

## TEST REPORT

REPORT NO.: 2013CB3199

PAGE : 1 OF 6

This Test Report refers only to samples submitted by the applicant to SIRIM QAS International Sdn. Bhd. and tested by SIRIM QAS International Sdn. Bhd. This test report shall not be reproduced, except in full and shall not be used for advertising purposes by any means or forms without written approval from Executive Director, SIRIM QAS International Sdn. Bhd. Please refer overleaf for Conditions Relating To The Use of Test Report.

Applicant : SKILLTRIM SDN. BHD.  
PT 16713, Jalan Permata 1/7,  
Arab Malaysian Industrial Park,  
71800 Nilai,  
Negeri Sembilan Darul Khusus

Manufacturer : SKILLTRIM SDN. BHD.

Product : HDPE Double Wall Corrugated Pipes

Reference Standard / Method of Test : BS EN 61386-24 : 2010  
Conduit Systems for Cable Management -  
Part 24 : Particular Requirements - Conduit Systems  
Buried Underground

Description of Sample : Two sets of HDPE Double Wall Corrugated Pipes were received for testing.  
  
Nominal Size : Ø 100 mm & Ø 150 mm  
Brand : Skilltrim

Date Received : 23<sup>rd</sup> May 2013

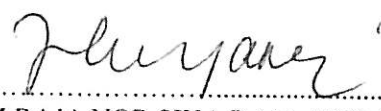
Job No./Ref.No. : J20131433199 / SQAS / CCST / T.REC / PCL / 13

Issued Date : 05 JUN 2013

### Approved Signatories

  
(WAHEEDIR YAHAYA)  
Technical Executive



  
(YM RAJA NOR SIHA RAJA ABD. HANAN)  
Head  
Civil & Construction Section  
Testing Services Department

## TEST REPORT

REPORT NO.: 2013CB3199	PAGE: 2 OF 6
This Test Report refers only to samples submitted by the applicant to SIRIM QAS International Sdn. Bhd. and tested by SIRIM QAS International Sdn. Bhd. This test report shall not be reproduced, except in full and shall not be used for advertising purposes by any means or forms without written approval from Executive Director, SIRIM QAS International Sdn. Bhd.	

### TEST RESULT :

- 1) Sample : HDPE Double Wall Corrugated Pipes  
 Nominal size : Ø 100 mm ( Based on inside diameter )  
 Classification : Normal Duty  
 Brand : Skilltrim

Clause	Specification	Results	Remarks
8	<b>DIMENSIONS</b> Conduit should be preferably according to Table 101	Outside diameter : 117.5 mm  Min. inside diameter : 100.4 mm	-  -
9	<b>CONSTRUCTION</b>		
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.	There were no sharp edges, burrs or surface projection in the conduit.	Satisfactory
10	<b>MECHANICAL PROPERTIES</b>		
10.2	<b>Compression test*</b>		
10.2.5	When reaching the deflection of 5%, the applied force shall be at least 450 N for conduits according to Type 450 (code 450).	1) 594.8 N 2) 584.9 N 3) 598.6 N <b>Average : 592.8 N</b>	Complied
10.2.6	After the test, there shall be no cracks allowing the ingress of light or water between the inside and the outside.	No cracks allowing the ingress of light or water between the inside and the outside observed.	Satisfactory

Note : \* As declared by Manufacturer



05 JUN 2013

## TEST REPORT

REPORT NO : 2013CB3199

PAGE : 3 OF 6

This Test Report refers only to samples submitted by the applicant to SIRIM QAS International Sdn. Bhd. and tested by SIRIM QAS International Sdn. Bhd. This test report shall not be reproduced, except in full and shall not be used for advertising purposes by any means or forms without written approval from Executive Director, SIRIM QAS International Sdn. Bhd.

