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Test Certificate

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REF NoN707705/9-10 Issue 1
Ord No Cash account

Date Tested 30/10/2007
Date Reported 27/11/2007

Test Product: **TIAL-M80** sleeve installed on \varnothing 4" steel pipe with **TIAL-P** primer prior to application

Specification - NFA 49 716 -06 (NF EN 10329 – 06) Annex D Figure D.1 External Field Joint Coatings

Description of product tested

TIAL-M80 heat-shrinkable wrap-around sleeve operating at temperature up to 80°C with TIAL-P wet epoxy primer.

| NFA 49 716 -06 (NF EN 10329 – 06) Annex D Figure D.1 | | | | |
|--|---------------------|-----------------------|---------------|------------------------|
| Ring Section Peel | | | | |
| TIAL-M80 with TIAL-P Primer on steel substrate | | | | |
| Item number | Dimension Width(mm) | Test Temperature (°C) | Mean Load (N) | Mean Peel Force (N/mm) |
| 1 | 45.61 | 23 | 613.86 | 13.46 |
| 2 | 47.41 | 23 | 710.66 | 14.99 |
| 3 | 46.55 | 23 | 617.43 | 13.26 |
| 4 | 47.71 | 23 | 643.71 | 13.49 |
| 5 | 44.84 | 23 | 793.57 | 17.70 |

Test equipment used:

Hounsfield H50KS serial number 0242 Calibration due 04/2008
10kN load cell serial number 0178380 Calibration due 04/2008
Digital calliper serial number 06591053 (NW 225) Calibration due 02/2008

The test specimens were conditioned for 24 hours at $23 \pm 2^\circ\text{C}$ and $50 \pm 5\%$ relative humidity.

The peel test was carried out at a constant speed of 10 mm/minute.

The test specimens were peeled over a 200mm length. The first and last 20mm were discounted and the mean load was calculated using the remaining values at 20mm intervals.

The test temperature was maintained within $\pm 2^\circ\text{C}$ 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

Witnessed by

John Carter
Operations Manager
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For and on behalf of
Bodycote Materials Testing. Ltd

Mr S. Davenport Inspection/Expediting Engineer
Velosi Europe Limited