CASCADE®
architectural
a division of Cascade Coil Drapery, Inc.

GUARDIAN GRADE

CAPABILITY STATEMENT

DYNAMIC BLAST PROTECTION FOR MODERATE TO HIGH GSA OR DOD BLAST LOADS

U.S. Corp of Engineers (USACE) Unified Facilities Guide Specifications (SECTION 08 87 23.13) Window Retrofit Systems

Profile and Core Competencies

Since 1987 Cascade Coil Drapery, Inc. has successfully partnered with architects and government contractors on projects requiring high quality turn-key design solutions. Our industry leading customer service, design engineering support, and innovative hardware options make us the first choice for the world's leading architects and government contractors that demand and appreciate a higher level of service and quality. Coupled with our order processing and production capabilities we are able to respond quickly to provide some of the best lead times in the industry.

Cascade Architectural's Certified Blast & Projectile Protection Systems are designed and constructed to prevent loss of life and serious injury while still maintaining all of the aesthetic values expected of our systems. Our fully tested, patented, and approved blast and projectile protection systems include Guardian Grade Fabricoil wire mesh strategically positioned with engineered attachment hardware to catch and contain debris or projectiles in the event of an explosion, rupture, or destructive wind events.

Cascade Architectural's Certified Blast & Projectile Protection Systems are perfect for new construction or retrofits. The systems meet or exceed most blast mitigation requirements and can be seamlessly integrated into existing buildings, enhancing aesthetics and providing invaluable protection of occupants. Our systems meet the needs of many private sector companies, including those in the nuclear power arena, oil and gas industry, and buildings vulnerable to flying shards of glass.

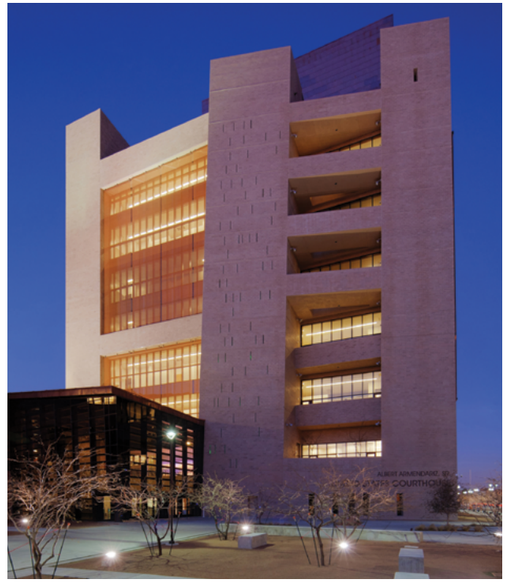
Blast protection systems are also very important in areas prone to natural disasters, such as coastal environments or structures located in areas like "tornado alley" where winds are a factor. You now have a new solution for your projects requiring healthful, sustainable products for the built environment.

Advantages:

- Manufactured in the USA
- Products suitable for new construction, retrofits, and historic renovations
- Multiple certifications by outside labs
- Low lifecycle costs
- Flameproof
- 25-year limited warranty
- Preserving daylighting and views

Certifications / Standards met or exceeded:

- GSA Test Protocol: GSA-TS01-2003: Rating: 3a
- UFC 4-010-01 DOD Minimum Antiterrorism Standards for Buildings
- UFGS-08 87 23.13
- DHS SAFETY Act/RKB designation and certification
- ASTM F1642, F2912, E1300-04
- ISO 16932:2016, 16934:2007, 16936-1:2005. 16933:2007
- ISO EXV25
- AAMA 510-06
- Declare Certified to be environmentally safe and "Red List" free (no known carcinogens)



Recent Government / Critical Infrastructure Projects

Fort Dix Dining Facility Security Gates, Norfolk, VA
US Amy Corps of Engineers
Application: Forced Entry Protection

Exterior Entry Doors and Windows,
Surry, VA Dominion Energy
Application: Blast and Forced Entry Protection

Albert Armendariz Sr. U.S. Federal Courthouse,
El Paso, TX GSA
Application: Blast and Forced Entry Protection

Canadian Embassy, Cairo, Egypt
Canadian Foreign Affairs
Application: Blast and Forced Entry Protection

Oregon Natural Guard Headquarters, Salem, OR Army Natural Guard
Application: Blast Protection

Richard Bolling Federal Building, Kansas City, MO GSA
Application: Forced Entry Protection

Federal Reserve Bank of Chicago, IL
The Federal Reserve
Application: Forced Entry Protection

