www.freeflowpipesystems.com

Freeflow Pipesystems

Brochure

Welcome To Freeflow

Freeflow Pipesystems is a global engineering firm supplying coated carbon steel pipework and fittings to the water industry throughout the UK and overseas from its manufacturing facility in the Midlands.

Coated carbon steel pipework and fittings with capacity to produce diameter ranges of 80mm through to 3000mm.

Flanged Pipe
Tees
Reducers
Stepped Couplings
End Closures
Flange Converters

Plain End Pipe
Bends
Couplings
Flange Adaptors
Dismantling Joints
Wall Couplings

Manufacturing Facility

Freeflows manufacturing facility, covering 4,000 square metres, is fully equiped for the fabrication and fusion bonded epoxy coating of carbon steel pipework and fittings of any size or complexity.

Producing standard fittings compatible with most pipe materials including steel, ductile iron, GRP, concrete, MDPE & HDPE.

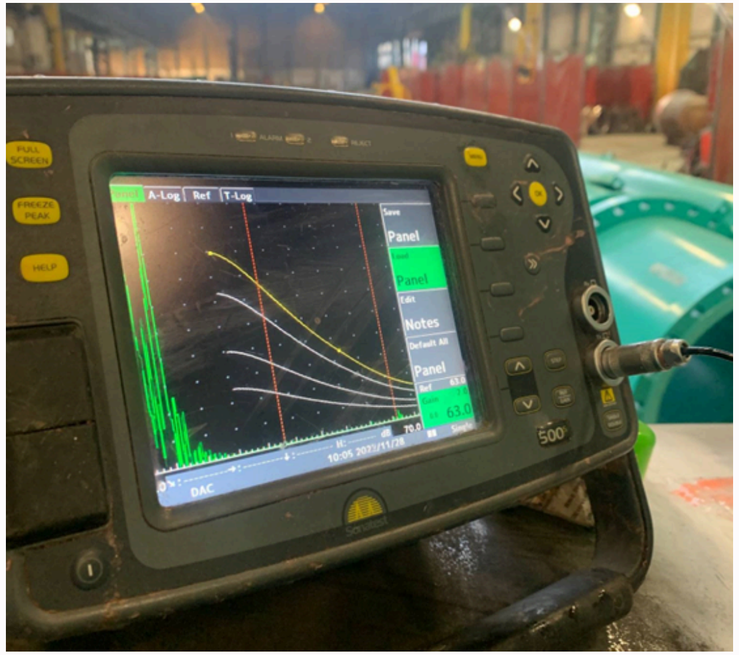
Freeflow manufacturers fabricated steel pipework of any size and complexity to clients specific requirements.

All pipework is manufactured from prime, fully certified materials and fully coated, internally and externally, with fusion bonded epoxy for maximum corrosion protection.

Manufacturing Facility

Tube Rolling	From 700mm NB upwards (up to 3 meter long x 32mm thick)
Section Rolling	Flats, Tees, Angle, Channel, from 250mm dia. upwards depending on section size
Profiling	CNC operated multi head Oxy/Propane profile cutting (computer generated development) CNC operated Oxy/Propane pipe profiler up to 1200NB
Welding	MMA (Manual Metal Arc) MIG (Metal Inert Gas) FCAW-SS (Self Shielding Cored Wire) FCAW-GS (Gas Shielded Cored Wire) TIG (Tungsten Inert Gas) SAW (Submerged Arc Welding)
Machining	Vertical Borers (up to 2 meter diameter) CNC Lathes (up to 500mm swing) Radial Drilling (up to 3 meter swing)
Other	Power Presses (100, 150 & 500 tonne) Guillotine (up to 2 meter wide x 15mm thick) Overhead Cranes - 10 tonne SWL Fabricator Jibs - 0.5 to 1 tonne SWL
Coating Plant	2 Shotblasting Booths 2 Pre Heat Oven Fluidised Bed (3m x 3m x 3.5m)

Quality Control



Freeflow is an ISO 9001:2015 accredited company and operate an approved quality system which ensures specification compliance throughout production of a single item up to the complete project.

