

Tyco Water supplies a range of coatings and linings to meet the most demanding specifications in the water industry. This data sheet describes the range of coatings systems that are currently available on Tyco Water Ductile Iron fittings, flanged pipe and valves.



# Coatings and Linings

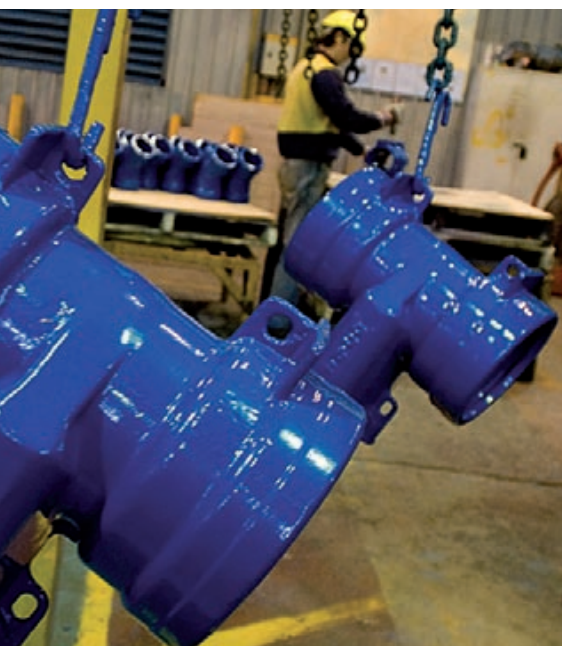
## Ductile Iron Pipeline Systems

### Fusion Bonded (FB)

- FB coatings and linings comply with AS/NZS 4158.
- Coatings are applied by the fluidised bed technique.
- Jotun Corro-Coat EP-F 5001 is a thermosetting epoxy powder, manufactured to and Product Certified to AS/NZS 4158.
- Rilsan® T Blue 7443 MAC is a thermoplastic polyamide 11 (nylon) powder, manufactured to and Product Certified to AS/NZS 4158.
- Plascoat PPA 571H is a thermoplastic polyolefin based alloy, manufactured to and Product Certified to AS/NZS 4158.

### Liquid applied epoxy

Tyco Water sub-contracts application of two pack liquid epoxy coating to the external surfaces of DN 100 to DN 750 fittings and pipe.



### Fusion Bonded flanged pipe

Tyco Water can fusion coat and line all AS/NZS 2280 pipe sizes (DN 80 to DN 750).

Coating can only be done to a maximum effective pipe length of 2700mm.

Unlined pipe is used, with coatings of:

- FBE (fusion bonded epoxy)
  - Jotun Powder Coatings Ltd
  - Corro-coat EP-F 5001
- FBN (fusion bonded nylon)
  - Arkema SA
  - Rilsan T Blue 7443 MAC
- and our newest material, Plascoat
  - Plascoat Systems Limited
  - Plascoat PPA 571H

StandardsMark Licence, Schedule, Product Data Sheet and AS/NZS 4020 Certification are available on request.

### Fusion Bonded fittings

Tyco Water can fusion coat and line all AS/NZS 2280 fitting sizes (DN 80 to DN 750).

Small (< DN 250) fittings are typically coated with Corro-coat FBE while larger (> DN 250) fittings are coated with Rilsan or Plascoat, depending on casting complexity.

Bare fittings are used, with coatings of:

- FBE (fusion bonded epoxy)
  - Jotun Powder Coatings Ltd
  - Corro-coat EP-F 5001
- FBN (fusion bonded nylon)
  - Arkema SA
  - Rilsan T Blue 7443 MAC
- and our newest process, Plascoat.
  - Plascoat Systems Limited
  - Plascoat PPA 571H

## Liquid applied epoxy – fittings

Tyco Water applies 2 pack liquid epoxy coating to the external surfaces of fitting sizes DN 100 to DN 750.

Fittings are cement mortar lined internally to AS/NZS 2280 specifications.

Bare fittings are used, with external coating of:

Jotun Tankguard 412 – Black and coated in accordance with Manufacturing Specification No. MS03 (available on request, to a minimum thickness of 400µm).

**Note.** Internal and external 2 pack liquid applied coating available on request

## Liquid applied epoxy – flanged pipe

Tyco Water applies 2 pack liquid epoxy coating to the external surfaces of AS/NZS 2280 pipe sizes (DN 100 to DN 750).

Coating can be done to a maximum effective length of 5350mm.

Cement mortar lined pipe is used, with external coating of:

- Jotun Tankguard 412 – Black and coated in accordance with attached Manufacturing Specification No. MS03 to a minimum thickness of 400µm.

**Note.** Internal and external 2 pack liquid applied coating to unlined pipe available on request.

Other coatings and linings are available from Tyco Water on enquiry.

## Testing

Fusion bonded coatings and linings are applied to meet the thickness requirements of AS/NZS 4158 Appendix D, Table D1 – Specified minimum coating thicknesses (µm), viz

Coating type	Internal surface	External surface
Thermoplastic	250	200
Thermoset	350	300

### Notes.

1. Continuity testing of external surfaces is carried out to 5V per µm thickness as per the requirements of AS/NZS 4158, Sec. 3.3 and Table 3.1., no holidays on internal wetted surfaces for each component.
2. Other sample tests include:
  - foaming to AS 3862
  - adhesion
  - degree of cure
  - hot water immersion.
3. Visual inspection is also carried out to AS/NZS 4158 Sec. 3.3 & Table 3.1. The coating is to be smooth and uniform in colour, and not exhibit any evidence of blistering or excessive sagging on external surfaces of each component. Acceptance limits are as per AS/NZS 4158, Tables 3.2 and 3.3.
4. It should be noted that under Clause 3.3.2.3 of the Standard (AS/NZS 4158), discontinuities at bolt holes, other external edges, hook holes and scuff marks are not considered coating defects.

## Repair procedure for fusion coatings

– fusion bonded epoxy, nylon and Plascoat

*Recommended repair compound: Altra~Shield® 2000 (a high build high solids epoxy).*

- 1 Prepare the surface.

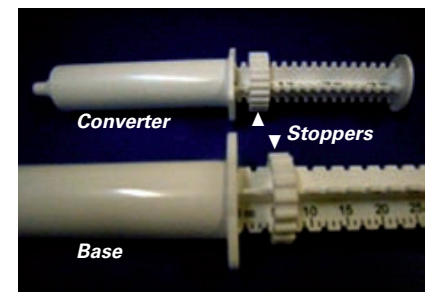


Abrade the surface with an 80 grit sandpaper to remove the surface skin along with any accumulated corrosion or contaminants.

- 2 Prepare the repair material.



Dispense 4 parts base into small paper cup or onto a flat surface. Power mix the base portion first to obtain a smooth homogeneous condition. After mixing the base portion, slowly add 1 part converter whilst continuing to agitate at slow speed. After addition of the converter is complete, continue to mix slowly until homogeneous (well blended).



The correct mix of base and converter (4:1) can easily be achieved by dialling the stopper on the syringe plunger to the required volume, i.e. 4ml Base and 1ml Converter.

**Note.** 5ml of repair material will cover an area of approx 6cm x 6cm.

- 3 Apply the patch.



Apply the epoxy to the repair area and spread out in a uniformly smooth film using a brush or spatula. The optimum patch thickness should be about 10-15% thicker than the original coating. Making a blob is not good practice as the patch will be more prone to subsequent handling damage.

- 4 Allow to cure.

The epoxy will be surface dry in 4-6 hours and thoroughly dry in approximately 16-24 hours.