



Intertek Testing Services
ETL SEMKO

July 25, 2001

Commonwealth Laminating & Coating, Inc.
345 Beaver Creek Drive
Martinsville, VA 24115

Subject: ITS Test Report No. #J20047534-231

Dear ?

Please find the enclosed copy of the evaluation report on the impact testing per ANSI Z97.1 and CPSC 16 CFR 1201, copy of letter report per small missile impacts, and photographs of both tests of the organic coated glass samples you submitted for testing.

If you have any questions or concerns, please feel free to contact me. Thanks again for this opportunity to serve you.

Sincerely,

Jesse Grossbier
Engineering Technician
Intertek Testing Service
ETL SEMKO

Enclosure



ITS TEST REPORT #J20047534-231-01

REPORT

OF

IMPACT

TESTS

OF

ORGANIC COATED
GLASS

FOR

COMMONWEALTH LAMINATING
& COATING, INC.
345 BEAVER CREEK DRIVE
MARTINSVILLE, VA 24115

BY

INTERTEK TESTING SERVICES NA INC.
8431 MURPHY DRIVE
MIDDLETON, WISCONSIN 53562

TEST DATE: JULY 20-24, 2001
REPORT DATE: JULY 24, 2001

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INTRODUCTION

This report gives the results of the evaluation of the provided sample (Job #J20047534-01). The test results described in this report are limited to the submitted items. On July 20-24, 2001, Intertek Testing Services performed impact tests on Organic Coated glazing samples at the ITS Middleton, Wisconsin facility for Commonwealth Laminating & Coating, Inc. The samples were tested according to ANZI Z97.1 and CPSC 16 CRF 1201 test standards.

All measurements were taken with a 95% confidence level. Dimensional measurements taken with a digital caliper WHI #264 had an accuracy of +/- 0.001-inch. All impacts were made within +/- 1 foot pound of the indicated force.

SPECIMEN DESCRIPTION

Manufacturer: Commonwealth Laminating & Coating, Inc.

Specimen size: 34" x 72" x 0.25" (Glass)

Sample #1 4 mil with laminate: 0.230"
with out laminate: 0.225"

Sample #1 7 mil with laminate: 0.229"
with out laminate: 0.224"

Sample #1 8 mil with laminate: 0.238"
with out laminate: 0.228"

Description of typical specimen: Organic Coated Glass

PROCEDURE

The units were installed in a test frame built according to the test specifications in ANZI Z-97.1 section 5. The following tests were conducted on the samples:

- ◆ Impact test per ANZI Z-97.1

- ◆ Impact test per CPSC 16 CRF 1201



RESULTS

4mil

Specimen #	Test Standard	Impact Distance at Which Disintegration Occurred:	Results	Allowed
		Inches		
1*	ANSI Z97.1	18	Sample broke no opening created	No shear or opening >3" diameter
2*	ANSI Z97.1	18	Sample broke no opening created	No shear or opening >3" diameter
3*	CPSC 1201	18	Sample broke no opening created	No shear or opening >3" diameter
4**	ANSI Z97.1	N/A	Sample did not break	No shear or opening >3" diameter
5**	ANSI Z97.2	N/A	Sample did not break	No shear or opening >3" diameter
6**	CPSC 1201	18	Sample broke no opening created	No shear or opening >3" diameter

*Impacted laminated side

** Impacted non-laminated side

7 mil

Specimen #	Test Standard	Impact Distance at Which Disintegration Occurred:	Results	Allowed
		Inches		
1*	ANSI Z97.1	18	Sample broke no opening created	No shear or opening >3" diameter
2*	ANSI Z97.1	18	Sample broke no opening created	No shear or opening >3" diameter
3*	CPSC 1201	18	Sample broke no opening created	No shear or opening >3" diameter
4**	ANSI Z97.1	18	Sample broke no opening created	No shear or opening >3" diameter
5**	ANSI Z97.2	18	Sample broke no opening created	No shear or opening >3" diameter
6**	CPSC 1201	18	Sample broke no opening created	No shear or opening >3" diameter

*Impacted laminated side

** Impacted non-laminated side



Results Continued:

Specimen #	Test Standard	Impact Distance at Which Disintegration Occurred: Inches	8mil	
			Results	Allowed
1*	ANSI Z97.1	18	Sample broke no opening created	No shear or opening >3" diameter
2*	ANSI Z97.1	18	Sample broke no opening created	No shear or opening >3" diameter
3*	CPSC 1201	18	Sample broke no opening created	No shear or opening >3" diameter
4**	ANSI Z97.1	12	Sample broke no opening created	No shear or opening >3" diameter
5**	ANSI Z97.2	18	Sample broke no opening created	No shear or opening >3" diameter
6**	CPSC 1201	48	Sample broke no opening created	No shear or opening >3" diameter

*Impacted laminated side

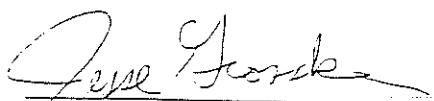
** Impacted non-laminated side

CONCLUSIONS

The 4 mil, 7 mil, and 8 mil organic coated glass samples under evaluation, satisfactorily meet the safety requirements of ANSI Z97.1 and CPSC 16 CRF 1201 impact test due to the fact that the samples broke with out creating sheer or opening that allowed a three-inch sphere to pass.

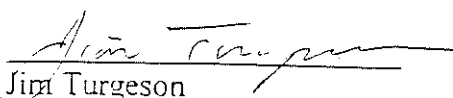
The 4 mil, 7 mil, and 8 mil qualify for category I (one) classification per CPSC 16 CRF 1201.

Test Conducted by:



Jesse Grossbier
 Engineering Technician

Report Reviewed by:



Jim Turgeson
 Fenestration Manager



July 25, 2001

Commonwealth Laminating & Coating, Inc.
345 Beaver Creek Drive
Martinsville, VA 24115

This is a letter report is to inform you of the results of the research and development testing conducted on the 7 mil and 8 mil laminated glass samples you supplied to ITS. The testing took place on July 25, 2001 under ITS Job #J20047534. The testing was conducted according to the guidelines established within standards ASTM E 1886, ASTM E1996 and Dade Protocol 201.

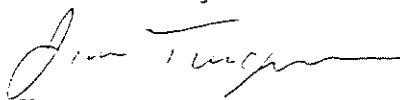
The two samples of glass tested were 34" by 72" one coated with a 7mil laminate and the other an 8mil laminate. The test consisted of firing ten steel balls weighing 2 grams each and fired at one hundred and thirty feet per second.

In conclusion the organic coated glass samples supplied by Commonwealth Laminating & Coating, Inc., for research and development testing, passed the small impact test due to the fact that neither of the impacts created a through opening.

Test conducted by:


Jesse Grossbier
Engineering Technician

Reviewed by:


Jim Turgeson
Project Manager- Fenestration

