

Engineering Services

Technical Standard TS 159b

Colour Coding of Pipework

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Only the current revision of this Standard should be used which is available for download from the SA Water website.

Significant/Major Changes Incorporated in This Edition

Nil.

This is the first issue of this Technical Standard.




Document Controls

Revision History

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Approvers

Role	Signature and Date
Responsible Discipline Lead Mark Stephens	22/12/2015 X  ----- Signer's Name Signed by: ST002516
Manager Engineering Technical Services Murat Aksoy	23/12/2015 X  ----- Signer's Name Signed by: AK003305
Senior Manager Engineering Services Richard Gray	23/12/2015 X  ----- Signer's Name Signed by: GR001964

Reviewers

Role	Name	Revision	Review Date

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1 Introduction

SA Water is responsible for the operation and maintenance of pipework in different systems conveying a large range of fluids.

This standard has been developed to assist in the design, maintenance, construction, and management of this pipework.

1.1 Purpose

The purpose of this standard is to ensure that pipework is coated or painted to a consistent standard that will ensure all substances contained in the pipework are clearly identified in order to achieve safe management of substances, chemicals and processes.

1.2 Glossary

The following glossary items are used in this document:

Term	Description
SA Water	South Australian Water Corporation
TG	SA Water Technical Guideline
TS	SA Water Technical Standard

1.3 References

1.3.1 Australian and International

The following table identifies Australian and International standards and other similar documents referenced in this document:

Number	Title
AS 1345	Identification of the Contents of Pipes, Conduits, and Ducts
AS 2700	Colour Standards for General Purposes

1.3.2 SA Water Documents

The following table identifies the SA Water standards and other similar documents referenced in this document:

Number	Title

1.4 Definitions

The following definitions are applicable to this document:

Term	Description
SA Water's Representative	The SA Water representative with delegated authority under a Contract or engagement, including (as applicable): <ul style="list-style-type: none"> • Superintendent's Representative (e.g. AS 4300 & AS 2124 etc.) • SA Water Project Manager • SA Water nominated contact person
Responsible Discipline Lead	The engineering discipline expert responsible for TS 159b defined on page 3 (via SA Water's Representative)

2 Scope

This Technical Standard applies to all pipework in various installations, including (but not limited to), the following:

- Water Treatment plants,
- Wastewater Treatment plants,
- Recycled Water Treatment plants,
- Pumping stations (both water and wastewater),
- Chemical dosing and treatment facilities,
- All other installations where this standard is specified in the project specification.

3 Pipe Markers / Labels

All pipework markers or identification labels, their location and size shall be in accordance with AS 1345 "Identification of the Contents of Pipes, Conduits and Ducts". The markers shall comprise of a word or words on a colour background with a contrasting border and chevron to show the direction of the flow. Markers shall be placed adjacent to all junctions, valves, service appliances, bulkhead and wall penetrations. Care shall be taken to ensure that all pipe markers are visible to an observer from one position where several pipes are to be identified at the one location.

4 Colour of Pipework

4.1 General

Where pipework colour in existing sites is inconsistent with the colour coding tables in this Standard, the Contractor shall obtain direction and approval of the Responsible Discipline Lead for any colour to be used.

4.2 General Pipework & Ducting

Table 1 – Colours of General Pipework & Ducting

FLUID	BASE COLOUR		BAND COLOUR	
	AS 2700 Ref. No	AS 2700 Ref. No	AS 2700 Ref. No	AS 2700 Ref. No
Ventilation & Air Conditioning Ducts	-	White	-	-
Compressed Air	B25	Aqua	-	-
Compressed Instrument/Process Air	B25	Aqua	-	-
Vacuums	B25	Aqua	-	Black
Steam	-	Silver Grey	-	-
Refrigerant	Y44	Sand	G14	Moss Green
Gases	Y44	Sand	-	-
Main Water (Potable)	G21	Jade	-	-
Distilled Water	G21	Jade	-	White
Chilled Water	G21	Jade	B21	Ultramarine
Hot Water	G21	Jade	R13	Signal Red
Polluted Water	G21	Jade	Y14	Golden Yellow
Fire Control Water	R13	Signal Red	-	-
Drains & Waste Fluids	-	Black	-	-

4.3 Water Treatment Plants Pipework

Table 2 – Colours of Water Treatment Plant Pipework

FLUID	BASE COLOUR		BAND COLOUR	
	AS 2700 Ref. No	AS 2700 Ref. No	AS 2700 Ref. No	AS 2700 Ref. No
Drains	-	Black	-	-
Filter Backwash Water	G21	Jade	Black + X41	Black + Buff
Filter Bypass Water	G21	Jade	X41	Buff
Sedimentation Tank Sludge	X41	Buff	-	-
Settled Water	G21	Jade	X41	Buff
Supernatant	X41	Buff	-	-
Thickened Sludge	X41	Buff	-	-
Rinse (Process) Water	G21	Jade	T24	Blue Jade
Treated Water	G21	Jade	-	-
Untreated Water	G21	Jade	-	Black