Freeflow is also a Drinking Water Inspectorate (DWI) approved applicator of Fusion Bonded Epoxy and Resicoat R4 (WRAS approved).

Freeflow can comply to CESWI, WIMES, BS EN ISO 3840, BS EN 10224.

Standard Procedures

Fabrication:

- Metal verification (Traceability)
- Procedure Qualification Record (PQR) to an agreed standard
- Welder Approval (certificate) to an agreed standard
- Weld Procedure Specification (WPS)
- Visual and dimensional inspection
- NDE
  - Magnetic particle inspection
  - Ultrasonic inspection
  - Dye penetration
  - Hydraulic testing
  - Radiography (external)

(All NDE inspection is undertaken by a third party company)

Coating:

- Surface profile inspection (after blasting)
- Coating thickness
- Holiday testing
- Cure testing
- Adhesion testing
- Visual inspection

Coating

Freeflow is a DWI approved applicator of fusion bonded epoxy Resicoat R4.

Resicoat R4 is a WRAS approved product and is a one-part, heat curable, themosetting powdered epoxy coating that provides maximum corrosion protection of line pipe and fittings.

The epoxy is applied to preheated steel as a dry powder which melts and cures to form a continuous, insulative corrosion barrier.

This bonding process provides excellent adhesion and coverage on pipes, fittings and other equipment. The coating is resistant to corrosive soils, hydrocarbons, harsh chemicals and sea water.

The epoxy coating is unaffected by soil forces and highly resistant to moisture penetration, bacteria and fungus attack, soil acids, alkalies and salts and other chemicals associated with underground and underwater use.

Freeflow will undertake sub-contract coating upon request, with agreed inspection criteria.

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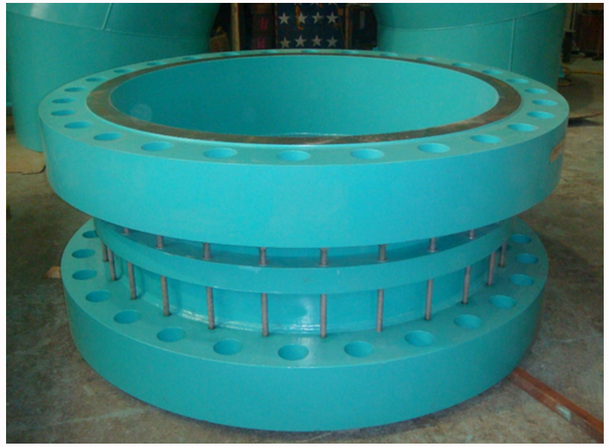


Coating Quality Control

Thickness check, Resicoat R4 applied to 300 microns minimum standard coating thickness or to a requested minimum to align with customer requirements or specification.

This inspection is to detect if there are any defects in the coating, where the steel remains uncoated or where material protrudes through the coating surface.

Freeflow can supply coating reports for all items coated in our facility.

Specifications

The following specifications are generally used as a minimum standard unless otherwise specified by the client.