Additional Projects:

* Ft. Drum Army/Airforce Exchange, New York, U.S. Army
* Edwards Airforce Base, Edwards AFB, CA, U.S. Airforce
* Parrot Recovery Program, Rio Grande, PR, U.S. Fish & Wildlife Service
* British Consulate General New York, NY
* IRS Service Center
* USCG Air Station Sacramento, CA, U.S. Coast Guard

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COMPANY DATA

DUN's No: 603251414
CAGE Code: 4ESV5
OR ID: 03864642
SBA Designation: Small Business

BONDING LEVEL

Per Contract: $10,000,000
Aggregate: $10,000,000

NAICS CODE

332618 - Fabricated Wire Product Manufacturing

541330 - Engineering Services

541310 - Architectural Services

238150 - Glass and Glazing Contractors

236210 - Industrial Building Construction

337920 - Blind and Shade Manufacturing

332323 - Ornamental and Architectural Metal Work Manufacturing

332321 - Metal Window and Door Manufacturing

541715 - Research and Development in Physical, Engineering, and Life Sciences

314120 - Curtain and Linen Mills

332323 - Ornamental and Architectural Metal Work Manufacturing

236220 - Commercial and Institutional Building Construction

339999 - All Other Miscellaneous Manufacturing

332322 - Machine Guards, Steel Metal (Except Stampings), Manufacturing

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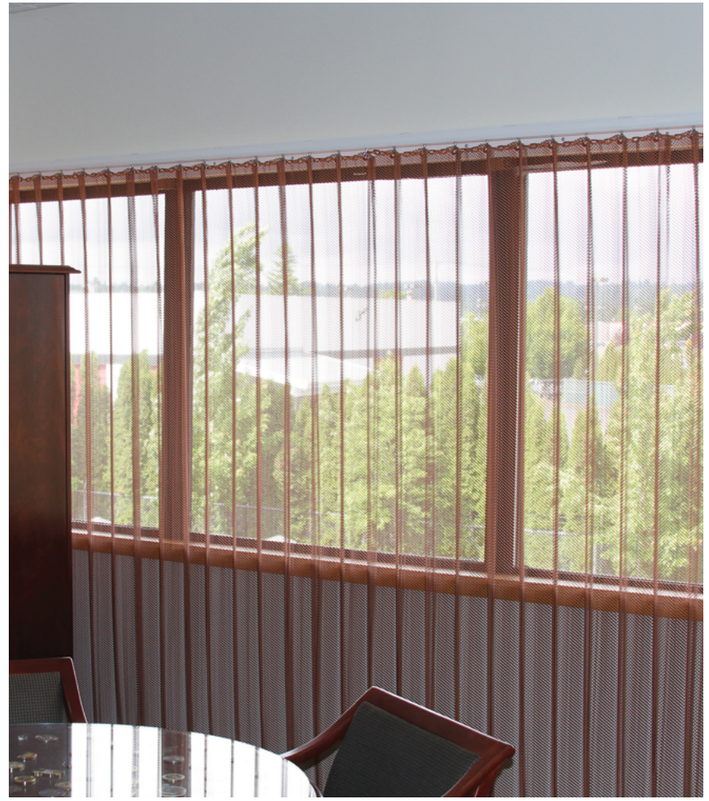


What our customers are saying:

"Cascade Coil Drapery has outstanding energy absorption capacity for extreme loading events. It is tough, highly ductile, and offers a range of installation configurations."
-Matt Barsotti, Protection Engineering Consultants

"They look great! We just had the Adjutant General in to look at them (the Drapery) and the building is in a Buzz about them. We like them!! We are now looking at how we can fund them throughout the building."
-Facilities Manager, OR National Guard Headquarters

"With proper application, the Cascade Coil Drapery products can serve to reduce a building's energy consumption."
-Interface Engineering-Architectural Testing; Report, v 1.0

"When your product (Guardian Grade Fabricoil) was installed on my windows I never pull the shades down, I never adjust the thermostat up or down, and my office is always comfortable."
-Brigadier General, National Guard

"Cascade Coil Drapery products provide visually stimulating products that combine energy savings, occupant comfort, and glare control in a sustainability-minded package."
-Business Owner

