



Glass Informational Bulletin

GANA PGC 04-0210

## Detention Facility Glazing

### Introduction

Detention facility glazing is defined as translucent or transparent material constructed to withstand measurable, complex loads from intentional, sustained threats or attacks in a detention and correctional environment. Detention glazing must comply with testing standards as set forth by several administrative bodies depending on whether the facility is a local, state or federal facility. Security glazing proposed to be used in adult and juvenile detention facilities must be of the appropriate rating in relationship to the security level of the facility.

Plastic materials such polycarbonate and acrylic are currently used in many facilities that are fire protected by sprinkler systems. Although these plastic transparencies can be stronger than glass, they can be scratched or melted by direct heat. Current technology has provided the detention field with various security glazing material options such as laminated acrylic sheet, polycarbonate sheet and glass-clad polycarbonate (sheets of polycarbonate sandwiched between sheets of glass).

Detention glazings are manufactured in different thicknesses to withstand attack that can vary in type and duration. As new materials are developed, designers should rely on ASTM standards/ratings and laboratory test results to select the glazing best suited for their application.

### Test Standards

Detention glazing tests can be conducted on the glazing material or on the entire glazed fenestration unit. Several test methods are used for detention glazing. Among them are:

**H.P. White Laboratories Test Procedure HPW-TP-0500.03** *Transparent Materials for Use in Forced Entry or Containment Barriers.*

**WMFL** (formerly the Walker McGough Foltz & Lylerla) thirty and sixty minute *Ballistics and Forced Entry Test Procedure* is another test conducted by labs certifying security products.

**ASTM F 1233** – *Standard Test Method for Security Glazing Materials and Systems*

This manual test method is based on using various sharp and blunt tools as weapons, including flame, cold and chemicals, in a sustained attack.

**ASTM F 1915**– *Standard Test Methods for Glazing for Detention Facilities*

Test methods incorporate blunt and sharp impact devices and fire as a means of assessing glazing performance in both hot and cold environments. This standard is used to measure the performance of detention glazing and to assign a level of physical security to glazing in window and door assemblies which can be consistently duplicated.

**UL752**- *Standard Underwriter’s Laboratory Tests for Bullet-Resistance*

This ballistics test includes is various levels of performance, including projectile calibers of 9mm Parabellum, .357 Magnum, .44 Magnum, 30-06, and 7.62 NATO. Information on cartridge type, velocity range, number of shots, shot spacing, size of test specimens, test temperature, and witness plate are included in the test method.

**Test Reports**

Testing programs can be performed at several laboratories throughout North America. Test reports can be requested from laminators and system suppliers.

**Certification Programs**

A number of laboratories and facilities offer Certification Programs for Detention glazing. Among them are:

**CDCR California Department of Corrections and Rehabilitation**  
(Certification to CDCR Standard 860-95a)

**UL Laboratories** (Certification to Standard UL 752)

**Warnock Hersey International** (Certification available for testing to the following attack standards: ASTM F1233, California Department of Corrections and Rehabilitation, HP White TP-0500, WMFL; ballistics standards: ASTM F1233, UL 752 and NIJ 0108.01)

**Conclusion**

It is the intent of these test methods to help ensure that detention glazing performs at or above minimum acceptable levels to restrict inmate passage to unauthorized areas, to delay and frustrate escape attempts and to resist vandalism. For additional information, please refer to GANA’s *Laminated Glazing Reference Manual*.



*The Glass Association of North America (GANA) has produced this Glass Informational Bulletin solely to provide general information as related to detention facility glazing applications. The Bulletin does not purport to state that any one particular type detention glazing product or system should be used in all applications or even in any specific application. The user of this Bulletin has the responsibility to ensure the design, engineering and installation guidelines from the detention glazing and window system supplier(s) are followed. GANA disclaims any responsibility for any specific results related to the use of this Bulletin, for any errors or omissions contained in the Bulletin, and for any liability for loss or damage of any kind arising out of the use of this Bulletin.*

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