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Test Certificate

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REF NoN707703/11-12 Issue 1-1
 Ord No Cash account

Date Tested 22/02/2008
 Date Reported 22/02/2008

Test Product: **TIAL-M/TIAL-MGP sleeve installed on Ø 4" steel pipe with TIAL-P primer prior to application**

Specification - ASTM D870 - 02

Description of product tested

TIAL-M/TIAL-MGP heat-shrinkable wrap-around sleeve operating at temperature up to 60°C with TIAL-P wet epoxy primer.

ASTM D870 – 02			
Testing Water Resistance of Coatings Using Water Immersion			
TIAL-M/TIAL-MGP with TIAL-P Primer on steel substrate.			
Item number	Test Temperature (°C)	Test duration (days)	Observation within 10 minutes
1	60	120	Both the immersed and the un-immersed zones exhibited no visible of cracking or disbondment of the coating system.
2	60	120	Both the immersed and the un-immersed zones exhibited no visible of cracking or disbondment of the coating system.
3	60	120	Both the immersed and the un-immersed zones exhibited no visible of cracking or disbondment of the coating system.
4	60	120	Both the immersed and the un-immersed zones exhibited no visible of cracking or disbondment of the coating system..
5	60	120	Both the immersed and the un-immersed zones exhibited no visible of cracking or disbondment of the coating system..
6	60	120	Both the immersed and the un-immersed zones exhibited no visible of cracking or disbondment of the coating system.

Test Product: TIAL-M/TIAL-MGP sleeve installed on Ø 4" steel pipe with TIAL-P primer prior to application REF No N707703/8-8 Issue 1-1



ASTM D870 – 02			
Testing Water Resistance of Coatings Using Water Immersion			
TIAL-M/TIAL-MGP with TIAL-P Primer on steel substrate.			
Item number	Test Temperature (°C)	Test duration (days)	Observation after 24 hours
1	60	120	Both the immersed and the un-immersed zones exhibited no visible of cracking or disbondment of the coating system.
2	60	120	Both the immersed and the un-immersed zones exhibited no visible of cracking or disbondment of the coating system.
3	60	120	Both the immersed and the un-immersed zones exhibited no visible of cracking or disbondment of the coating system.
4	60	120	Both the immersed and the un-immersed zones exhibited no visible of cracking or disbondment of the coating system.
5	60	120	Both the immersed and the un-immersed zones exhibited no visible of cracking or disbondment of the coating system.
6	60	120	Both the immersed and the un-immersed zones exhibited no visible of cracking or disbondment of the coating system.

Test equipment used:

TME 2000 Digital temperature readout serial number 45945/1 with N Type thermocouple Calibration due 09/08.
 Erichen Pico Glossmaster 500 serial number 92193/5 Calibration against the reference standard when used.
 Gloss reference standard serial number PT97242 Calibration due 06/08

Note:

- The samples were removed from the tanks and the distilled water was changed after 60 days. The water was heated back to the required temperature within 2 hours and the test samples placed back into the tank.

The test specimens were conditioned for 24 hours at 23 ± 2°C and 50 ± 5% relative humidity.

The test specimens were maintained within ± 2°C of the required temperature throughout the test.

The above testing has been carried out in accordance with the requirements of the governing specification and or clients requirements, and controlled within the laboratories BS/EN/ISO/IEC 17025 UKAS accredited quality system. However, the testing is not covered under the laboratories UKAS testing schedule

Authorised by: Mr T S Haynes
 AMI MechIE, TMIIE, Eng Tech
 O.M.I.CORR

John Butler
 Operations Manager
 Bodycote Testing Ltd.
 North West Laboratory
 For and on behalf of
 Bodycote Materials Testing. Ltd

Witnessed by

[Signature]
 Mr S. Davenport Inspection/Expediting Engineer
 Velosi Europe Limited