Clause	Specification	Result	Remarks
<b>10</b>	<b>MECHANICAL PROPERTIES(cont'd)</b>		
<b>10.3</b>	<b>Impact test</b>		
<b>10.3.3</b>	After the test, it shall be possible to pass the appropriate ball through the conduit, under its own weight and without any initial speed, with the sample in the vertical position.	<ul style="list-style-type: none"> <li>The ball passed through the sample under its own weight.</li> </ul>	Satisfactory
	There shall be no sign of disintegration nor shall there be any crack allowing the ingress of light or water between the inside and the outside.	<ul style="list-style-type: none"> <li>No sign of disintegration nor cracks allowing the ingress of light or water between the inside and the outside were observed.</li> </ul>	Satisfactory
	At least in nine of the twelve samples shall pass the test.	<ul style="list-style-type: none"> <li>All 12 samples passed the test.</li> </ul>	Complied
<b>10.4</b>	<b>Bending Test *</b>		
<b>10.4.3</b>	During the test, the sample shall not flatten.	No flattening occurred.	Complied
	Compliance shall be checked by passing a ball having a diameter equal to $(95 \pm 1/-0)\%$ of the minimum inner diameter of the sample declared by the manufacturer, through the sample whilst it is bent around the apparatus.	The ball passed through the sample whilst it was bent around the apparatus.	Complied

Note : \*

- i) The minimum inner diameter of the sample as declared by Manufacturer : 100.0 mm.
- ii) The test was conducted at room temperature only.
- iii) The sample was bent with bending radius of 0.71 m.



05 JUN 2013

## TEST REPORT

REPORT NO.: 2013CB3199

PAGE : 4 OF 6

This Test Report refers only to samples submitted by the applicant to SIRIM QAS International Sdn. Bhd. and tested by SIRIM QAS International Sdn. Bhd. This test report shall not be reproduced, except in full and shall not be used for advertising purposes by any means or forms without written approval from Executive Director, SIRIM QAS International Sdn. Bhd.

- 2) Sample : HDPE Double Wall Corrugated Pipes  
 Nominal size : Ø 150 mm ( Based on inside diameter )  
 Classification : Normal Duty  
 Brand : Skilltrim

	Specification	Results	Remarks
8	<b>DIMENSIONS</b> Conduit should be preferably according to Table 101	Outside diameter : 172.5 mm Min. inside diameter : 150.2 mm	- -
9	<b>CONSTRUCTION</b>		
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.	There were no sharp edges, burrs or surface projection in the conduit.	Satisfactory
10	<b>MECHANICAL PROPERTIES</b>		
10.2	<b>Compression test*</b>		
10.2.5	When reaching the deflection of 5%, the applied force shall be at least 450 N for conduits according to Type 450 (code 450).	1) 694.2 N 2) 685.5 N 3) 678.0 N Average : 685.9 N	Complied
10.2.6	After the test, there shall be no cracks allowing the ingress of light or water between the inside and the outside.	No cracks allowing the ingress of light or water between the inside and the outside observed.	Satisfactory

Note : \* As declared by Manufacturer



05 JUN 2013

## TEST REPORT

REPORT NO : 2013CB3199

PAGE 5 OF 6

This Test Report refers only to samples submitted by the applicant to SIRIM QAS International Sdn. Bhd. and tested by SIRIM QAS International Sdn. Bhd. This test report shall not be reproduced, except in full and shall not be used for advertising purposes by any means or forms without written approval from Executive Director, SIRIM QAS International Sdn. Bhd.

Clause	Specification	Result	Remarks
10	<b>MECHANICAL PROPERTIES(cont'd)</b>		
10.3	<b>Impact test</b>		
10.3.3	After the test, it shall be possible to pass the appropriate ball through the conduit, under its own weight and without any initial speed, with the sample in the vertical position.	<ul style="list-style-type: none"> <li>The ball passed through the sample under its own weight.</li> </ul>	Satisfactory
	There shall be no sign of disintegration nor shall there be any crack allowing the ingress of light or water between the inside and the outside.	<ul style="list-style-type: none"> <li>No sign of disintegration nor cracks allowing the ingress of light or water between the inside and the outside were observed</li> </ul>	Satisfactory
	At least in nine of the twelve samples shall pass the test.	<ul style="list-style-type: none"> <li>All 12 samples passed the test.</li> </ul>	Complied
10.4	<b>Bending Test *</b>		
10.4.3	During the test, the sample shall not flatten.	No flattening occurred.	Complied
	Compliance shall be checked by passing a ball having a diameter equal to $(95 \pm 1/-0)\%$ of the minimum inner diameter of the sample declared by the manufacturer, through the sample whilst it is bent around the apparatus.	The ball passed through the sample whilst it was bent around the apparatus.	Complied

- Note : \*
- i) The minimum inner diameter of the sample as declared by Manufacturer : 150.0 mm.
  - ii) The test was conducted at room temperature only.
  - iii) The sample was bent with bending radius of 0.86 m.