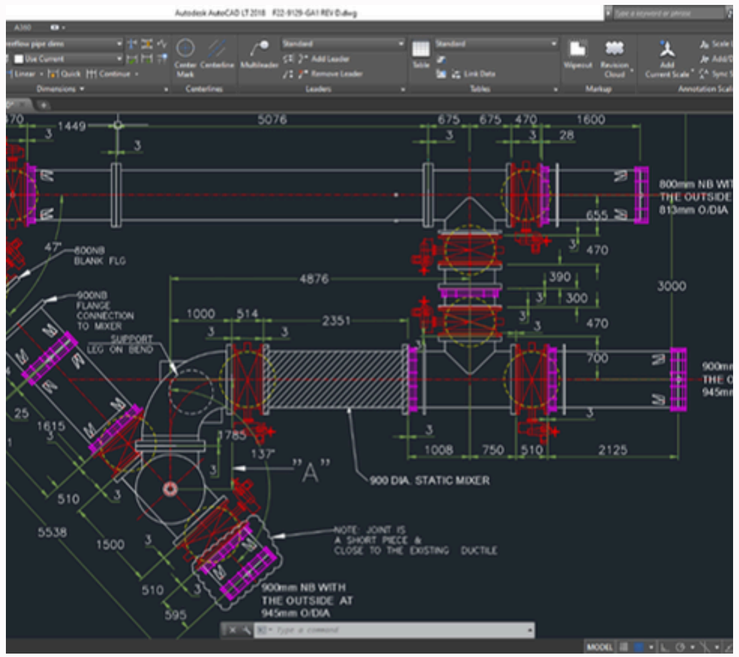
Tube	Up to and including 1200mm - BS EN 10217-1:2019 or API 5L Grade B ERW 700mm and above - Rolled & submerged arc welded from Plate to BS EN10025 minimum grade S275
Flanges	BS EN 1092-1:2002/BS4504 plus BS10 ASME B16.47 & B16.5 other standard available on request
Welding Fittings	BSEN 10253:2007
Bolts	BS4190 Gr.4.6 min or to customer spec (galvanized)
Gaskets	BS 2494:1990 (3mm thick EPDM) WRAS approved
Welding	BS 2971 Class II (up to and including 24 bar) BS 2633 Class 1 (above 24 bar) Other standards available

Non-Destructive Examination

Below is some of the common standards that are used in conjunction with our NDE:

BS EN ISO 17637:2011 - Visual examination
BS EN 1435 - Radiographic testing
BS EN ISO 17640:2018 - Ultrasonic testing
BS EN 571-1 Dye penetrant testing
BS EN ISO 17638 - Magnetic particle testing
BS EN 5817, BS 2971-1991 - Weld quality criteria

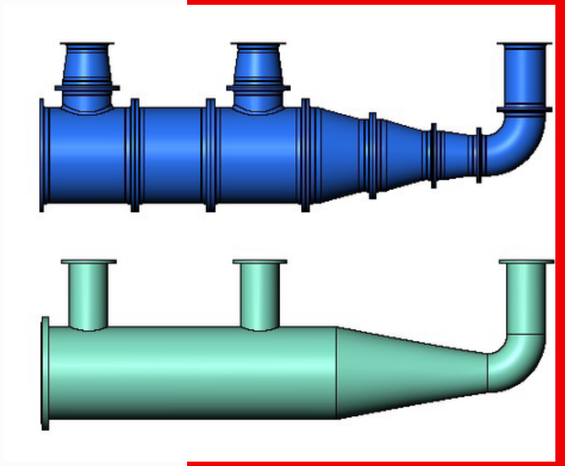
Design Layout & Engineering Capabilities



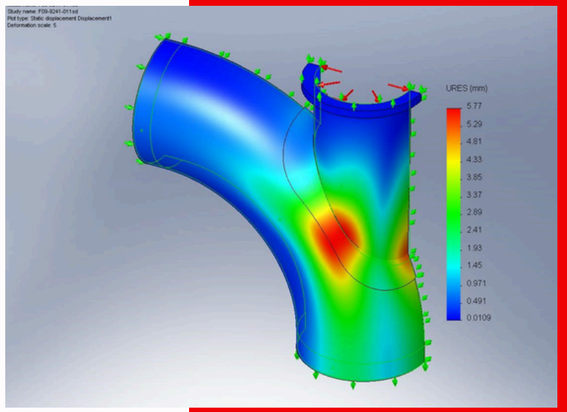
Using the very latest versions of AutoCAD and Solidworks 3D modelling, simulation in linear and non-linear and study report generation. We have a highly skilled and qualified team of pipework engineers all with many years experience in water and waste water industries.

Our dedicated team will work closely with your engineering staff to ensure you always receive the best technical and cost effective solution.

This simple example shows the elimination of flanges whilst still maintaining the design requirements.



This example shows a Freeflow internal case study examining the reinforcement around a branch where it attaches to a bend.



Freeflow Team

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Thank You

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