

CASE STUDY

SAINT-GOBAIN PONT-À-MOUSSON'S 'NATURAL' EXTERNAL COATING SYSTEM FOR DUCTILE IRON PIPE

Background

The 'Natural' coating was developed by Saint-Gobain PAM (France) for the protection of ductile iron pipes.

The protection system is a metallic coating comprising of a zinc alloy applied to the pipe by spraying and topped with a scratch-resistant epoxy finishing coat.

It is intended to provide active corrosion protection from the zinc alloy and passive protection for both the pipe and the alloy from the epoxy coating.

Scope of assessment

To assess the mechanical properties of the coating system.

To assess the validity of comparisons of the performance of the 'Natural' coating system with that of current corrosion protection systems.

Programme

1. The mechanical properties of the product were assessed for:

- corrosion protection in factory-applied condition – thickness and adhesion tests
- resistance to damage – impact, weathering, stone drop tests
- corrosion protection under damaged coating conditions – salt spray tests

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2. An audit was carried out on the experiments used to demonstrate the corrosion resistance of the zinc alloy coating compared to zinc.

3. An audit of the model used by Saint-Gobain to compare the effectiveness of the 'Natural' system with that of current protection systems.

Results

It was concluded that the 'Natural' coating system was equal or better in all aspects of performance to existing protection systems. It met the requirements of assessment schedule PT/130/0401-AS. Certificate PT/130/0401 was awarded in April 2001.

