

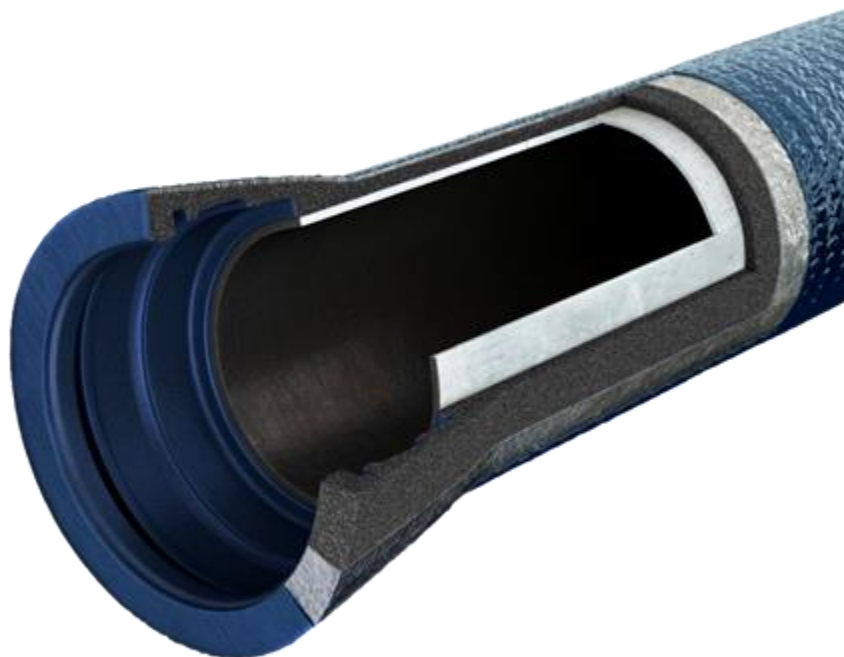
DIMAX TYTON® Z+ COATING SYSTEM

ZnAIRE 400 EXTERNAL PROTECTION



FEATURES

- Extends service life of pipeline by providing an active self-healing layer that prevents corrosion
- Eliminates need for polyethylene sleeving
- Saves significant time and labour costs at installation
- Perfect combination of aluminum and zinc increases strength of protective properties of outer layer
- Prevents impacts during transportation and backfilling scrapes



EXTERNAL CORROSION PROTECTION

Zinc Aluminium has long been used in the civil industry as an effective corrosion protection system.

DIMAX Z+ improves this traditional formula by including rare earth alloys to bring you the most advanced corrosion protection system available.

This unique Zinc-Aluminium-Rare Earth Alloy enhances the galvanic effect that standard Zinc Aluminium creates to actively protect the pipe.

DIMAX Z+ formula has been engineered to withstand Australia's aggressive soil conditions.

