

RAPID PERMANENT SOLUTION TO PRESSURE MAINS SEWER REPAIR

Repairing pressure mains under busy main roads can cause major disruption and environmental impact. To overcome such problems, West of Scotland Water (now Scottish Water) engaged no-dig specialist Insituform Technologies, who have a special pressure rated product, Thermopipe. In less than 20 days, subcontract installer, McGarvey Construction, installed 2063 metres of Thermopipe liner under the busy Carscallan Road in the village of Quarter near Hamilton.

([PRWEB](#)) May 18, 2002 -- Repairing pressure mains under busy main roads can cause major disruption and environmental impact. To overcome such problems, West of Scotland Water (now Scottish Water) engaged no-dig specialist Insituform Technologies, who have a special pressure rated product, Thermopipe. In less than 20 days, subcontract installer, McGarvey Construction, installed 2063 metres of Thermopipe liner under the busy Carscallan Road in the village of Quarter near Hamilton. The sewer in question was a 150mm diameter cast iron main rising 30 metres over its total length. This was buried at an average depth of 1.5 metres below the carriageway. Previously, patch repairs to the sewer had been undertaken after sporadic failures. However, a need to uprate pumps in the system, demanded a more permanent solution to the problem. The depth, length and location of the pipe meant conventional open trench renewal would have been expensive, taken longer and caused excessive disruption. Therefore, pressure tolerant no-dig rehabilitation became essential.

Insituform's Thermopipe lining system uses a pre-formed polyester reinforced polythene pipe to produce a permanent repair in minimal time. The flexible pipe is folded into a C shape and winched into the host pipe. Little preparatory work is required at entry and exit points. Once positioned the pipe is inflated by gas/steam pressure and conforms to the shape of the host pipe.

The flexibility of the new liner accommodates minor irregularities in the host pipe. Once installed, the ends of the liner are trimmed. Patented end couplers are then fitted to secure the liner and seal the gap between the new liner and the host pipe. The Hamilton installation used a heavily reinforced material to withstand pressures of up to 17 bar. Despite this the high strength liner has a thickness of only three millimetres, causing minimal loss of cross sectional area. The smoother internal surface will also improve flow characteristics.

To complete the installation as quickly as possible, McGarvey's undertook installation in runs of up to 300 metres. Daytime traffic management was by temporary traffic lights and, at night, access holes were fitted with steel plates to permit normal traffic flow. There were some technical difficulties to overcome. At one point the liner had to be installed through a 90 degree bend and there are also 45 degree bends in the main. The flexibility in the material allowed this to be accomplished.

The alternative of conventional relay would have had huge direct and indirect costs. Work would have been required over many months. The local community would have been severely disrupted and the environmental impact of hundreds of HGV movements for the transfer of tons of material would have been severe.

Hi-res picture for this text is on the web at www.ainsmag.co.uk/in198/3280in1a.htm



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