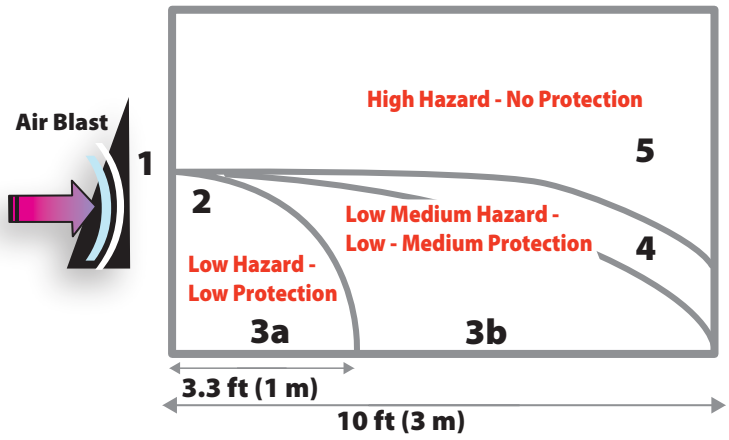
Blast Test Results
University of Ottawa; Canada

Tests Conducted June 2015 & December 2017

Test Location: Tests were conducted by **University of Ottawa,** which is a research University located in Ottawa Canada. Blast tests were authorized by the Government of Canada.

Blast Test Summary: "Very little broken glass shards were observed within a meter distance from the Shock Tube, none reaching the witness panel. The performance was judged to be 3(a) (low hazard-high protection) on the GSA Ranking Scale, with the total weight of glass fragments that passed through the mesh drapery measured to be 760 grams." University of Ottawa Report available upon request.

ASTM 1642 Hazard Ratings and GSA TSO1-2003 Performance Conditions for Window Glass		
ASTM Hazard Rating	**GSA Performance Conditions**	**GSA Description**
Very Low Hazard	**3a**	Protection Level – High; Hazard Level – Very low. DESC: Glass Cracks. Fragments land on floor no further than 3.3 feet.



Test Protocols Specimen/Number	**GuardianCoil Properties** Coil Thickness Fullness	Weave Size	**Mass of Explosives (TNT)**	**Standoff Distance**	**Peak Pressure**	**Peak Impulse**	**GSA Performance Conditions & ASTM 1642 Hazard Ratings**
Test 2: Curtain Wall laminated w/ 7 mil security films and Cascade Architectural's Certified Blast & Projectile Protection System	14 ga. SS 15% Fullness	3/8"	19,098 lbs (8,663 kg)	360 ft (110 m)	12.4 psi (85.6 kPa)	278.9 psi-ms (1923 kPa-ms)	**3a; Protection Level – High; Hazard Level – Very low**
Wall 1: Concrete Block Wall (wall 4-6" behind mesh)	16 ga.[1] SS[2] 15% Fullness	3/8"	249 lbs[3] (113 kg[4])	85 ft (26 m)	12.6 psi[5] (87.2 kPa)[6]	66 psi-ms[7] (457 kPa-ms)[8]	**N/A - No witness Panel**
Wall 2: Concrete Block Wall (wall 4-6" behind mesh)	14 ga. SS 15% Fullness	3/8"	1,246 lbs (565 kg)	138 ft (42 m)	13.62 psi (93.9 kPa)	117 psi-ms (809 kPa-ms)	**N/A - No witness Panel**
Window 1: Double Layer Glass w/ Film	16 ga. SS 15% Fullness	3/8"	282 lbs (128 kg)	92 ft (28 m)	11.63 psi (80.2 kPa)	66 psi-ms (458 kPa-ms)	**3b; Very Low Hazard**
Window 2: Double Layer Glass w/ Film	16 ga. SS 15% Fullness	3/8"	547 lbs (248 kg)	102 ft (31 m)	15.04 psi (103.7 kPa)	94 psi-ms (645 kPa-ms)	**3b; Very Low Hazard**

Notes:

[1]**ga**: Wire gauge
[2]**SS**: Stainless Steel Type 304
[3]**lbs**: Mass - Pounds
[4]**kg**: Mass - Kilogram
[5]**psi:** Pressure - Pounds per square inch
[6]**kPa**: Pressure (SI) kilopascal (1 kPa = 1000 Pa)
[7]**psi-ms:** Impulse - Pounds per square inch millisecond
[8]**kPa-ms**: Impulse (SI) = kilopascal millisecond
[9]**EXV25** is a part of ISO Standard 16933:2007; Glass in building from Explosions

Note: All tests by Cascade Coil Drapery, Inc. exceed ISO EXV25:[9] (Explosives-220lbs [100kg], Standoff-25m, Peak Pressure-11.6psi [80kPa],Peak Impulse-55psi-ms[380kPa-ms].

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