



Steel Mains
SOLUTIONS FOR LIFE

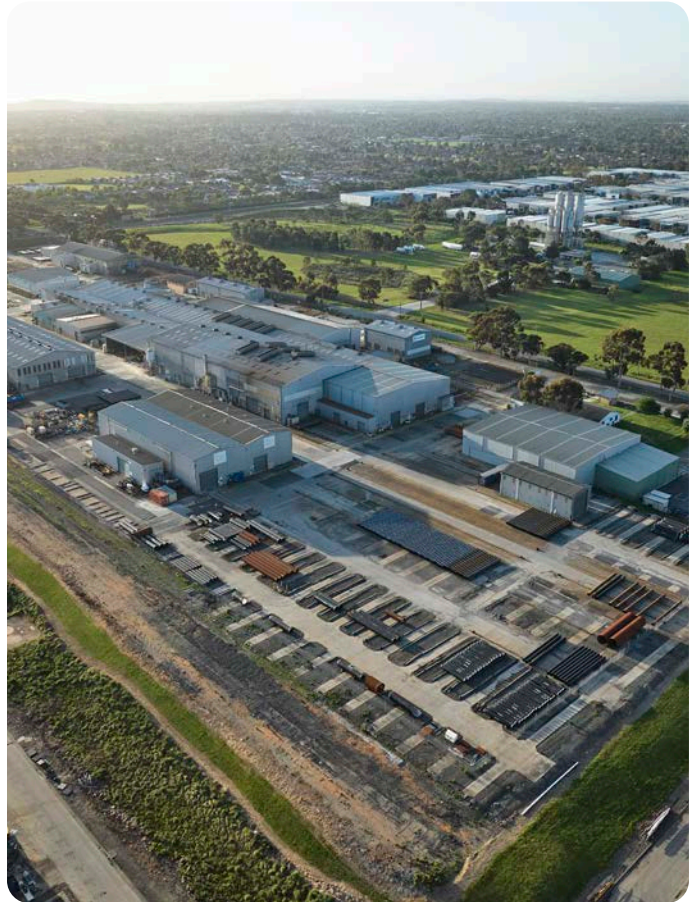
SINTAKOTE®
Colorkote™

2025 EDITION

Steel Mains Colorkote™

DETAILS

Steel Mains Colorkote™ pipeline coating is a coloured variant of black Sintakote® pipeline coating that upholds the same standards and qualities of standard Sintakote pipeline coating and has been specifically developed for above-ground applications. The Colorkote system comprises of black Sintakote complying with the material requirements in AS 4321 applied as a base layer to mild steel pipes, and a Colorkote Sintakote applied directly onto the black Sintakote which results in a fused joining of the two layers. The coloured Sintakote incorporates UV stabilisers, antioxidant and pigments to optimise performance when exposed to outdoor UV exposure. *Patent pending. The thickness of the outer layer is sufficient to mask the underlying black colour to provide the desired colour appearance.



BENEFITS

- Improve the aesthetics of above-ground applications of pipelines to blend in with the surrounding environment and reduce the environmental impact
- Reduce temperature range change (transients) throughout the day-night cycle of the pipeline to thereby assist in reducing the daily cyclic stress of longer length above-ground pipelines (typically >2km length.)
- Reflect radiant heat via a light colour and thereby reduce the transmission of heat to the water inside the pipe
- Reflect radiant heat via a light colour to reduce the surface temperature of the pipe and maintain the overall temperature below 60°C and thus increase the design life of the pipeline



MAINTENANCE

While the frequency of inspection and refurbishment of Colorkote™ is ultimately at the discretion and responsibility of the asset owner, Steel Mains offers the following guidelines on what inspection characteristics will trigger consideration for refurbishment:

- Colour change is sufficient to notice a significant change in established acceptable operational temperature range of the pipeline
- Surface damage (cracks, peeling) or loss of coloured topcoat that results in continuity test failure. Damage must be across significant sections of the pipeline which confirm a systematic polymer breakdown as distinct from isolated/localised damages that are caused by intentional or unintentional mechanical, chemical, fire, animal, or human causes.



