

# **ITS** Intertek Testing Services

Report No.: 284-4891-5  
Client No.: L24328  
Date: June 2, 1999

Description: **Impact Tests on Safety Glazing**

Client: **ACE/Security Laminates Incorporated**  
200 Isabella, Suite 500, Ottawa, Ontario K1S 1V7

Attention: Mr. Peter Fabian

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## **Introduction.**

This report covers impact tests performed on four new and undamaged samples of 3 mm (1/8") thick clear annealed glass complete with safety backing. The tests were performed to **ANSI Z97.1**. The safety backing was identified as "SF 5" 120 micron (0.005") thick clear monofilament backing. The samples were submitted to our laboratory for testing on October 8, 1998. Testing took place on May 28, 1999.

## **Apparatus.**

The specimen to be tested was mounted within a frame constructed in accordance with the standard, in a vertical position and retained with the edge clamps. Compression of the neoprene gasket was maintained at the required 10-15% throughout testing.

## **Procedure.**

The samples, each measuring 864 mm (34") by 1930 mm (76") were impacted on the glass side with a 100 pound shot bag constructed in accordance with the standard, struck once at the center, swinging in a pendulum initially from the 305 mm (12") drop height. If breakage did not occur, the sample was then impacted again, struck once at the center, swinging in a pendulum from the 457 mm (18") drop height. If breakage did not occur, the sample was then impacted again, struck once at the center, swinging in a pendulum from the 1220 mm (48") drop height.

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**Results.**

TEST NO.	SAMPLE MARKED	TEST SPEC.	BACKING TYPE	GLASS THICKNESS	DROP HEIGHT	COMMENTS	PASS/FAIL
1	1	ANSI Z97.1	SF 5	3 mm (1/8") nominal	305 mm (12") then 457 mm (18")	No breakage at 305 mm (12") drop height. At 457 mm (18") drop height: Glass broke. No hole produced in backing, negligible glass off backing.	PASS
2	2	ANSI Z97.1	SF 5	3 mm (1/8") nominal	305 mm (12") then 457 mm (18")	Glass broke. No hole produced in backing, negligible glass off backing.	PASS
3	3	ANSI Z97.1	SF 5	3 mm (1/8") nominal	305 mm (12") then 457 mm (18")	Glass broke. No hole produced in backing, negligible glass off backing.	PASS
4	4	ANSI Z97.1	SF 5	3 mm (1/8") nominal	305 mm (12") then 457 mm (18")	No breakage at 305 mm (12") drop height. At 457 mm (18") drop height: Glass broke. No hole produced in backing, negligible glass off backing.	PASS

**Comments**

The 3 mm (1/8") nominal thick clear annealed glass samples tested with the SF 5 monofilament safety backing met the requirements of the impact test of **ANSI Z97.1**.

Tested and reported by: David Wren

Respectfully Submitted,  
**Intertek Testing Services, NA. Ltd.**



David Wren, P.Eng.  
Physical Testing Services

**Reviewed by**



Vern W. Jones, C.E.T.

Manager  
Physical Testing Services

DHW: dhw  
2cc Client

# **ITS** Intertek Testing Services

Report No.: 284-4891-6  
Client No.: L24328  
Date: June 2, 1999

Description: **Impact Tests on Safety Glazing**

Client: **ACE/Security Laminates Incorporated**  
200 Isabella, Suite 500, Ottawa, Ontario K1S 1V7

Attention: Mr. Peter Fabian

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## **Introduction.**

This report covers impact tests performed on four new and undamaged samples of 6 mm (1/4") thick clear annealed glass complete with safety backing. The tests were performed to ANSI Z97.1. The safety backing was identified as "SF5" 120 micron (0.005") thick clear monofilament backing. The samples were submitted to our laboratory for testing on October 8, 1998. Testing took place on May 31, 1999.

## **Apparatus.**

The specimen to be tested was mounted within a frame constructed in accordance with the standard, in a vertical position and retained with the edge clamps. Compression of the neoprene gasket was maintained at the required 10-15% throughout testing.

## **Procedure.**

The samples, each measuring 864 mm (34") by 1930 mm (76") were impacted on the glass side with a 100 pound shot bag constructed in accordance with the standard, struck once at the center, swinging in a pendulum initially from the 305 mm (12") drop height. If breakage did not occur, the sample was then impacted again, struck once at the center, swinging in a pendulum from the 457 mm (18") drop height. If breakage did not occur, the sample was then impacted again, struck once at the center, swinging in a pendulum from the 1220 mm (48") drop height.

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3. The observations and test results in this report are relevant only to the sample tested. This report by itself does not imply that the material, product or service is or has ever been under an ITS certification program.

**Results.**

TEST NO.	SAMPLE MARKED	TEST SPEC.	BACKING TYPE	GLASS THICKNESS	DROP HEIGHT	COMMENTS	PASS/FAIL
1	12	ANSI Z97.1	SF 5	6 mm (1/4") nominal	305 mm (12") then 457 mm (18") then 1220 mm (48")	No breakage at 305 mm, (12") or 457 mm (18") drop height: Glass broke. No hole produced in backing, negligible glass off backing.	PASS
2	13	ANSI Z97.1	SF 5	6 mm (1/4") nominal	305 mm (12") then 457 mm (18")	No breakage at 305 mm, (12") drop height. At 457 mm (18") drop height. Glass broke. No hole produced in backing, negligible glass off backing.	PASS
3	14	ANSI Z97.1	SF 5	6 mm (1/4") nominal	305 mm (12") then 457 mm (18")	No breakage at 305 mm, (12") drop height. At 457 mm (18") drop height. Glass broke. No hole produced in backing, negligible glass off backing.	PASS
4	15	ANSI Z97.1	SF 5	6 mm (1/4") nominal	305 mm (12") then 457 mm (18") then 1220 mm (48")	No breakage at 305 mm, (12") or 457 mm (18") drop height: Glass broke. No hole produced in backing, negligible glass off backing.	PASS

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**Comments.**

The 6 mm (1/4") nominal thick clear annealed glass samples tested with the SF5 monofilament safety backing met the safety requirements of impact test of ANSI Z97.1.

Tested and reported by: David Wren

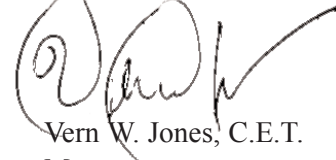
Respectfully Submitted,

**Intertek Testing Services, NA. Ltd.**



David Wren, P.Eng.  
Physical Testing Services

**Reviewed by**



Vern W. Jones, C.E.T.  
Manager  
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