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EVALUATION OF "LDC 70" LOW DENSITY SPRAY FOAM INSULATION MATERIAL FOR WATER ABSORPTION CHARACTERISTICS IN ACCORDANCE WITH ASTM D2842

A Report to:	Icynene Inc. 6747 Campobello Rd. Mississauga, Ontario L5N 2L7
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1.0 INTRODUCTION

At the request of Icynene Inc., Exova was retained to evaluate a sample of LDC 70 low density open cell water blown foam material for its water absorption characteristics according to standard test method ASTM D2842-12 "*Standard Test Method for Water Absorption of Rigid Cellular Plastics."*

Upon receipt, the sample was assigned the following Exova Sample No.:

Client Sample Identification	Exova Sample No.
LDC 70 – WA @ DIN Low density open celled spray foam 4 specimens – 100 mm x 100 mm x 50 mm	16-06-P0051-70

2.0 PROCEDURE

The sample was evaluated in accordance with the following standard test method, with deviations as noted below.

Test Description	Test Method
Standard Test Method for Water Absorption of Rigid Cellular Plastics	ASTM D2842-12 Procedure B

Sample:	100 x 100 x 50 mm (nominal) – deviation from 150 mm x 150 mm x 75 mm	
Conditioning:	50˚C for 24 hrs	
Water:	Deionized Water 23˚C (nominal)	
Tank:	50 mm (2 in.) constant head (nominal) measured from the top of the sample	
Duration:	96 ± 0.25 hours (4 days)	
Measurement:	Callipers Balance (0.00g) Balance (0.00g) Thermocouple:	MII# B10643 MII# A04937 (buoyancy force) MII# B12518 (wet/dry mass) MII# B10867
Test Date:	2016-03-03 to 2016-03-07	

3.0 RESULTS

A summary of results is presented below. In all cases, SI units are the primary units of measure.

Table 1 – Water Absorption
ASTM D2842 – 12
Exova Sample No: 16-06-P0051-70

Specimen	**Density,** kg/m^3	**Volume of H_2O,** % by vol
1	10.27	2.04
2	9.90	4.48
3	10.19	2.52
Average	10.12	**3.01**

4.0 CONCLUSION

The foam thermal insulation material identified as "LDC 70," tested as described in this report, has an average density of 10.12 kg/m^3 and absorbed 3.01% of its volume in water when submerged for 96 hours under 2 inches of water.

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