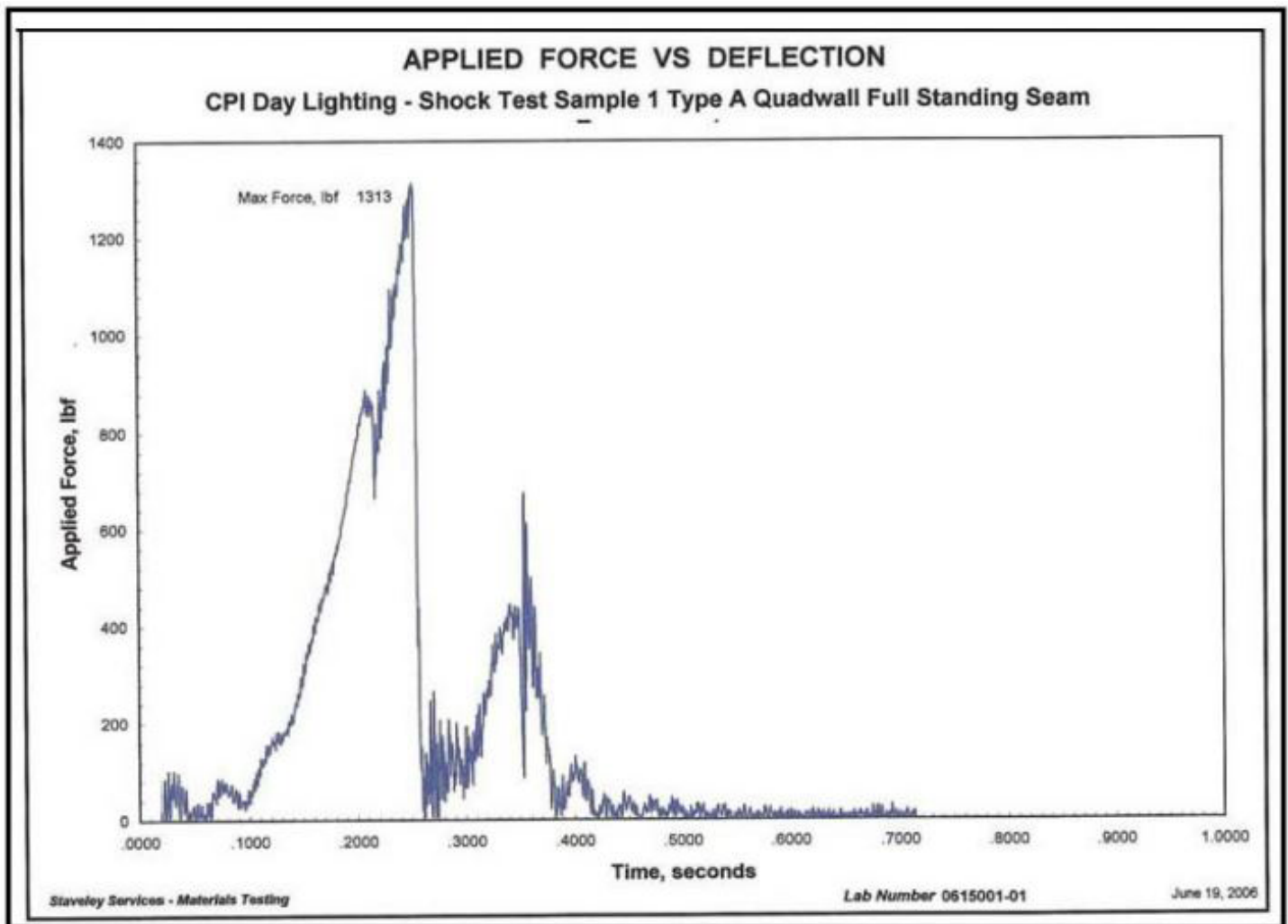


Anti-Terrorism Blast Resistance - US DoD requirements per UFC 4-010-01

The UniQuad® and Quadwall® systems have been custom-engineered for projects requiring Anti-Terrorism Blast Resistance, to meet United States Department of Defense requirements per UFC 4-010-01. Each proposed Anti-Terrorism Blast Resistant project must be specifically engineered per site conditions and DOD standards in order to meet these exacting requirements.

