



# INDUSTRIAL TECHNOLOGY INSTITUTE (ITI)

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## TEST REPORT

Report No. CTS 1704227

Report to :

Idea Group Limited,  
No. 06, Lucas Road,  
Colombo 14.

Issued by:

Materials Technology Section  
Industrial Technology Institute

2017/05/16

Page 01 of 04 Pages

*Signature*

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**TEST REPORT**

**Report No. CTS 1704227**

<b>Customer:</b>  Idea Group Limited, No. 06, Lucas Road, Colombo 14.	<b>Test Item:</b> One sample of plastic roofing sheet  <b>Service Requested:</b> To carry out the following test on the submitted sample 1 as per the customer letter dated 08 March, 2017. <ol style="list-style-type: none"><li>1. Material identification (polymer)</li><li>2. Relative density</li><li>3. Water absorption</li><li>4. Flexural strength</li><li>5. Corrosion resistance (Acid and base)</li><li>6. Anti-flaming (horizontal and vertical)</li></ol>
<b>Identification of test item:</b> The submitted sample was labeled as “ <b>I-ROOF</b> ”	
<b>Date of receipt of test item:</b> 2017.03.15	
<b>Description:</b> <ol style="list-style-type: none"><li>1. Material identification was carried out using Fourier Transform Infrared (FTIR) spectroscopy.</li><li>2. Relative density of the sample was determined as per ASTM D 792 - 03</li><li>3. Water absorption was determined as per ASTM D 570 - 98</li><li>4. Flexural strength was determined-based on ASTM D 790-00</li><li>5. Corrosion resistance (Acid and base) of the sample was assessed as per ISO 10545 Part13: 1995(E)</li><li>6. Anti-flaming (horizontal and vertical) was assessed as per UL 94 - 2001</li></ol>	
<b>Test Dates:</b> 2017.03.15 – 2017.05.09	

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Report No. CTS 1704227

**TEST RESULTS AND CONCLUSION**

Test parameter		Result		Remarks
Material		Acrylic styrene acrylonitrile (ASA) and Polyvinyl chloride (PVC)		FTIR- ATR method
Relative density		1.65		Test temperature : 23 ± 2 °C
Water absorption		0.03 %		Test temperature : 23 ± 2 °C
Flexural strength		55 Mpa		Rate of crosshead motion: 1 mm/min Test temperature : 23 ± 2 °C
Corrosion resistance	Acid	No damages or staining		Test solution : 3% HCl
	Base	No damages or staining		Test solution : 30g/L KOH
Anti-flaming	horizontal	Burning extinguished once the flame was remove from the test sample.		HB class as per UL 94 -2001
	vertical	After-flame time after first flame application, t1	0 s	V-0 class as per UL 94 -2001
		After-flame time after second flame application, t2	2 s	
		After-glow time after second flame application, t3	6 s	
		Whether specimens burn up to the holding clamp.	No	
		Whether specimens drip flaming particles that ignited the cotton indicator	No	

Analysis was carried out by L D C Nayanajith.

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**L D C Nayanajith**  
 Research Scientist  
 2017/05/17

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**Authorized Signatory**  
**Dr (Mrs) I R M Kottegoda**  
 Principal Research Scientist  
 2017/05/17

**Dr. I. R. M. Kottegoda**  
 PRS / Materials Technology Section  
 Industrial Technology Institute