to climate protection due to its durability and recycling capabilities. Customer proximity and an openness to new technologies will continue to play an important role in order to find solutions for the challenges of tomorrow.”

For further information, please contact
Constanze Werdermann, Global PR Manager
+41 (0) 76 33 99 218, constanze.werdermann@georgfischer.com

About GF Piping Systems
As the leading flow solutions provider for the safe and sustainable transport of fluids, GF Piping Systems creates connections for life. The division focuses on industry-leading leak-free piping solutions for numerous demanding end-market segments. Its strong focus on customer-centricity and innovation is reflected by its global sales, service, and manufacturing footprint and its award-winning portfolio, including fittings, valves, pipes, automation, fabrication, and jointing technologies.

GF Piping Systems has its own sales companies in 31 countries, which means it is always by its customers' side. Production sites in 36 locations in America, Europe, and Asia ensure sufficient availability and quick, reliable delivery. In 2021, GF Piping Systems generated sales of CHF 1'971 million and employed 7'686 people. GF Piping Systems is a division of Georg Fischer AG, founded in 1802 and headquartered in Schaffhausen, Switzerland.
www.gfps.com

	Source: GF Piping Systems "Application of ELGEF Plus"
	Source: GF Piping Systems "Product Range of ELGEF Plus"

	Source: GF Piping Systems "Among ELGEF Plus experts" From left to right: Martin Reisacher, Dr. Nabil El Barbari, Peter Barth