05 JUN 2013



## TEST REPORT

REPORT NO.: 2013CB3199

PAGE : 6 OF 6

This Test Report refers only to samples submitted by the applicant to SIRIM QAS International Sdn. Bhd. and tested by SIRIM QAS International Sdn. Bhd. This test report shall not be reproduced, except in full and shall not be used for advertising purposes by any means or forms without written approval from Executive Director, SIRIM QAS International Sdn. Bhd.

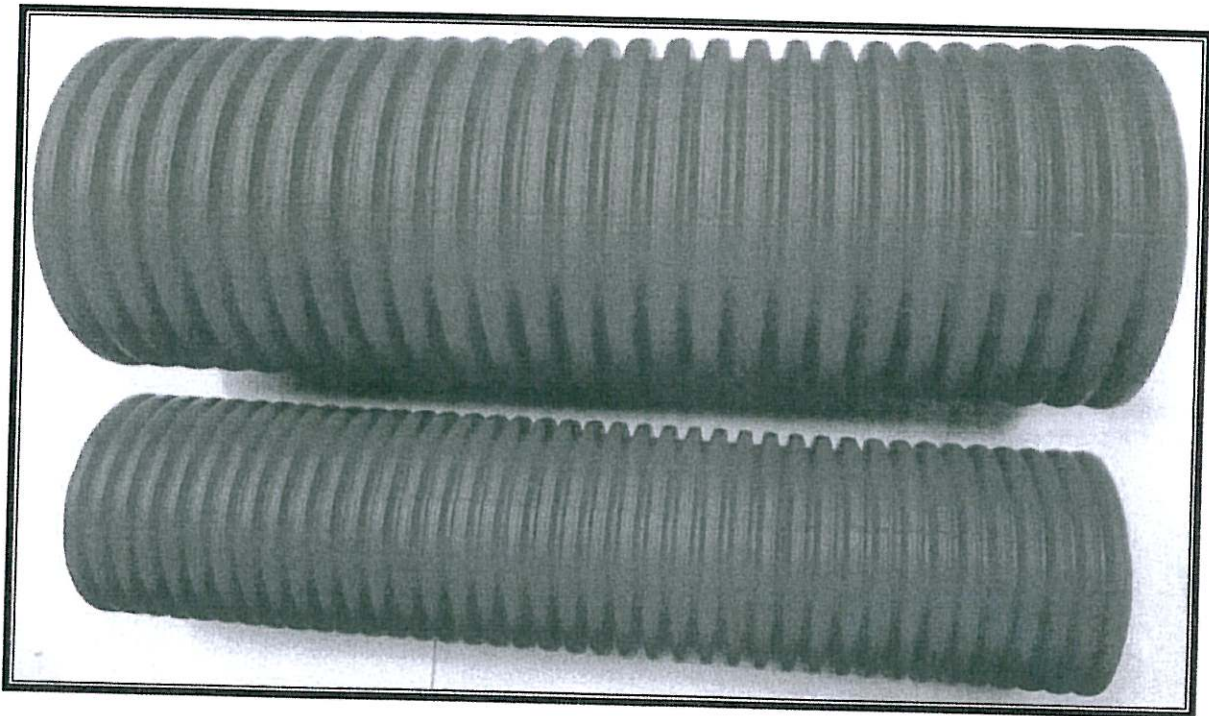


Photo 1: Shows sample submitted for test (Sample reference :  $\varnothing$  100 mm &  $\varnothing$  150 mm )



*ef*  
05 JUN 2013