

# 3M™ Scotchkote™

## Pipe Renewal Liner 2400

Updated  
Supersedes

August 2014  
March 2014

## Data Sheet and Application Guide

### Product Description

Scotchkote Pipe Renewal Liner 2400 has been developed for the rehabilitation of potable water pipe infrastructure to help extend service life, reduce leaks, and improve water quality by preventing internal corrosion and the future build up of tuberculation, that can impact adversely on water quality.

Scotchkote Pipe Renewal Liner 2400 can be applied to drinking water mains 100mm to 610mm (4 inch to 24 inch) diameter to provide structural enhancement or non-structural linings, dependent upon pipe diameter and substrate.

The rapid curing characteristics of the product facilitate the start of return to service procedures which can begin 60 minutes after completion of the lining operation.

### Product Features

Approved for use under Regulation 31(4)(a) of the Water Supply (Water Quality) Regulations.

- 60 minute cure time allows for same day return to service.
- Obviates reinstatement of service connections.
- Increased customer satisfaction as a result of same day return to service and reduced road traffic disruption.
- Moisture tolerant during application and curing.
- When applied at 2.75mm lining thickness, the gap spanning capability is up to 5mm and for hole spanning up to 6mm.

### General Application Steps

Important: Application should only be by a 3M Authorised applicator in accordance with 3M Instructions For Use Document 29P-2400-Issue 3.

1. Excavate a pit on either end of pipe section to be rehabilitated
2. Clean tuberculation, corrosion and debris from pipe using methods described at left
3. Inspect pipe using CCTV
4. Blow back through service connections if any lines are found to be blocked or plugged by debris
5. Line pipe at the appropriate thickness as per Instructions For Use Document and Design Tables.
6. Inspect lining using CCTV
7. Flush pipe per customer guidelines. All asbestos cement (AC) pipes require a minimum post-lining flush with at least 5000 litres of water. Flush water must be disposed of in accordance with all local regulations.
8. Return pipe to service upon customer approval

### Properties

Property	Value
Colour	Grey
Ratio	1:1 by volume 100:123.1 by weight

#### Pipe Applications

Ductile Iron Pipe, Cast Iron Pipe, Cement Mortar Lined Ductile, Cast Iron Pipe, Steel Pipe, PVC, and Asbestos Cement Pipe. Historically applied thin film bituminous coatings may be overlined provided that any residual coating has been removed as far as reasonably practicable by the mains cleaning process. PVC and Asbestos Cement may only be lined at the specified thicknesses outlined in the Scotchkote Pipe Renewal Liner 2400 Thickness Guidance Tables.

#### Drying & Cure times at 20°C (68°F)

Gel Time	30 seconds
Film Set Time	2 minutes
Cure Time (CCTV inspected)	10 minutes
Cure Time (Return to service)	60 minutes

#### Potable Water Approvals:

UK	Regulations 31(4)(a)
Scotland	Regulation 27(4)

#### Performance Data

Tensile Strength	33.5 MPa	ASTM D638-08
Tensile Elongation	3%	ASTM D638-08
Flexural Strength	53 MPa	ASTM D790-07
Flexural Modulus	3940 MPa	ASTM D790-07
Hardness	87 Shore D	ASTM D2240-5
Abrasion Resistance	193mg loss per 1000 cycles	ASTM D4060-07
Tg	205°F (96°C)	ASTM D7028-07
Water Absorption*	1.31% (21 days)	ASTM D570-98

\*Meets AWWA C222-08 required 21 day value of <2%



# Application Procedures for Scotchkote Pipe Renewal Liner 2400

## Surface Preparation

A number of cleaning techniques are suitable for the removal of debris and encrustation so as to prepare the main for lining. These include:

- Power Boring (diameter range 100mm to 250mm)
- Drag Scraping (diameter range 100mm to 610mm)
- Abrasive Pigging (diameter range 100mm to 300mm)
- Pressure Scraping (diameter range 300mm to 610mm)
- Pressure Jetting (diameter range 100mm to 610mm)
- Forced Air Vortex (diameter range 100mm to 200mm)

Plunging and swabbing should be used to remove residual corrosion debris and water from the pipe. Alternative cleaning methods are acceptable if they meet the requirements of OR 6.1 of Water Industry Specification WIS 4-02-1 which specifies the quality of cleaning. Alternatives to those above should be checked with a nominated certifying body.

Notes:

- 1) If dry drag scraping is used, ideally, a high pressure water jetting operation must be undertaken to thoroughly remove all remaining pipe wall debris.
- 2) If the pipe substrate is asbestos cement (AC), recommended cleaning methods include forced air vortex cleaning with water instead of aggregate, water jetting at lower pressures, or non-abrasive swabbing.

