

**INSTRUCTIONS FOR USE OF
PIPES LINED WITH SKOTCHKOTE 206N™
POLYMERIC ANTI-CORROSION (BARRIER) FLUID BED
GRADE FUSION BONDED EPOXY COATING BLUE / GREEN**

FOREWORD

This instruction document has been prepared by Northpoint Ltd to satisfy the needs of users of pipes which come into contact with water intended for human consumption coated by Northpoint Ltd in Fusion Bonded Epoxy (FBE) coating Scotchkote 206N™ as supplied by 3M™.

SCOPE

The purpose of this document is to provide operators, clients and consumers with guidance and information in the following important areas:

1. Process of manufacture of Scotchkote 206N.
2. Proposed use of the coating material.
3. Approval conditions which apply to the coating material.
4. Procedures for safe handling and precautions necessary during handling of the coating material.
5. Maximum permissible concentration of free-chlorine, which may come into contact with the product.
6. Physical dimensions of the product range which can be accommodated during coating application.
7. Storage conditions of the coated components
8. Installation instructions for the coated components.
9. Pre-commissioning testing of coated components.
10. Cleaning instructions of coated components.
11. Process of application.

1.0 Process of Manufacture	
1.1	A mix of homogeneous dry raw materials, which is heated and extruded. The resultant chip is cooled and kibbled, impact milled and sieved. The powder produced from this process is packed into plastic bags and placed into boxes.
2.0 Proposed use of the coating material	
2.1	As a coating material over ferrous & non-ferrous pipes for use in contact with potable water and domestic effluent.
3.0 Approval conditions which apply to pipes manufactured and coated with Scotchkote 206 N	
3.1	Scotchkote 206 N is accepted by the United States Environmental Protection Agency and the United Kingdom National Water Council for use as a coating in contact with potable water.
3.2	Meets the requirements of American Water Works Association Standard C213 & C550.
3.3	Holds UK Kitemark Licence No. KM 33446 to WIS 4-52-01 : Part 1 for potable water
3.4	Manufactured under a Quality Management System assessed as meeting the requirements of BS EN ISO 9000
3.5	Pipes that are manufactured and lined with Scotchkote 206 N are approved as meeting the requirements of: Water Supply (Water Quality) Regulations 200/2001 Regulation 31 [4] [a]
4.0 Procedures for safe handling of coated pipes	
4.1	When handling components use only nylon slings, rope belts or similar commonly accepted for handling coated components should be used.
4.2	Only certified operators should operate an plant and the LOLER 1998 should be consulted.
5.0 Maximum level of free-chlorine in contact with coating material	
5.1	2%
6.0 Physical dimensions of the product range	
6.1	Maximum weight 3000 kg (lifting equipment rated as 3200 kg SWL).
6.2	Components must fit into a 3 m ³ when suspended from a single point.
6.3	Restrictions may be imposed on the complexity of a component where safe working procedures could not be conformed to.
7.0 Safe storage conditions of coated pipes	
7.1	The bottom of the pipe should be elevated off the ground on padded timber skids or similar, leveled to support the coated component without damage.
7.2	If stacked more than one row high the bottom row should be restrained to prevent the items from

	moving. Restrict stacks of pipes to a level where the coating on the bottom component resting on the padded skid or similar does not exceed 800 kg/cm ² . Because a range of pipes can be coated in the fluidized bed it is not possible to give a definitive statement of height but for safety reasons pipes should not be stacked any higher than 1.75 m high.
7.3	Each pipe should be separated from each adjacent pipe by use of padded spacing materials.
7.4	Coated pipes can be stored under ambient conditions from the Arctic to the Equator with no damage from cold flow, shrinking, splitting or cracking. When stored in direct sunlight, a thin layer of whitish chalk will form on the coating surface. The chalking is superficial only and does not continue unless removed.
7.5	Under most conditions it is not necessary to protect the coating in storage but there may be some loss of coating thickness due to chalking removal by heavy rains, blowing sand or other means.
7.6	If pipe is stored where changes in exposure to sun, wind and rain are regular or if long storage periods (more than 1 year) are anticipated, the components should be protected from sunlight exposure.
7.7	End caps can be fitted to pipes where there is a risk of a person entering the component and becoming trapped or where vermin may enter the component during storage.
8.0 Installation instructions	
8.1	Each site where installation is to be carried out will be unique and therefore only general instructions can be given as a guideline to be followed.
8.2	When offloading components use only nylon slings, rope belts or similar commonly accepted for handling coated components should be used.
8.3	Inspection for holidays in accordance with NACE standard RP0490-95. The original plant inspection voltage should not be exceeded, higher voltages are likely to damage the coating.
8.4	When field cutting the epoxy coating will char up to about 80 mm from the cut. Precautions should be taken to ensure the work area is adequately ventilated during this procedure.
8.5	Scotchkote FBE coating can be applied to the weld area in the field using the process of abrasive cleaning, induction heating and powder coating. Field welds can also be protected with commercially available joint coating – tapes, mastic, shrink sleeves and liquid epoxy coating Scotchkote 312 [see below for details of application]. The joint area should be cleaned and care taken to remove all of the charred coating from the joint area. The area should be lightly abraded about 80 mm on either side of the weld to provide a good bonding surface for the joint coating material.
8.6	Small areas of damage to the coating on the exterior of the pipe should be repaired by brush application of Scotchkote 312 liquid epoxy coating as supplied by 3M. Before application of the repair material remove all oil, grease, oxidation or other contaminants using a suitable solvent [MEK or toluene]. The surrounding coating should be roughened to maximize adhesion of the repair material. Scotchkote 312 is a 100% solids, no solvents, two part thermosetting epoxy liquid coating and can be applied by brush, roller or spray. Because it is an ambient cure coating field application without the use of heating equipment is possible. A tack free surface is obtained in around 2 hours at 23 ^o c ambient temperature.
9.0 Pre-commissioning testing	
9.1	Continuity testing to NACE standard 0490-95 using a steel spring / brush or conductive rubber.
9.2	Thickness shall be checked with a calibrated gauge to ensure a minimum thickness of 300 microns.
10.0 Cleaning instructions	
10.1	The resin system is generally resistant to moisture penetration, bacteria & fungus attack, soil acids, alkalis & salts, hydrocarbons and other chemicals associated with pipeline use.
10.2	Any cleaning required should be undertaken using a very dilute household type soap solution not containing solvents or abrasives and flushed clean of any residues with clean water following cleaning.

11.0 Process of application			
11.1	Remove oil, grease and loosely adhering deposits.		
11.2	Abrasive blast clean to SA 2 ½		
11.3	Apply mechanical masks or tape as required by client.		
11.4	Preheat component to desired application temperature.		
11.5	Deposit Scotchkote 206 N using fluidized bed to the minimum specified thickness (300 microns if not specified by the client). The component should not be held in the fluidising bath for longer than the gel time for the temperature used otherwise a grainy laminated surface will develop.		
11.6	Cure is effected by the residual heat in the component and the component should not be treated further until the glass transition point has been reached (93 ^o c or cooler).		
11.7	Cure Guide:		
	Temp of component	Gel time	Cure time
	246 ^o c	25 seconds	180 seconds
	232 ^o c	30 seconds	240 seconds
	218 ^o c	37 seconds	360 seconds
	204 ^o c	45 seconds	600 seconds