United States military projects have selected these products for their daylighting projects that require Anti-Terrorism Blast Resistant systems.

Please request our 3-part Anti-Terrorism Blast Resistant system specification to review additional product details.



UFC 4-010-01
8 October 2003

U.S. Government Guidelines – Anti Terrorism systems

Table 2-1 Levels of Protection – New and Existing Buildings

Level of Protection	Potential Structural Damage	Potential Door and Glazing Hazards	Potential Injury
Below AT standards	Severely damaged. Frame collapse/massive destruction. Little left standing.	Doors and windows fail and result in lethal hazards	Majority of personnel suffer fatalities.
Very Low	Heavily damaged – onset of structural collapse: Major deformation of primary and secondary structural members, but progressive collapse is unlikely. Collapse of non-structural elements.	Glazing will break and is likely to be propelled into the building, resulting in serious glazing fragment injuries, but fragments will be reduced. Doors may be propelled into rooms, presenting serious hazards.	Majority of personnel suffer serious injuries. There are likely to be a limited number (10% to 25%) of fatalities.
Low	Damaged – unrepairable. Major deformation of non-structural elements and secondary structural members and minor deformation of primary structural members, but progressive collapse is unlikely.	Glazing will break, but fall within 1 meter of the wall or otherwise not present a significant fragment hazard. Doors may fail, but they will rebound out of their frames, presenting minimal hazards.	Majority of personnel suffer significant injuries. There may be a few (<10%) fatalities.
Medium	Damaged – repairable. Minor deformations of non-structural elements and secondary structural members and no permanent deformation in primary structural members.	Glazing will break, but will remain in the window frame. Doors will stay in frames, but will not be reusable.	Some minor injuries, but fatalities are unlikely.
High	Superficially damaged. No permanent deformation of primary and secondary structural members or non-structural elements.	Glazing will not break. Doors will be reusable.	Only superficial injuries are likely.

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U.S. Government Guidelines – Anti Terrorism systems

Table B-1 Minimum Standoff Distances for New and Existing Buildings

Location	Building Category	Standoff Distance or Separation Requirements			
		Applicable Level of Protection	Conventional Construction Standoff Distance	Effective Standoff Distance ⁽¹⁾	Applicable Explosive Weight ⁽²⁾
Controlled Perimeter or Parking and Roadways without a Controlled Perimeter	Billiting	Low	45 m ⁽³⁾ (148 ft.)	25 m ⁽³⁾ (82 ft.)	I
	Primary Gathering Building	Low	45 m ⁽³⁾⁽⁴⁾ (148 ft.)	25 m ⁽³⁾⁽⁴⁾ (82 ft.)	I
	Inhabited Building	Very Low	25 m ⁽³⁾ (82 ft.)	10 m ⁽³⁾ (33 ft.)	I
Parking and Roadways within a Controlled Perimeter	Billiting	Low	25 m ⁽³⁾ (82 ft.)	10 m ⁽³⁾ (33 ft.)	II
	Primary Gathering Building	Low	25 m ⁽³⁾⁽⁴⁾ (82 ft.)	10 m ⁽³⁾⁽⁴⁾ (33 ft.)	II
	Inhabited Building	Very Low	10 m ⁽³⁾ (33 ft.)	10 m ⁽³⁾ (33 ft.)	II
Trash Containers	Billiting	Low	25 m (82 ft.)	10 m (33 ft.)	II
	Primary Gathering Building	Low	25 m (82 ft.)	10 m (33 ft.)	II
	Inhabited Building	Very Low	10 m (33 ft.)	10 m (33 ft.)	II

(1) Even with analysis, standoff distances less than those in this column are not allowed for new buildings, but are allowed for existing buildings if constructed/retrofitted to provide the required level of protection at the reduced standoff distance.
(2) See UFC 4-010-02, for the specific explosive weights (kg/pounds of TNT) associated with designations – I and II.
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(3) For existing buildings, see paragraph B-1.1.2.2 for additional options.
(4) For existing family housing, see paragraph B-1.1.2.2.3 for additional options.