## Handling and Safety Precautions

Read all Health Hazard, Precautionary and First Aid Material Safety Data Sheet, and/or product label prior to handling or use.

## Preparation of Cleaned Mains

Prior to spray application of any resin material, the main shall be free from standing water. This is achieved by foam swabbing (using oversized clean swabs) and applies to all mains diameters of 100mm and above.

Swabbing is used to remove residual corrosion debris and standing water from the pipeline.

## Application Procedures

To comply with the conditions of approval under Regulation 31(4)(a), Scotchkote Liner 2400-Issue 3 must be applied by an independently assessed and approved contractor and in accordance with the relevant Instructions For Use document (29P-2400-Issue 3), and the requirements of the Operational Requirements: In-situ Resin Lining of Water Mains (WIS 4-02-01) and the Code of Practice: In-situ Resin Lining of Water Mains (IGN 04-02-02).

In addition rigs must be assessed & approved by 3M.

## Packaging and Storage

Supplied separately in 12 litre and 170 litre Part A (Base) and Part B (Activator) units. Use within 12 months of date of manufacture. Store in original sealed containers at temperatures between 5°C and 32°C.

## Ordering Information/Customer Service

For ordering, technical and product information, or to request a copy of the Material Safety Data Sheet, call:

Phone: +44 (0) 1609 780170

**For emergencies, please contact +44 (0)1344 858000**

# Application Procedures for Scotchkote Pipe Renewal Liner 2400



## CAUTION

### Safety and Regulatory Compliance

Authorised applicators will perform all of their obligations under the Scotchkote Liner 2400 Authorised Applicator Agreement in compliance with all local, state, national, and international statutes, rulings, regulations, ordinances and governmental directives, including, without limitation, those pertaining to environmental, hazardous waste disposal, transportation, employee safety and health (collectively referred to as "Laws") that apply to authorised applicator and its business.

**Authorised applicators must at all times have the expertise and resources to perform its obligations under this Agreement safely and on time.**

**Authorised applicator is solely responsible for the safe performance of all its obligations under this Agreement and for the safety of authorised applicator's employees, sub-contractors, and invitees.**

### Asbestos Requirements

There may be certain rules and regulations governing work related to asbestos containing materials. Any authorised applicator or person employed by an authorised applicator on an asbestos project shall have an appropriate asbestos handling certificate or required licenses, or equivalent. The authorised applicator will make sure it holds any required insurance needs related to asbestos projects. The type of training, licenses or certification a person receives may depend upon the type of work the individual does on the project. The authorised applicator shall have proof that its workers have been trained, certified and have work plans to address requirements related to, asbestos containment procedures, asbestos waste disposal requirements, employee medical monitoring requirements, selection of appropriate personnel protective equipment (PPE) for asbestos related work, air sampling requirements, or other asbestos requirements. It is the responsibility of the authorised applicator to meet all requirements prior to completing work on asbestos projects.

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### Important Notice

All statements, technical information and recommendations are based on information believed to be reliable, but the accuracy or completeness is not guaranteed. Before using the 3M™ Scotchkote™ Product, you must evaluate it and determine if it is suitable for your intended application. Because conditions of product use are outside of 3M control's and vary widely you assume all risks and liability associated with such use. Any product related statements not contained in current 3M publications, or any contrary statements contained in your purchase order, shall have no force or effect unless expressly agreed to in writing by an authorised officer of 3M.

### Warranty; Limited Remedy; Limited Liability.

3M warrants that the 3M™ Scotchkote™ Product will conform to 3M published specifications upon shipment. If the product is proven not to have met the specifications your exclusive remedy within 12 months of sale by 3M of the product and 3M's sole obligation will be, at 3M's option, to replace the Product or to refund the purchase price of the Product. Except where prohibited by law, this warranty is made in lieu of all other warranties, express or implied, including, but not limited to, any implied warranty of suitability or fitness for a particular purpose, or those arising from a course of dealing, custom or usage or trade.

3M has no obligation under this warranty with respect to any product that has failed due to inadequate or improper storage, handling, surface preparation, application, or maintenance; failure to follow product instructions or recommendations or alteration or damage to the Product caused by accident, neglect, or misuse. OTHER THAN IN THE CASE OF DEATH OR PERSONAL INJURY CAUSED BY ITS NEGLIGENCE AND EXCEPT WHERE PROHIBITED BY LAW, IN NO EVENT SHALL 3M BE LIABLE FOR ANY DIRECT, INDIRECT, SPECIAL, INCIDENTAL OR CONSEQUENTIAL LOSS OR DAMAGES (INCLUDING LOST PROFITS) ARISING FROM THIS PRODUCT, REGARDLESS OF THE LEGAL THEORY ASSERTED.



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