4.4 Wastewater Treatment Plants Pipework

Table 3 – Colours of Wastewater Treatment Plant Pipework

FLUID	BASE COLOUR		BAND COLOUR	
	AS 2700 Ref. No	AS 2700 Ref. No	AS 2700 Ref. No	AS 2700 Ref. No
Activated Sludge (Mixed Liquor)	X41	Buff	X55	Nut Brown
Aeration Air	B25	Aqua	-	-
Circulating Sludge	X41	Buff	-	-
DAFT Effluent	N42	Storm Grey	G14	Moss Green
Digested Sludge	X41	Buff	T24	Blue Jade
Grit	X41	Buff	-	Black
Humus Sludge	X41	Buff	G14	Moss Green
Raw (Primary) Sludge	X41	Buff	-	-
Raw Sewage	N42	Storm Grey	-	-
Return Activated Sludge	X41	Buff	X55	Nut Brown
Settled Primary Sludge	X41	Buff	-	-
Treated Effluent	N42	Storm Grey	T24	Blue Jade
Skimmings & Scum	X41	Buff	X55	Nut Brown
Supernatant	N42	Storm Grey	G14	Moss Green
Thickened Sludge	X41	Buff	X55	Nut Brown
Waste Activated Sludge	X41	Buff	X55	Nut Brown
Recycled Water*	N42	Storm Grey	T24	Blue Jade

* Note: within SA Water Treatment site, recycled water shall not be colour coded Lilac. Where recycled water transitions through the property boundary of a treatment site, pipes shall be Lilac in colour.

4.5 Chemical Pipework

Table 4 – Colours of Chemical Pipework

FLUID	BASE COLOUR		BAND COLOUR	
	AS 2700 Ref. No	AS 2700 Ref. No	AS 2700 Ref. No	AS 2700 Ref. No
Activated Carbon (PAC) (up to 10% slurry)	G33	Lettuce	-	Pale Blue
Activated Silicate	G33	Lettuce	X31 + Y14	Raffia + Golden Yellow
Air, compressed	B25	Aqua	-	-
Aluminium Sulphate (Alum) (50% solution)	G33	Lettuce	Y25	Deep Cream
Ammonia, Anhydrous (100% gas/liquid)	Y14	Golden Yellow	-	-

FLUID	BASE COLOUR		BAND COLOUR	
Ammonia, Aqua (25% solution) Ammonia Solution	G21	Jade	X31 + P23	Raffia + Lilac
Calcium Hydroxide (Hydrated lime) (up to 20% slurry)	G33	Lettuce	-	White
Calcium Oxide (Quicklime) (up to 20% slurry)	G33	Lettuce	-	White
Chlorine (100% liquid & gas)	Y14	Golden Yellow	-	-
Chlorine Solution	G21	Jade	Y14	Golden Yellow
Citric Acid (50% solution)	P23	Lilac	R13	Signal Red
Diesel / Fuels	X53	Golden Tan	-	-
Lubricating Fluids	X53	Golden Tan	R13	Signal Red
Ferrous Chloride (42% solution)	P23	Lilac	-	-
Fluosilicic Acid (20% solution)	P23	Lilac	R13	Signal Red
Formic Acid (up to 85% solution)	P23	Lilac	R13	Signal Red
Hydrochloric Acid (up to 10% solution)	P23	Lilac	R13	Signal Red
Hydrogen Sulphide (up to 400 ppm in Sewer Gas)	Y44	Sand	P23	Lilac
Magnesium Hydroxide (60% slurry)	P23	Lilac	-	Black
Methane or Natural Gas (Digester gas: 70% Methane)	Y44	Sand	-	-
Oxygen, compressed (100% liquid & gas)	Y14	Golden Yellow	-	-
Polyelectrolytes (various) (> 60% solutions)	G33	Lettuce	G14	Moss Green
Potassium Permanganate (5% solution)	G33	Lettuce	B21	Ultramarine
Sodium Carbonate (Soda Ash) (Assume 15% solution)	P23	Lilac	-	Black
Sodium Chloride (Saturated Brine) (up to 25% solution)	G21	Jade	-	Black
Sodium Hydroxide (Caustic Soda) (up to 50% solution)	P23	Lilac	-	Black
Sodium Hypochlorite (13% solution)	P23	Lilac	-	-
Sodium Silicate	G33	Lettuce	X31	Raffia
Sucrose (Liquid Sugar or Molasses) (up to 67% solution)	-	Black	-	-
Sulfamic Acid (30% solution)	P23	Lilac	R13	Signal Red
Sulphuric Acid (98% liquid)	P23	Lilac	R13	Signal Red