REPAIR

For repairs to damaged Colorkote, the initial choice of repair material/method should be made as per Figure A1 in the Steel Mains Handling & Installation Manual. Specific details for Colorkote are as follows:

Drader Repair – Pipe Joint Region

Colorkote drader wire will be available for the main colours (e.g. Quill Grey) of the Colorkote range. Performing Drader repairs should only be performed by operators trained by Steel Mains in the correct practise. Refer to Steel Mains Handling & Installation manual Procedure A4 and Drader repair procedures SMT 15366.

Heat Shrink Sleeves (KLON type only) – Pipe Body

Use of Heat Shrink Sleeves (HSS) are the preferred method for field repairs. Steel Mains recommends and supplies the Canusa range (also available through Universal Corrosion Coatings) of HSS. For above ground pipelines, use of KLON HSS is required, as the KLON range can be used for temperature ranges up to 65°C. Canusa KLON HSS are also suitable for use for buried pipelines. Refer to the attached HSS installation guide (Note that although the guide refers to K-60, the same methodology applies to KLON sleeves). HSS require minor surface preparation and do not require grit blasting. The use of primer in place of pipe preheating is recommended by Steel Mains. HSS are relatively quick to apply and result in a highly adhered corrosion protection system.

Currently HSS are limited to black colour only, and so application will result in mismatching of colour with the Colorkote system. If it is a requirement that colour matching to the Colorkote outer colour is required, the use of slip sleeves over the HSS is recommended. These covers are custom fabricated covers/slip sleeves to suit a particular project pipe OD size and Colorkote colour. The cover/slip sleeve will have suitable UV stabilisers, antioxidant and pigments to optimise performance when exposed to outdoor UV exposure. The covers/slip sleeves will also reduce the exposure temperature of the HSS underneath, are easy to install and will be replaceable in case of damage.

FITTINGS

Typical fittings (Bends, Tees, reducers, air valves, scours, thrust rings/collars) will be available from Steel Mains with the Colorkote™ system. The same Sintakote® application process currently in place with Black Sintakote will also be utilised for the Black/Colour two-layer Colorkote system. This will ensure supplied fittings will have a consistent single colour appearance to match the pipe supplied.



PERFORMANCE

PROPERTY	TEST STANDARDS	TYPICAL TEST RESULTS
COATING MATERIAL	AS 4321	Complies with clause 4.2.1 except for clause (c). Little or no carbon black is added. Instead, UV stabilisers are incorporated to maximise UV resistance
COLOUR		Limited range of Colours: To increase solar reflectance to reduce temperature transferred to steel & water inside pipe, or to improve environmental aesthetics
SERVICE TEMPERATURE RANGE	AS 4321	-40°C to 70°C
THERMAL STABILITY (100°C for 100 days)	AS 4321	< 35% change in MFI
BOND STRENGTH	AS 4321	5-10 N/mm
TENSILE STRENGTH AT YIELD	AS 4321	18 MPa
PENETRATION RESISTANCE - 23°C - 70°C	AS 4321	0.1mm indentation 0.2mm indentation
ENVIRONMENTAL STRESS CRACK RESISTANCE	AS 4321	F ₅₀ > 100 hrs
DENSITY	AS 4321	930 kg/m ³
WATER ABSORPTION	AS 4321 (100 days, 23°C)	< 0.1% m/m water absorbed
IMPACT RESISTANCE (Falling tup test)	AS 4321/ASTM G14, 219mm OD coated pipe, 2.3mm thick	Mean impact strength 18J
CATHODIC DISBONDMENT	AS 4321	≤ 15mm radial disbonded length
SOLAR ABSORPTANCE	ASTM E903	0.42 (Quill Grey)
SOLAR REFLECTANCE INDEX		68 (Quill Grey)

CHEMICAL RESISTANCE: Colorkote™ is resistant to all the normal chemicals, compounds and solutions commonly encountered in water industry applications including muriatic acids, as well as marine organisms and compounds found in aggressive soils.



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*Patent pending.