



Client: Mr. Rahat Muslemin
Project Director
09 Apartment Building Project
Rajdhani Unnayan Kartripakkha, Dhaka

Date: 17 February 2021

MME No.: 0655/2020-21



d0jwieunuz

Client's Reference: 25.39.0000.159.26.025.20-246 sth; Date: 19/11/2020

BRTC Reference: 1102-23878/MME/2020-21; Date: 09/12/2020

Subject: Test of Water Membrane

Sample Condition: Not Sealed

Please note: The client supplied the sample and the result given herewith corresponds to the sample tested only. The Department of Materials and Metallurgical Engineering of BUET takes no responsibility regarding the misidentification, if any, of the sample.

TEST REPORT

Thickness Measurement

Sample Description	Thickness, mm	
	Individual Thickness Values	Average Value
Membrane Thickness (Bitu Seal 1000)	1.74, 1.82, 1.78, 1.72, 1.75	1.76
Backing Thickness (Bitu Seal 1000)	0.15, 0.13, 0.14, 0.13, 0.13	0.14

Water Absorption

Sample Description	Test Method	Water Absorption	Average Water Absorption
		%	%
Membrane Film (without insulation) (Bitu Seal 1000)	ASTM D 5147	1.57	1.55
		1.48	
		1.59	
Membrane Composite (with insulation) (Bitu Seal 1000)		0.98	1.07
		1.18	
		1.04	

Tensile Properties

Sample Description	Test Method	Sample No.	Tensile Strength	Average Tensile Strength	Elongation (G.L. 50 mm)	Average Elongation
			MPa	MPa	%	%
Membrane Film (without insulation) (Bitu Seal 1000)	ASTM D 638	1	7.49	6.56	135	135
		2	5.11		107	
		3	7.09		164	
Membrane Composite (with insulation) (Bitu Seal 1000)		1	8.12	7.32	140	-
		2	6.52		264	
		3	7.31		172	

Note: Only Bitu Seal 1000 sample was provided.

M. HASAN
17.2.21

Dr. Mahbub Hasan
Professor and Head

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Date of Test:
 Product Name:

October 31st 2020
 BITUSEAL 1000

Batch No.: 036435

TESTS PERFORMED	TEST METHOD	BITUMAT SPECIFICATIONS	TESTS RESULTS (Average)	OBSERVATIONS & REMARKS
WIDTH (m)	UEAtc	1.00	1.04	
LENGTH (m)	UEAtc	20.00	20.18	
WEIGHT (kg/m ²) ⁽²⁾	UEAtc	1.50	1.73	
THICKNESS (mm)	UEAtc	1.50	1.64	
TENSILE STRENGTH (N/5cm) @23±2 ^o C LONGITUDINAL TRANSVERSAL	UEAtc	400 ± 20% 300 ± 20%	474.33 316.30	
LAP JOINT STRENGTH (N/5cm) ⁽¹⁾ LONGITUDINAL TRANSVERSAL	UEAtc	400 300	470.10 314.10	
PUNCTURE RESISTANCE N	ASTM E 154	120.00	229.00	
LOW TEMPERATURE FLEXIBILITY	ASTM D 5147	(-20 ^o C)	Pass	
WATER ABSORPTION ⁽³⁾ % Wt @ 23 ^o C /24hrs	ASTM D 5147	< 0.08		

Note: Samples provided by BITUMAT.

- (1) Breaking out of joint or Tensile Strength more than 500 N/cm.
- (2) Weight is an average for the tested samples.
- (3) This test has been started 24 hours before our visit and performed during the said visit.



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