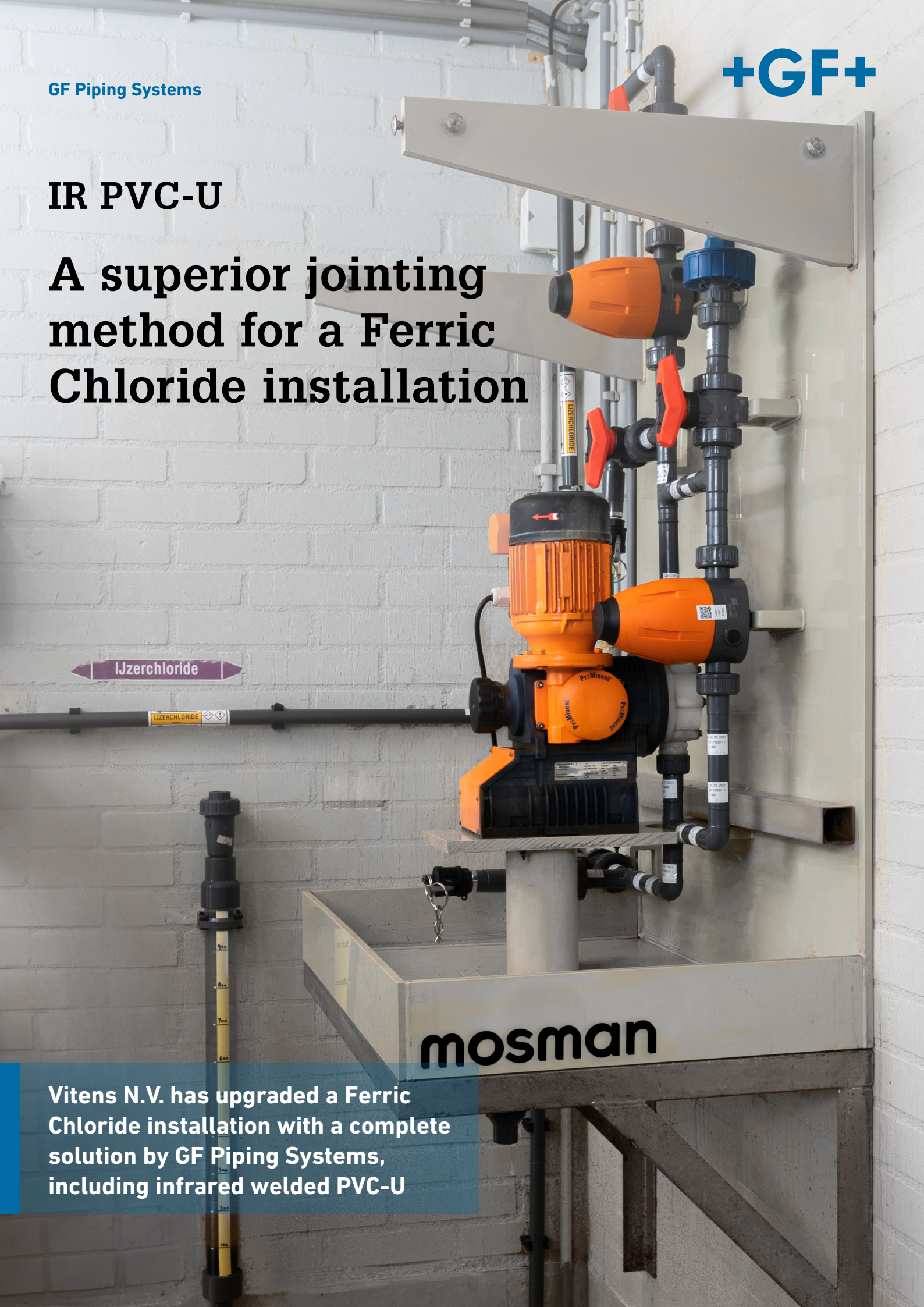


IR PVC-U

A superior jointing method for a Ferric Chloride installation



Vitens N.V. has upgraded a Ferric Chloride installation with a complete solution by GF Piping Systems, including infrared welded PVC-U

Increased performance and reduced downtime thanks to infrared welded PVC-U

Vitens N.V. is the largest water company in the Netherlands and delivers 350 million m³ of water to 5.6 million people every year. As a result, Vitens has a responsibility to provide the highest possible quality to its customers throughout the country. After cemented pipe joints in a Ferric Chloride installation started experiencing leakages, the company commissioned Mosman Installatie en Kunststoftechniek to replace and improve the system. The Dutch specialist for plastic installations decided to implement a new infrared welded PVC-U solution as well as valves by GF Piping Systems. IR PVC-U was designed as a consistent, safe, and reliable alternative to cemented pipe connections.

Project background

Ferric Chloride, or Iron (III) Chloride (FeCl₃), serves as a flocculant in the treatment of potable water and is used to coagulate particles so they can be removed prior to distribution. Accordingly, Vitens uses Ferric Chloride installations to coagulate particles that are present in the water inlet. The filtration system is part of the groundwater intake and treatment process. For customers this means clear, healthy, and visually appealing water. With a FeCl₃ concentration of 40% at ambient temperatures and a pressure of 4 bar, Vitens relied on cemented PVC-U pipes with EPDM gaskets as a dosing system for three decades. When the cemented installation started showing signs of old age, Vitens and the installation company Mosman made the decision to replace the system entirely with a complete IR PVC-U solution.

Selected technical solution

Infrared welded PVC-U is a new development by GF Piping Systems for chemical processing and water treatment applications. It combines the proven benefits of PVC-U as a material with modern infrared welding machines. Due to a machine-controlled process, variables such as temperatures, jointing times, and cooling periods are consistent and repeatable. The welding machines are also capable of detecting any deviations from the defined parameters, while a printer provides labels that offer full traceability. In addition, Mosman selected the Ball Valve 546 Pro and the Pressure Retaining Valve 586 to avoid pressure build-ups and ensure a safe operation.

Achieved improvement

While cemented joints are very common in many industries, they can be prone to chemical corrosion with certain media. Thanks to advancements in infrared welding and the specialized support of both Mosman and GF Piping Systems, Vitens could avoid potential issues as IR-welded joints do not require solvents. Another

benefit for the Dutch water supply company is that the previous system could be replicated with reproducible, fully logged pipe joints that result in a higher quality weld and a lower risk of failures. Moreover, welding eliminates the waiting periods that are typical for cemented pipes. Downtime was therefore significantly reduced during the project, and the Ferric Chloride installation was quickly operational again after receiving a BRL- SBIK 7800 certification.



Source: GF Piping Systems

Customer benefits

- IR PVC-U combines the strengths of PVC-U with modern welding machines that ensure consistent, safe, and reliable pipe connections
- Improved system life thanks to high chemical resistance of IR welded joints.
- GF Piping Systems offers complete solutions for the water treatment sector, ranging from pipes and fittings to measurement and control technology, as well as Process Automation

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