



## PALSUN<sup>®</sup> Polycarbonate Sheet (4.5 mm and Thicker)

TECH BRIEF: 813

### ANSI Z97.1- 2009 Approval for Use in Exterior Applications

#### **Specifications:**

ANSI Z97.1-2009 – American National Standard for Safety Glazing Materials Used in Buildings (American National Standards Institute)

CPSC 16 CFR 1201 – Safety Standard for Architectural Glazing Materials (Consumer Products Safety Commission)

#### **Definition of Specification:**

This standard establishes the specifications and methods of test for the safety properties of safety glazing materials (glazing materials designed to promote safety and reduce the likelihood of cutting and piercing injuries when the glazing materials are broken by human contact) as used for all building and architectural purposes.

One purpose in the development of this standard is to provide a single functional test that will simulate such human contact as normally results in cutting and piercing injuries. The performance of each safety glazing material is evaluated by impacting in the normally installed position. The test should be conducted from the direction that human impact would occur. Only such auxiliary tests as are considered necessary to evaluate the continued performance level, are used in the case of glazing containing organic material.

#### **Testing Criteria Required for Approval of Plastic Glazing in Outdoor Applications:**

##### **Indoor Aging Testing**

Prior to impact testing, the test specimens are subjected to 480 complete cycles of warm, humid and dry conditions. One cycle includes 24 hours at 140°F and 88% relative humidity followed by 24 hours at 140°F in a dry oven. In between these cycles the material is brought to room temperature for 30 minutes. Samples are weighed and dimensionally measured after each conditioning point.

##### **Impact Testing**

Impact the glazing sample with a 100 lb. bag from a drop height of 48" without fracture of the plastic glazing.

##### **Weathering Testing for Outdoor Use Approval**

Accelerated exposure per ASTM D2565 exposed to 3000 hours of Xenon Arc type lamp followed by Method B Charpy Impact test per ASTM D6110. Impact strength shall not be reduced by more than 25% versus the control sample.

#### **Palram Americas, Inc.**

ISO 9001:2000 | ISO 14001-2004 Certified

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Test Results		
Test	Material	Result
Indoor Aging	4.5mm PALSUN Polycarbonate	Pass
Impact		Pass (Unlimited Size Rating)
Weathering (ASTM D2565)		Pass (< 25% reduction in impact strength when tested to ASTM D6110, Method B)

PALSUN sheets 4.5mm and thicker meet the requirements of:

- ANSI Z97.1-2009 for Outdoor Exposure
- CPSC 16 CFR 1201 - Category I and II