

CASE STUDY:
KLONDYKE GARDEN CENTRE

GEBERIT MAPRESS CARBON STEEL INSTALLED AT GARDEN CENTRE FOR **RELIABLE AND ENVIRONMENTALLY CONSCIOUS HEATING SYSTEM**

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PROJECT OVERVIEW

Klondyke Garden Centre in Polmont, Falkirk, reopened its doors in 2021 after a major refurbishment which included a large extension, additional retail space and a new 300-seater restaurant with separate coffee bar.

In the search for an environmentally friendly and reliable heating system, Klondyke was keen to avoid the use of chemical inhibitors for the heating system in the multi-million pound refurbishment. Inhibitors are generally used to prevent rust and internal corrosion from occurring inside heating systems.

Instead, it combined innovative monitoring technology with Geberit's precision carbon steel pipes to achieve a long-lasting system which offers a high level of protection with early warning if problems should occur.

WHY GEBERIT?

M&E contractors VWG Mechanical Limited designed a system which is both automatically vacuum degassed and pressurised, taking advantage of soft local water to minimise oxygen content and corrosion build up. It also includes innovative Risycor electronic coupon method (ECM) monitoring of corrosion and pressure for ongoing protection. When maintained with minimal system water loss and vacuum degassed make up, it is expected to last for at least 25 years.

The system uses both Geberit's Mapress press fit system, with precision carbon steel pipes, SpiroPress Vacuum degassing and auto makeup (when required) the Risycor ECM monitor for enhanced corrosion protection. Durable, proven over many years and more cost-effective than stainless steel and copper (subject to copper prices), carbon steel offers a viable solution for closed water systems if monitored and protected properly.

In addition, Mapress is quicker to install than traditional jointing methods because it requires no hot works, no soldering and no threading. It is designed so that any connections not pressed during installation can be visibly detected during testing as it would purposefully leak. The unique pressing indicator consists of a thin plastic foil encasing the pressing shoulder, which gives a visible indication of a pressed joint when the foil is removed during the pressing operation.

DELIVERING THE SOLUTION

The new system offers Klondyke an environmentally-friendly and reliable heating system, safe in the knowledge that manufacturer and contractor have worked together to complete an effective solution to overcome the corrosion challenge. Early monitored evidence from the project demonstrates the success of the installation.

Chris Dooling, managing director of VWG Mechanical Limited, said: "We're aware of recent negative press surrounding carbon steel yet we've never lost confidence in the material or doubted its reliability. We chose Geberit Mapress carbon steel along with Electronic Coupon Method (ECM) monitoring for this project because of the cost benefits, as well as the technical expertise and support provided by Geberit and HASL. It has enabled us to proactively respond to any maintenance requirements, ensuring smooth operation and longevity of the system."

Gordon Pringle from distributors HASL said: "By adopting correct installation and mechanical procedures alongside cost effective monitoring to alert those responsible when things go awry, they can respond timeously to provide proactive maintenance as and when required. Condition based maintenance as it should be."

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→ Project information

Location: Klondyke Garden Centre, Polmont, Falkirk

M&E Contractor: VWG Mechanical Ltd

Project Completion: September 2021

→ Geberit Know-How

Challenge: Installation of cost effective, reliable and environmentally conscious heating system

Solution: Geberit Mapress Carbon Steel, in conjunction with Electronic Coupon Method (ECM) monitoring



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The following graphs are from the Resus PC Dashboard software that is used for reading and analysing the corrosion monitor data.

GRAPH 1

The peak corrosion rate in October was due to maintenance on the system. The monitor shows that the associated equipment quickly returned the system to optimal levels without the need for intervention. A system comprised of steel is expected to have an average yearly corrosion rate of below 7 microns and should last for a minimum of 25 years.



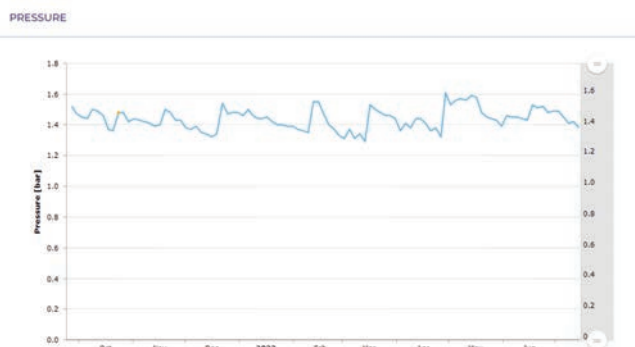
GRAPH 2

Although the temperature is fluctuating, the corrosion rate remains fairly constant throughout (as shown in Graph 1). Corrosion rates are directly proportional to temperature.



GRAPH 3

The pressure graph shows the system remains optimal throughout the same period. A drop in pressure would indicate a system problem which would need intervention. Additional water entering the system after a pressure loss would result in a temporarily increased corrosion rate.



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