



Report No	2381/7984834	This Report consists of 8 pages
Client	Rexton Technologies Middle East FZE Executive Suite R1-36 P.O. Box 8080 Saif Zone Sharjah United Arab Emirates	
Authority & date	BSI Quotation Acceptance Form BSI 0000443188 Dated 26 March 2013 Equipment Record Number 10141414	
Items tested	Plastics Conduits	
Specification	BS EN 61386-21:2004 (BS EN 51386-1:2008) Clauses 6, 7, 8.1, 9.1, 10.2, 10.3, 10.4, 10.6, 11.3, 12.2 and 13.1.3 Independent test	
Results	See Summary of Results on page 2	
Prepared by	D Mackie 	Senior Engineer
Authorized by	G R Essam 	Principal Engineer
Issue Date	21 June 2011	
Conditions of issue	<p>This Test Report is issued subject to the conditions stated in current issue of CP0322 'Conditions of Contract for Testing'. The issuing of this Test Report does not indicate any measure of Approval, Certification, Supervision, Control or Surveillance by BSI of any product. No extract, abridgement or abstraction from a Test Report may be published or used to advertise a product without the written consent of the Managing Director, BSI Testing Services, who reserves the absolute right to agree or reject all or any of the details of any items or publicity for which consent may be sought. Test Results contained herein have assessments made on selected sample/s tested against the Product Standard and associated clauses as detailed on page 1 and 2 of this Test Report. Further information can be made available from the authorising signatory.</p>	



0135

TESTING, EXAMINATION AND ASSESSMENT OF PVC CONDUITS SUBMITTED AS INDEPENDENT TEST SAMPLES

INTRODUCTION

At the request of the Rexton Technologies Middle East FZE, the PVC conduits detailed below and received on 15 May 2013, were tested in accordance with BS EN 61386-21:2004 Clauses 6, 7, 8.1, 9.1, 10.2, 10.3, 10.4, 10.6, 11.3, 12.2 and 13.1.3 as indicated on the following pages of this Report. This request was made in a BSI Quotation Acceptance Form BSI 0000443188 dated 26 March 2013. It is emphasized that assessments were not made against the other clauses of the Specifications.

This Report only relates to the actual samples which have been tested and assessed. The results obtained do not necessarily relate to samples from the production line and in no way imply that the performance or quality of the continuing production will be maintained.

TEST ITEMS

15 off 1 metre lengths 20 mm Diameter PVC Conduit
15 off 1 metre lengths 25 mm Diameter PVC Conduit
15 off 1 metre lengths 32 mm Diameter PVC Conduit
15 off 1 metre lengths 38 mm Diameter PVC Conduit
15 off 1 metre lengths 50 mm Diameter PVC Conduit

SUMMARY OF RESULTS

The PVC Conduits met the requirements of those clauses, or parts thereof, of the Specification against which assessments were made.

EXAMINATION AND TEST**CLAUSE****ASSESSMENT****6****CLASSIFICATION**

As a result of the testing detailed in this report the classification of the conduits tested can be indicated as follows:

20 mm Diameter PVC Conduit: 442112000010

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25 mm Diameter PVC Conduit: 442112000010

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32 mm Diameter PVC Conduit: 442112000010

-

38 mm Diameter PVC Conduit: 442112000010

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50 mm Diameter PVC Conduit: 442112000010

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7.**MARKING****7.1****Specified Marking**

(7.1) The name or trademark of manufacturer.

(7.1.1) Classification code.

Actual Marking**20 mm Diameter PVC Conduit:**

Rexton 20x1.8mm-IEC61386-4421-Very Heavy Duty-131271-
Made in UAE 16:27

Pass

25 mm Diameter PVC Conduit:

Rexton 25x1.9mm-IEC61386-4421-Very Heavy Duty-131271-
Made in UAE 14:50

Pass

32 mm Diameter PVC Conduit:

Rexton 32x2.5mm-IEC61386-4421-Very Heavy Duty-131261-
Made in UAE 11:37

Pass

38 mm Diameter PVC Conduit:

Rexton 38x2.5mm-IEC61386-4421-Very Heavy Duty-131261-
Made in UAE 16:51

Pass

50 mm Diameter PVC Conduit:

Rexton 50x3.2mm-IEC61386-4421-Very Heavy Duty-131261-
Made in UAE 16:52

Pass

7.6

The marking shall be durable and easily legible

20 mm Diameter PVC Conduit

Pass

25 mm Diameter PVC Conduit

Pass

32 mm Diameter PVC Conduit

Pass

38 mm Diameter PVC Conduit

Pass

50 mm Diameter PVC Conduit

Pass

EXAMINATION AND TEST (CONTINUED)**CLAUSE****ASSESSMENT****8. DIMENSIONS**

8.1 The outside diameters and threads shall comply with IEC 60423

The outside diameter of the conduits was checked by means of the appropriate gauge detailed in IEC 60423

20 mm Diameter PVC Conduit	Pass
25 mm Diameter PVC Conduit	Pass
32 mm Diameter PVC Conduit	Pass
38 mm Diameter PVC Conduit	Pass
50 mm Diameter PVC Conduit	Pass

9. CONSTRUCTION

9.1 Within the Conduit System there shall be no sharp edges, burrs or surface projections which are likely to damage insulated conductors or cables or inflict injury to the installer or user.

20 mm Diameter PVC Conduit	Pass
25 mm Diameter PVC Conduit	Pass
32 mm Diameter PVC Conduit	Pass
38 mm Diameter PVC Conduit	Pass
50 mm Diameter PVC Conduit	Pass

10. MECHANICAL PROPERTIES**10.2 Compression test**

The Conduits were tested in accordance with the method described in this clause. When a force of either 1250N (Heavy grade) the sample shall not exceed 25% of the initial outside diameter.