TECHNICAL DATA

Composition

Zinc (Zn) 85%

Aluminium (Al) 15%

Coating Density

400g per square metre

Finishing Layer

Synthetic resin 100µm average thickness

CERTIFICATIONS

License No. – WMK26514 SMK26514

AS/NZS 2280 – Ductile Iron Pipes & Fittings

AS4020 – Testing for use in contact with drinking water

EN15 655.1 – Polyurethane lining of pipes and fittings



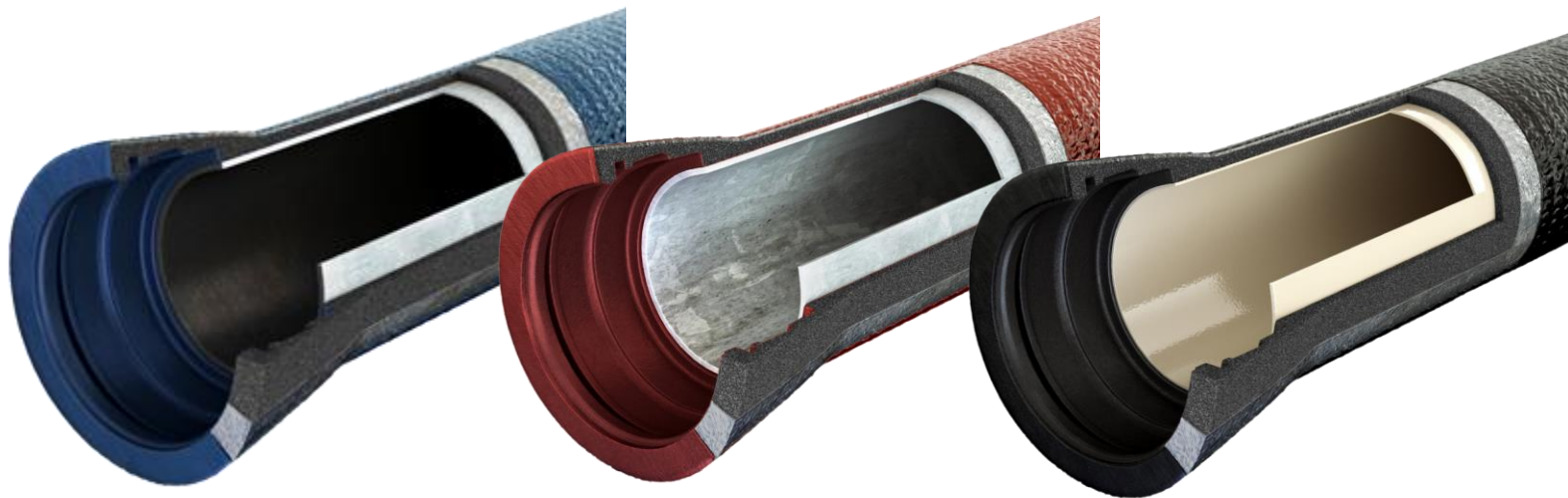
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APPLICATION

The Z+ layer is hot sprayed directly onto the ductile iron at a density of 400g per m², then finished with a thin layer of synthetic resin to an average thickness of 100µm.



TYTON® XCEL

DIMAX TYTON® XCEL includes a Sulphate Resisting (SR) cement lining, available with an internal seal coat.

Standard lining is centrifugally spun cement mortar lining made up of Type SR (Sulphate Resisting) cement.

An additional seal coat is an available option and is applied to the cement lining surface. This seal coat inhibits the leaching of lime where very aggressive, soft waters of low hardness (total alkalinity <30mg/L) or high dissolved CO₂ are being conveyed.

Ideal for the conveyance of:

- Potable water
- Recycled water
- Raw water

TYTON® XTREME

DIMAX TYTON® XTREME incorporates a highly wear-resistant Calcium Aluminate Cement (CAC) mortar lining.

This lining protects the internal surface from corrosion, tuberculation, bacteriogenic acid attacks when conveying aggressive fluids common in sewage and wastewater pipelines. Additionally, the lining is watertight and prevents root ingress.

Ideal for the conveyance of wastewater including:

- Gravity and pressure sewer effluent
- Domestic waste waters
- Mining slurries and process water
- pH4-pH12 fluids

TYTON® XCEED

DIMAX TYTON® XCEED includes an internal polyurethane (PU) coating, applied in accordance with EN15655 and has an average thickness of 1300-1500µm.

This coating protects the internal surface from highly aggressive fluids, ensuring the pipe is protected from all transported liquids.

Ideal for the conveyance of potable water, wastewater and sewer including:

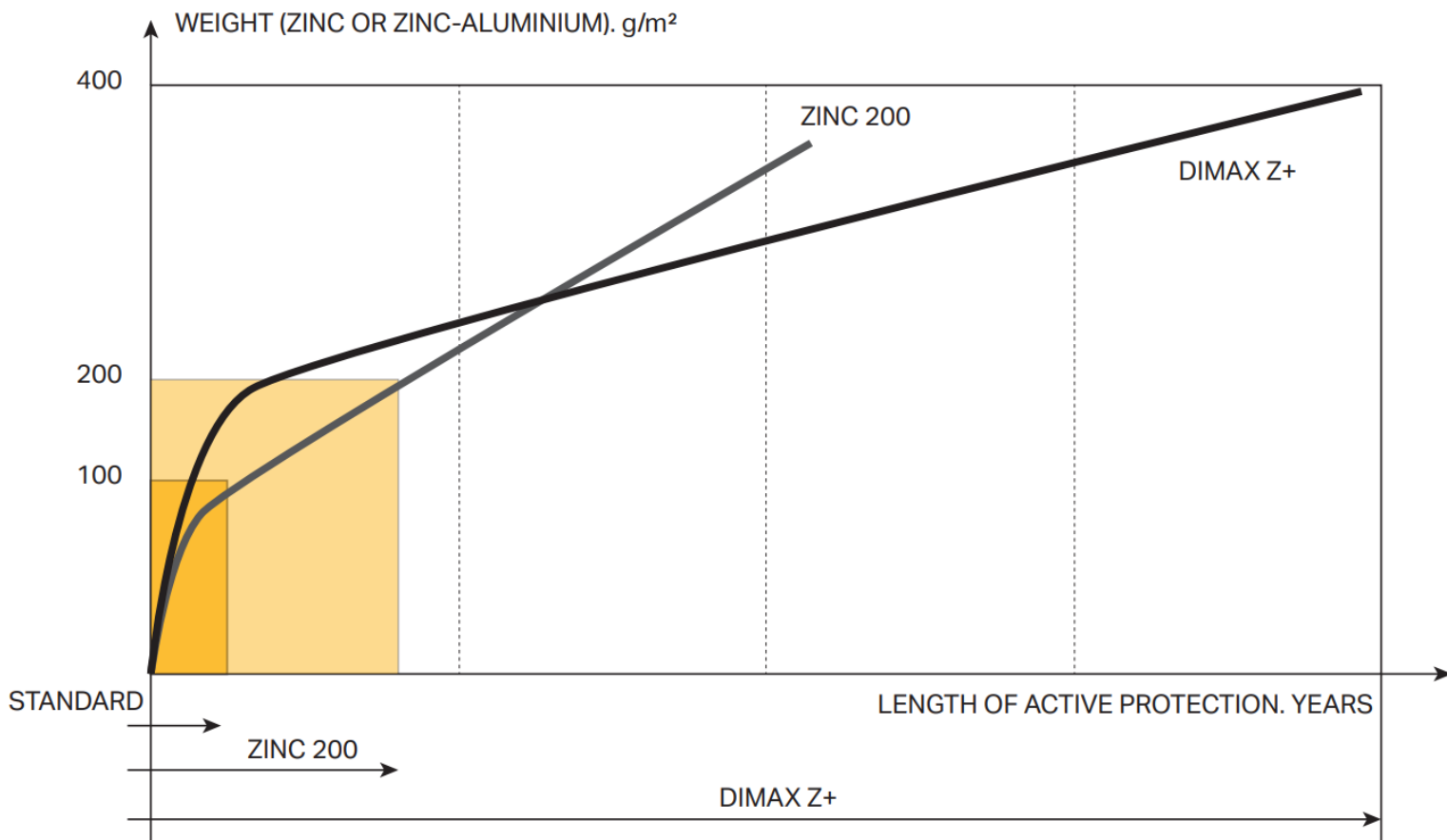
- Very soft water (hardness less than 1mg/L) combined with extremely long residence times
- Mineral water i.e. water whose chemical specifications must remain unchanged between pipeline inlet and outlet
- Aggressive conveyants including septic sewage, high CO₂, chlorides, sulphates and brine

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GRAPH 1



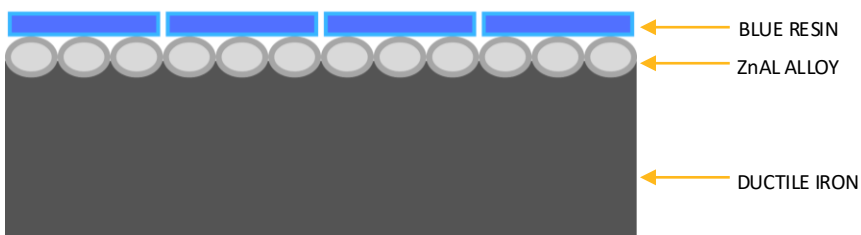
PROTECTIVE MECHANISMS

The metallic DIMAX Z+ coating offers active protection due to the galvanic action of the alloy. The mechanism has two effects :

1. Formation of a Stable Protective Layer

In contact with the surrounding soil, the DIMAX Z+ coating slowly changes into a dense, adherent, impermeable and continuous layer of insoluble zinc salts. This forms a protective screen as seen below.

