

**ANALYSIS REPORT**  
**SCC Accreditation No.: 40‡**

Mr Dave Martin

Date: December 19, 2016

**Quantum Group of Companies**

Report: S1277-022-93105A

IDENTIFICATION: Membrane Quantum ECS Polyurea sprayed on Typar: -10C, -20C, -30C, -40C  
 Received: October 27, 2016

**STANDARD:**

TEST: Impact Resistance of Rigid Poly(Vinyl Chloride) (PVC) Building Products ASTM D4226-16

TEST CONDITIONS: Conditioned sample(s) at  $23 \pm 2^\circ\text{C}$  and  $50 \pm 5\%$  R.H. for a minimum of 40 hours  
 Apparatus used: Gardner Impact Tester;  
 Procedure used: A  
 Impactor head configuration: H-25  
 Falling weight: 8 lbs  
 Dimension of the test specimens (mm x mm): 80 x 80  
 Average thickness (mm): 2.477  
 Tested between November 8 and 22, 2016

**RESULTS:** Individual Data**-10C**

Number of test specimens:	21
Number of brittle failures:	8
Number of ductible breaks:	3
Mean failure energy, MFE (J):	15.70
Standard deviation, MFE (J):	1.20

**-20C**

Number of test specimens:	20
Number of brittle failures:	10
Number of ductible breaks:	0
Mean failure energy, MFE (J):	20.90
Standard deviation, MFE (J):	4.00

Prepared by:

*Nancy Désautels*  
 Nancy Désautels,  
 Technician

Approved by: Amir Ershad Fanaei

*[Signature]*  
 For: Eric Blond, Eng., M.Sc.A.  
 Vice-President

Date: December 19, 2016

**\*\*For any information concerning this report, please contact Eric Blond\*\***

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**RESULTS (CONT):** Individual Data

**-30C**

Number of test specimens:	21
Number of brittle failures:	2
Number of ductible breaks:	8
Mean failure energy, MFE (J):	23.80
Standard deviation, MFE (J):	5.90

**-40C**

Number of test specimens:	23
Number of brittle failures:	1
Number of ductible breaks:	11
Mean failure energy, MFE (J):	10.10
Standard deviation, MFE (J):	6.80

Prepared by:

*Nancy Désautels*  
 Nancy Désautels,  
 Technician

Approved by: Amir Ershad Fanaci

*[Signature]*  
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