



BLAST-RESISTANT WINDOW

SCOPE

The Unified Facilities Criteria provides requirements to minimize the likelihood of casualties from terrorist attacks against property and personnel working or living in Department of Defense buildings.

BLAST-RESISTANT PRODUCT

WINDOW:

Model 9000 Double Hung Aluminum Window with Laminated Glass
Sash Contains ¼” Annealed Glass Exterior and ¼” Nominal Laminated Glass Interior

STRUCTURAL RATING:

AAMA Structural Rating - H-HC45/HC60
Blast Test Window Size - 4 1/8” Frame - 47.625” wide x 73.0” high

WINDOW CONSTRUCTION SPECIFICATIONS:

- United Facilities Criteria 4-010-01
- DoD Minimum Anti-Terrorism Standards for Buildings – Editions Oct 8, 2003 & Jan 19, 2007
- ASTM F 2248-03 stipulating Design Load

INSTALLATION SPECIFICATIONS:

- AAMA TIR-A9-1991 pertaining to metal curtain wall fasteners
- ASTM A 653 Grade 33 or better anchor fasteners with maximum spacing of 24.0” on all Model 9000 frame members
- AAMA 103-06 referencing procedural guide for window assemblies

WINDOW TECH SYSTEMS

BLAST-RESISTANT RATING

GRAPHICAL SUMMATION:

The Model 9000 DH Aluminum Window in the size 47.625” wide by 73.0” high or smaller may be used for the TNT charge masses and standoff distances at or below the 3-Second Duration Design Pressure of 110 psf as illustrated in Figure 1.

NUMERICAL SUMMATION:

From the Figure 1 graph, the following numerical conditions are developed:

3-SECOND DURATION DESIGN LOAD – 110 PSF			
TNT EQUIVALENT CHARGE MASS (LBM)	STANDOFF DISTANCE (FT)	TNT EQUIVALENT CHARGE MASS (LBM)	STANDOFF DISTANCE (FT)
20	100	60	200
30	125	80	250
40	150	100	325
50	170	200	425

References: NCTL Structural Calculation Report
 NCTL Anchor Performance Calculation Report

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