IMAGE 1



The presence of aluminium increases the passivation effect even in highly corrosive soils, reducing the zinc consumption rate. Whilst allowing galvanic protection and self-healing, the synthetic resin outer coating promotes the formation of a stable, insoluble layer of Zn/Al Alloy conversion products.

DIMAX TYTON® Z+ COATING SYSTEM

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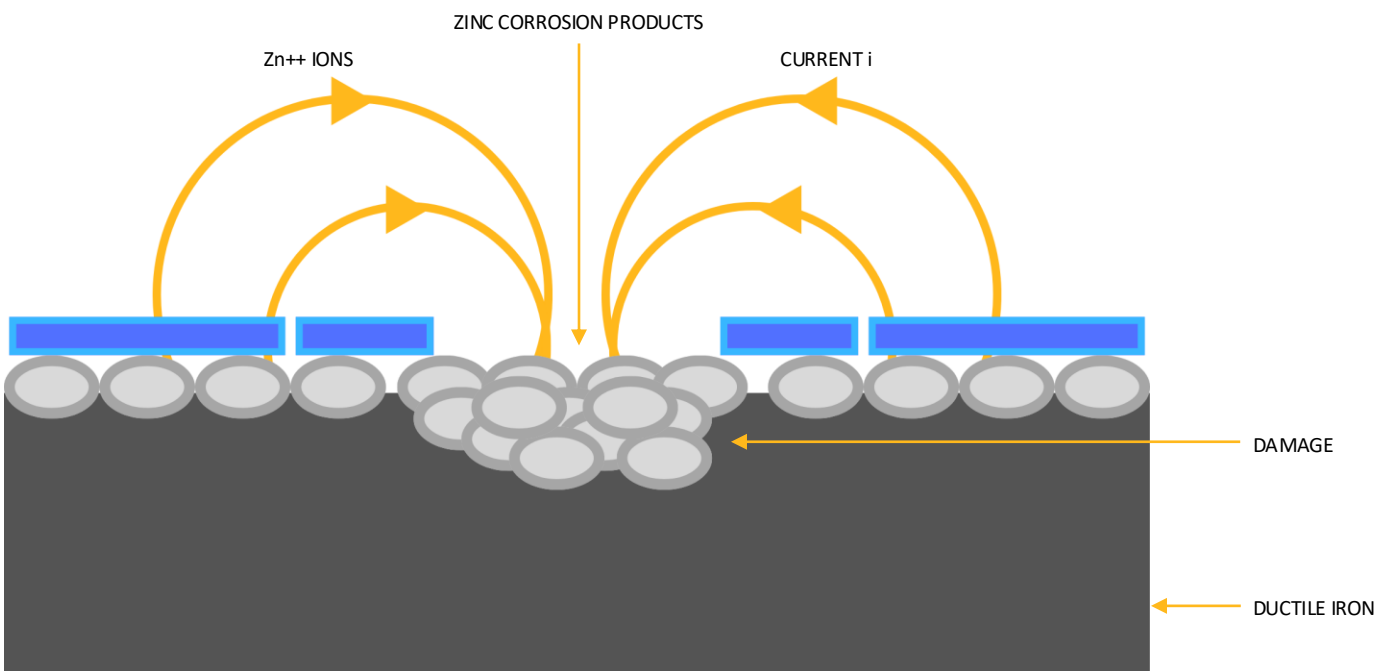


2. Self-Healing of Damage

One of the outstanding features of the DIMAX Z+ external coating is its ability to restore the continuity of the protective layer at small areas which have suffered local damage, the below diagram shows this self-healing process.

The Zn^{++} ions migrate through the pore sealer to plug the damage and then convert into stable, insoluble corrosion products.

IMAGE 2



COATING COMPOSITION

DIMAX Z+ coating consists of a layer of Zinc-Aluminium-Rare Earth alloy at a minimum density of 400 g/m². A synthetic resin coating (pore sealer) of average thickness 100 microns is applied to the outer surface of the ductile iron pipe during two successive manufacturing operations.