

## COATINGS & LININGS DUCTILE IRON PIPELINE SYSTEMS

### FUSION BONDED AND LIQUID APPLIED COATING SYSTEMS

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Viadux 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 TYTON ductile iron fittings, flanged pipe and valves

- Excellent resistance to water, wastewater, sea water and mist
- Low water absorption
- Low friction coefficient
- Wide range of working temps
- Long service life
- Impact resistant
- UV stable

### FUSION BONDED COATINGS

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FB coatings and linings comply with AS/NZS 4158 and are applied by the fluidised bed technique

Fusion coating of AS/NZS pipe (DN 80 to DN 750) up to a maximum effective length of 2700mm. Unlined pipe is used with coatings of FBE and FBN

Fusion coating of AS/NZS fittings (DN 80 to DN 750). Small (<DN 250) fittings are typically coated with Resicoat FBE while larger (> DN 250) fittings are coated with Rilsan, depending on casting complexity

#### RESICOAT

Resicoat R4-FB is a functional fusion bonded epoxy powder coating designed for use on valves and fittings in contact with potable water. Detailed technical information is available on page 3

#### RISLAN

Rilsan T Blue 7443 MAC is a thermoplastic polyamide 11 (nylon) powder, manufactured to and Product Certified to AS/NZS 4158 and supplied by Arkema SA. Detailed technical information is available on page 4

# COATINGS & LININGS

## DUCTILE IRON PIPELINE SYSTEMS

### FUSION BONDED AND LIQUID APPLIED COATING SYSTEMS

#### FUSION BONDED COATING REPAIR PROCEDURE - FBE, FBN & 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 cured in approximately 16-24 hours at 20°C

#### LIQUID APPLIED EPOXY COATING

A 2 pack liquid epoxy coating is applied to the external surfaces of AS/NZS 2280 pipe and fitting sizes (DN 100 to DN 750)

Pipe coating can be done to a maximum effective length of 5850mm

Fittings are cement mortar lined internally to AS/NZS 2280 specifications and externally coated with Jotun Tankguard 412-Black, which is 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

Other coatings are available on enquiry

#### MINIMUM COATING THICKNESS SPECIFICATION

Coating Type	Internal Surface	External Surface
Thermoplastic	250	200
Thermoset	350	300

#### Notes

- Coating system tests include hot water immersion, water absorption, flexibility, impact resistance, abrasion resistance, cathodic disbondment, thermal stability, UV resistance, adhesion and water contact.
- QC batch release tests undertaken are: thickness; high voltage continuity; adhesion; degree of cure.
- 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.

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## DUCTILE IRON PIPELINE SYSTEMS

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#### RESICOAT R4-FB FUSION BONDED EPOXY

The Resicoat R4-FB series meets the performance requirements of AS/NZS 4158:2003 and complies with the water quality requirements of AS/NZS 4020:2005.

#### FEATURES

Resicoat R4-FB is a functional fusion bonded epoxy powder coating designed for use on valves and fittings in contact with potable water. Resicoat R4-FB typically offers full corrosion protection of valves and fittings with excellent adhesion, excellent resistance to cathodic disbondment, good flexibility, good chemical stability and excellent heat resistance. The fast cure properties of Resicoat R4-FB make it suitable for applications where consistent film thickness is required.

#### TECHNICAL DATA

**Chemical Type** Epoxy

**Particle Size** Suitable for fluidised bed application

**Specific Gravity** 1.3 - 1.4 g/cm<sup>3</sup>

**Moisture** 0.5% max

**Stability** 4 months < 25 °C

**Gel Time** 22 ± 5 seconds at 200 °C

**Film Thickness** >300µm external, >350µm internal

**Stoving Schedule** Preheat object to (metal temperature) 190 - 210 °C

**(For Valves and Fittings)** Self curing on 8mm steel at above temperature

**Standards** AS/NZS 4158 Thermal-bonded polymeric coatings on valves and fittings for water industry purposes

**Approvals** AS/NZS 4020 Testing of products for use in contact with drinking water



#### TYPICAL TYPE TEST RESULTS

Test	AS/NZS 4158 Requirement	Resicoat R4-FB Result
Hot Water Immersion	<= 1	Rating < 1
Water Absorption	<= 4.0%	< 4%
Flexibility	no crack @ 1.0%	no cracking at 0 °C
Impact Resistance	>= 2.0 J	> 2.0 J
Abrasion Resistance	<= 40mg	< 40mg loss
Cathodic Disbondment	<= 15mm	r < 15mm
Thermal Stability	<= 35% change to melt flow rate after 100 days @100°C	No cracking at 1.0% strain
Ultraviolet Radiation	<= 35% change to melt flow rate after 100 days @100°C	No cracking at 1.0% strain
Water Contact	No effect when used to convey drinking water	AS 4020 certified

#### PRODUCTION BATCH RELEASE REQUIREMENTS

Test	Requirement
Thickness	>350µm - >600µm
Continuity	no holidays
Adhesion	<= 1
Cure	Pass MEK rub test

# COATINGS & LININGS DUCTILE IRON PIPELINE SYSTEMS

## FUSION BONDED AND LIQUID APPLIED COATING SYSTEMS

### RILSAN® NYLON 11 POLYMERIC COATING

RILSAN Nylon 11 polymeric coatings provide corrosion protection for fittings, valves and hydrants. Coating system and application complies with AS/NZS 4158. RILSAN Nylon 11 coating provides excellent corrosion resistance in both potable and wastewater applications

#### FEATURES

Excellent corrosion resistance to: water; wastewater; sea water and mist

Chemical resistance to: hydrocarbons; solvents; acids; salts; alkalis and many others

Outstanding: abrasion resistance; impact resistance; flexibility; thermal resistance; weathering and chalking resistance

Low: water absorption; friction coefficient

Wide range of working temperatures

Long service life

Produced from renewable raw materials of plant origin, environmentally friendly

#### TECHNICAL DATA

**Coating Thickness** 250µm(minimum)

**Application Method** Fluidised Bed

**Maximum Temperature** 50°C

**Colour** Blue

**Standards** AS/NZS 4158

Thermal-bonded polymeric coatings on valves and fittings for water industry purposes

**Approvals** AS/NZS 4020

Testing of products for use in contact with drinking water



#### TYPICAL TYPE TEST RESULTS

Test	AS/NZS 4158 Requirement	RILSAN NYLON 11 Result
Hot Water Immersion	<= 1	<1
Water Absorption	<= 4.0%	2.2%
Flexibility	no crack @ 1.0%	no crack
Impact Resistance	>= 2.0 J	2.6 J
Abrasion Resistance	<= 40mg	16.6mg
Cathodic Disbondment	<= 15mm	4.2mm
Thermal Stability	<= 35% change to melt flow rate after 100 days @100°C	Viscosity change <28%
Ultraviolet Radiation	<= 35% change to melt flow rate after 100 days @100°C	Viscosity change <28%
Water Contact	No effect when used to convey drinking water	AS 4020 certified

#### PRODUCTION BATCH RELEASE REQUIREMENTS

Test	Requirement
Thickness	>250µm - >600µm
Continuity	no holidays
Adhesion	<= 1

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