

Assessment of Saint-Gobain's zinc/aluminium alloy coating with epoxy top coat - schedule



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1. Scope

To assess the performance and effectiveness of the zinc/aluminium alloy coating with epoxy top coat for the external protection of ductile iron pipes developed by Saint-Gobain PaM.

The 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.

The system is produced by:
Saint Gobain Pipelines (UK)
Saint Gobain Canalización (Spain)
Saint Gobain PaM (France)
Saint Gobain Gussrohr (Germany)

Note: This product was previously approved under the name of 'Natural' external pipe protection system.

2. Assessment schedule

2.1 Technical audit of the mechanical properties of the coating system.

2.2 Technical audit of investigations comparing the effectiveness of the system with those of the current corrosion protection systems commonly used in the range of soils found in the UK.

3. Review of properties

From a comparison of standards and current UK Water Industry requirements, the following properties are deemed important. These are to be checked in the technical audit where possible.

3.1 Technical audit of mechanical properties of coating system.

3.1.1 Corrosion protection of the pipe in factory-applied condition

- Specification of product (thickness, coating density)
- Adhesion of epoxy to the zinc alloy and of the zinc alloy to pipe surface

3.1.2 Resistance of system to damage during handling and storage

- Impact
- Weathering
- Stone drop test (backfill)

3.1.3 Corrosion protection of the pipe under damaged coating conditions

- Salt spray test on damaged coatings

3.2 Technical audit of investigations

3.2.1 Audit of experiments comparing the corrosion resistance of the zinc-only coating with that of the zinc alloy system under the same conditions.

3.2.2 Audit of the use of the Saint-Gobain PaM corrosion model to compare the effectiveness of the System with those of the current corrosion protection systems commonly used in the range of soil types found in the UK⁽³⁾.

4. Reference documents

1. EN 545 Ductile iron pipes, fittings, accessories and their joints for water pipelines – Requirements and test methods.
2. WIS 4-52-01 Water Industry Specification for polymeric anti-corrosion (barrier) coatings.

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3. WRc Report UC 3841 April 2001.
The performance of the 'Natural' coating for the external corrosion protection of ductile iron pipes.

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