

CASE STUDY:
**FUEL STORAGE SOLUTIONS
LIMITED (FSS)**

GEBERIT MAPRESS

THE PERFECT CHOICE FOR BUNDED PIPEWORK

→ www.geberit.co.uk/mapress



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PROJECT OVERVIEW

Fuel Storage Solutions Limited (FSS) is a Bradford-based company that offers a wide range of fuel-related services to organisations across the UK. Founded in 2002, the company initially specialised in the storage of liquid fuel and oil, ensuring that regulatory requirements were met. Since then it has expanded its services to include the design, supply and installation of tank and fuelling systems, with the majority of the company's applications today relating to diesel fuel.

With the UK's stringent diesel environmental regulations, FSS started looking into the option of 'pipe-in-pipe' bundled pipework for the safe storage and transportation of fuel: the inner pipe acts as the system's supply pipe and the outer pipe provides an additional barrier preventing leakages. This system can offer many advantages, particularly for the supply of fuel and chemicals.

SPECIFYING THE SOLUTION

The company first needed to find a material for its bundled pipework innovation in order to help them replace the need for on-site welded steel pipework.

Jonathan Barnett, Managing Director at FSS, explains the background to developing its unique engineering solution: "Traditional methods for fuel supply systems are either welding or threading. Neither is perfect. If you're cutting and threading, for instance, this has to be inspected weekly for any applications involving fuel.

"The other option is then welding which can be very invasive. It involves hot-works on site and a great deal of noise making it not only expensive but also time-consuming and disruptive."

Jonathan was, therefore, keen to start exploring the option of bundled pipework: "Bunded systems offers some real advantages over a single skin system," he continues. "The main one is that we have a secondary containment. If the inner pipe were to ever leak, for instance, it would be caught in the outer pipe. This enables us to monitor for leaks and then detect these immediately."

The team turned to Geberit Mapress stainless steel for the pipework in its bundled solution. Geberit Mapress is a highly effective press-fit supply system used across a diverse range of applications. With no hot works, press-fit systems have been proven to take 30% less time to install than alternative methods according to a BRSIA report. Coloured pressing indicators offer easy identification of both material and unpressed joints during the installation process, with reduced flushing time and a cleaner installation process. There is also no need for lubrication and joints will leak until pressed to show incomplete pressing during pressure testing. This means there's no need to drain the system as it can be fixed wet.

In 2016, FSS became the only company in the world to offer a bundled, press-fit piping solution. The patented APIApipe system is now capable of carrying more than 3,000 different fluids. Crucially, too, it means that any system can be monitored 24/7 for leaks in both the inner and outer pipes.

→ Geberit Know-How

Challenge: Pipework solution required for the safe storage and transportation of fuel

Solution: Patented APIApipe bundled system created using Geberit Mapress

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CHOOSING GEBERIT

"We met with Geberit a few years ago to develop this with Mapress in mind. We chose Geberit because we just really like the product. It was extremely durable and, of course, offered us with a press-fitting solution which meant reduced costs and increased efficiencies – and, for us, going for the press-fit option was half the cost of welded alternatives.

"Quite simply, anything hazardous to health or dangerous to environment can now go through this bundled solution," Jonathan continues. "It has taken a lot of clever engineering and experimentation to make sure that this engineering solution we have developed is both effective and robust. Geberit has provided us with the material and press-fit system to help deliver this."

He adds: "The nature of a lot of the applications we are specifying our APIA pipe bundled system in means that there is no room for any failure. We need to offer a system that is as close to a fail-safe solution as we can. We needed a reputable manufacturer and robust product to work with on this."

The APIA pipe system has since been used across a range of applications, including data centres for high-street banks, hospitals and Ministry of Defence sites.

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