



# United States Testing Company, Inc.

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## REPORT OF TEST

**ULTRA BOND, INC.**  
3696 Beatty Drive, Unit A  
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**602398-1**  
**02/06/95**

### SUBJECT - REPAIRED LAMINATED GLASS

#### REFERENCES:

1. Conferences and correspondence with Mr. Richard A. Campfield commencing January 24, 1995.
2. ANSI/SAE Z26.1-1990, "American National Standard for Safety Glazing Materials for Glazing Motor Vehicles and Motor Vehicle Equipment Operating on Land Highways - Safety Code".
3. Previous USTC Report Number 600080-1 dated January 17, 1995.

#### SAMPLE DESCRIPTION:

The following glass was submitted on January 24, 1995, and was identified by the Client as:

Three (3) pieces of 12-inch by 12-inch by 1/4-inch thick repaired laminated glass. Each specimen consisted of two 1/8 inch thick pieces of glass, and contained a repaired crack located on one side of the glass. The cracks extended from edge to edge.

#### OBJECTIVE:

The purpose of this project was to perform Light Stability, Test 1, and Luminous Transmittance, Test 2 on the submitted repaired laminated glass in accordance with ANSI/SAE Z26.1-1990.

**Signed for the Company:**

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Senior Project Engineer

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Page 1 of 4  
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1) LIGHT STABILITY TEST

Procedure:

Three, 12-inch (305 mm) by-12 inch (305 mm) specimens were tested for regular (parallel) luminous transmittance "Illuminant A".

The specimens were placed in a test cabinet and subjected to 100 hours of ultraviolet radiation. The specimens were placed nine inches (229 mm) from the light source which consisted of a General Electric H12T3 mercury vapor lamp operated between 115 and 130 volts. The temperature of the specimens were maintained between 100°F and 120°F (38°C and 49°C) throughout the test.

At the completion of the 100 hour period, the specimens were again tested for regular (parallel) luminous transmittance "Illuminant A".

The specimens were then immersed, vertically on edge, in boiling water for a period of 10 minutes. The specimens were removed from the boiling water and examined for bubbles or other noticeable decomposition in the irradiated portion of the specimen.

Tests were performed between January 27 and February 1, 1995.

Requirements:

The irradiated specimens shall retain at least 70% of the original transmittance. A very slight discoloration, noticeable only when specimens are placed on a white background, may develop, but defects other than this discoloration shall not develop.

No bubbles or other noticeable decomposition shall develop in the irradiated portion of the specimens.

**1) LIGHT STABILITY TEST**  
(Cont.)

**Results/Observations:**

<u>Specimen No.</u>	<u>Luminous Transmittance, (%)</u>		<u>Percent Retained</u>
	<u>Before Irradiation</u>	<u>After Irradiation</u>	
1	95	95	100
2	95	95	100
3	95	95	100

No bubbles or other noticeable decomposition occurred on any of the three specimens tested.

**Conclusion:**

The submitted repaired laminated glass met the requirements for Light Stability, Test 1 of ANSI/SAE Z26.1-1990.

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**2) LUMINOUS TRANSMITTANCE TEST**

**Procedure:**

The luminous transmittance readings obtained in Test Number 1, "Light Stability Test", both before and after irradiation, were used in this test.

**Requirement:**

Safety glazing materials or multiple glazed assemblies thereof intended for use at levels requisite for driving visibility in the motor vehicle shall show regular (parallel) luminous transmittance of not less than 70% of the light, at normal incidence, both before and after irradiation.

**Results:**

<u>Specimen No.</u>	<u>Luminous Transmittance, (%)</u>	
	<u>Before Irradiation</u>	<u>After Irradiation</u>
1	95	95
2	95	95
3	95	95

**Conclusion:**

The submitted repaired laminated glass met the requirements for Luminous Transmittance, Test 2 of ANSI/SAE Z26.1-1990.

Appr'd by 