

**Impact Testing of Organic coated Glass
in accordance with ANSI Z97.1-2015,
CPSC 1201-77 and CAN/CSGB-12.1-
M90-17**

3M Commercial Solutions Division
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Date: May 17th, 2019
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Report Number: ESP031022P.3

3M Safety S 40

4mil – 1/4" Annealed Glass
4mil – 1/8" Annealed Glass

Size Classification – U
Impact Classification – B

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EAR-CONTROLLED DATA
INTRODUCTION:

The following report presents the results of impact testing of organic coated glass in accordance with the safety glazing impact requirements of ANSI Z97.1-2015, CPSC 1201-77 and CAN/CSGB-12.1-M90-17. Testing was requested by Lesbia Giron of 3M Commercial Solutions Division. The samples were received on January 26th, 2018 and the project ESP027561P.12rev testing and reporting was performed by Nathan W. Mracek from February 1st, 2018 through February 26th, 2018.

SUMMARY OF RESULTS:

3M Safety S 40 film when applied to nominal 1/4" annealed glass **Complies** with the safety glazing impact requirements of ANSI Z97.1-2015, CPSC 1201-77 and CAN/CSGB-12.1-M90-17.

TEST METHOD AND RESULTS:
Impact Test

34" X 76" specimens were kept at a temperature of 65-85° F for a minimum of four hours preceding the test. Specimens were impacted alternating on the glass side and the film side, as noted in the tables in the following results section. Each specimen was struck once within 1/2 inch of center, with a shot bag constructed in accordance with the specifications referenced, swinging in a pendulum arc, from a drop height shown below.

3M Safety S 40 4mil - 1/4" Annealed Glass						
Sample Identification	Impact Side	Total Thickness Inches	Drop Height Inches	Largest Fragment (g)	All Ratable Fragments (g)	Results/Size of Opening
#1	Glass	0.235	18	0	0	1/4" X 12"/Resisted Test Ball – PASS
#2	Film	0.234	18	0	0	No tears / no openings – PASS
#3	Glass	0.231	18	0	0	1/2" X 12"/Resisted Test Ball – PASS
#4	Film	0.233	18	0	0	No tears / no openings – PASS

EAR-CONTROLLED DATA
INTRODUCTION:

The following report presents the results of impact testing of organic coated glass in accordance with the safety glazing impact requirements of ANSI Z97.1-2015, CPSC 1201-77 and CAN/CSGB-12.1-M90-17. Testing was requested by Lesbia Giron of 3M Commercial Solutions Division. The samples were received on April 26th, 2019 and testing was performed by Nathan W. Mracek from May 9th through May 10th, 2019.

SUMMARY OF RESULTS:

3M Safety S 40 film when applied to nominal 1/8" annealed glass **Complies** with the safety glazing impact requirements of ANSI Z97.1-2015, CPSC 1201-77 and CAN/CSGB-12.1-M90-17.

TEST METHOD AND RESULTS:
Impact Test

34" X 76" specimens were kept at a temperature of 65-85° F for a minimum of four hours preceding the test. Specimens were impacted alternating on the glass side and the film side, as noted in the tables in the following results section. Each specimen was struck once within ½ inch of center, with a shot bag constructed in accordance with the specifications referenced, swinging in a pendulum arc, from a drop height shown below.


3M Safety S 40 4mil - 1/8" Annealed Glass						
Sample Identification	Impact Side	Total Thickness Inches	Drop Height Inches	Largest Fragment (g)	All Ratable Fragments (g)	Results/Size of Opening
#1	Glass	0.129	18	0	0	No Tears - PASS
#2	Film	0.127	18	0	0	3" x ½"/Resisted Ball Test - PASS
#3	Glass	0.128	18	0	0	No Tears - PASS
#4	Film	0.129	18	5.98	5.98	3" x 1"/Resisted Ball Test - PASS

EAR-CONTROLLED DATA**CALIBRATED TEST EQUIPMENT:**


- PT-173-032 Starrett Micrometer
 - PT-173-017 Sartorius Scale
 - PT-177-012 Tape Measure
- Calibration Due: 10/24/2019
Calibration Due: 08/02/2019
Calibration Due: 02/23/2023

DISPOSITION OF SAMPLE:

Samples were destroyed during testing and disposed of immediately.

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