Nominal Size	Sample	Force applied (N)	Compression (%)	
20mm PVC Conduit	1	1250	6.98	Pass
	2	1250	6.77	Pass
	3	1250	6.98	Pass
25mm PVC Conduit	1	1250	8.31	Pass
	2	1250	8.36	Pass
	3	1250	8.49	Pass

EXAMINATION AND TEST (CONTINUED)**CLAUSE****ASSESSMENT****10. MECHANICAL PROPERTIES (CONTINUED)****10.2 Compression test (Continued)**

Nominal Size	Sample	Force applied (N)	Compression (%)	
32mm PVC Conduit	1	1250	4.43	Pass
	2	1250	4.69	Pass
	3	1250	4.40	Pass
38mm PVC Conduit	1	1250	5.71	Pass
	2	1250	5.67	Pass
	3	1250	6.18	Pass
50mm PVC Conduit	1	1250	3.86	Pass
	2	1250	3.74	Pass
	3	1250	3.66	Pass

The force and the intermediate piece are then removed and, 60s after removal, the outside diameter of the samples, where they have flattened, shall be measured again.

The difference between the initial diameter and the diameter of the flattened samples shall not exceed 10% of the outside diameter, measured before test.

Nominal Size	Sample	Change in diameter (%)	
20mm PVC Conduit	1	0.98	Pass
	2	1.00	Pass
	3	0.93	Pass
25mm PVC Conduit	1	0.98	Pass
	2	0.65	Pass
	3	0.83	Pass
32mm PVC Conduit	1	0.07	Pass
	2	0.20	Pass
	3	0.12	Pass
38mm PVC Conduit	1	0.15	Pass
	2	0.03	Pass
	3	0.21	Pass
50mm PVC Conduit	1	0.09	Pass
	2	0.00	Pass
	3	0.00	Pass

EXAMINATION AND TEST (CONTINUED)**CLAUSE****ASSESSMENT****10. MECHANICAL PROPERTIES (CONTINUED)****10.3 Impact test**

The Conduits were tested at -5°C in accordance with the method described in this clause. After the test, the samples shall show no cracks visible to normal or corrected vision without magnification. It should be possible to pass the appropriate gauges through the samples.

Nominal Size	Mass Used (kg)	Drop height (mm)	No. failures out of 12	
20mm PVC Conduit	2	300 (Heavy grade)	0	Pass
25mm PVC Conduit	2	300 (Heavy grade)	0	Pass
32mm PVC Conduit	2	300 (Heavy grade)	0	Pass
38mm PVC Conduit	2	300 (Heavy grade)	0	Pass
50mm PVC Conduit	2	300 (Heavy grade)	0	Pass

After testing it was possible to pass the appropriate gauges through the impacted samples

Pass

EXAMINATION AND TEST (CONTINUED)**CLAUSE****ASSESSMENT****10. MECHANICAL PROPERTIES (CONTINUED)****10.4 Bending test**

The Conduits were tested in accordance to the method described in this clause at temperatures of -5°C and 23°C

After the test, the samples showed no cracks visible to normal or corrected vision without magnification. It was possible to pass the appropriate gauges through the samples

20 mm Diameter PVC Conduit
25 mm Diameter PVC Conduit

Pass
Pass

10.6 Collapse test

The Conduits were tested in accordance to the method described in this clause at a temperature of 60°C.

After the test, it was possible to pass the appropriate gauges through the samples.

20 mm Diameter PVC Conduit
25 mm Diameter PVC Conduit

Pass
Pass

11. ELECTRICAL PROPERTIES**11.3 Electrical insulating Strength of Conduits**

The Conduits were tested in accordance with the method described in this clause using a voltage of 2000V for 15 minutes.

No breakdown occurred during the test.

20 mm Diameter PVC Conduit
25 mm Diameter PVC Conduit
32 mm Diameter PVC Conduit
38 mm Diameter PVC Conduit
50 mm Diameter PVC Conduit

Pass
Pass
Pass
Pass
Pass

Electrical resistance Strength for Conduits

The Conduits were tested in accordance with the method described in this clause.

The insulation resistance shall be greater than 100MΩ

20 mm Diameter PVC Conduit
25 mm Diameter PVC Conduit
32 mm Diameter PVC Conduit
38 mm Diameter PVC Conduit
50 mm Diameter PVC Conduit

Pass
Pass
Pass
Pass
Pass

EXAMINATION AND TEST (CONTINUED)**CLAUSE****ASSESSMENT****12. THERMAL PROPERTIES****12.2 Resistance to heat**

The Conduits were tested in accordance with the method described in this clause.

Each of the Conduits retained the load of 4.0 kg for the duration of 24 hours.

In each case the gauge moved through the Conduits under its own weight and without any in initial speed, with the samples in the vertical position.

20 mm Diameter PVC Conduit
 25 mm Diameter PVC Conduit
 32 mm Diameter PVC Conduit
 38 mm Diameter PVC Conduit
 50 mm Diameter PVC Conduit

Pass
 Pass
 Pass
 Pass
 Pass

13. FIRE HARZARD**13.1 Reaction to fire****13.1.3 Spread of fire**

The Conduits were tested in accordance with the method described in this clause.

The samples burned slowly and the flame did not spread appreciably. In all three cases for each type of conduit the flame died out less than 30 seconds after removal of the burner

20 mm Diameter PVC Conduit
 25 mm Diameter PVC Conduit
 32 mm Diameter PVC Conduit
 38 mm Diameter PVC Conduit
 50 mm Diameter PVC Conduit

Pass
 Pass
 Pass
 Pass
 Pass

End of Report