

Stone Security Engineering has put together two vendor lists for your reference and future use. These lists include security product vendors who provide blast-resistant curtainwalls, windows, doors, walls, modular buildings, and fiber reinforced polymer (FRP) vendors.

<u>These lists are not vetted</u>, but are meant to be a first step in helping you navigate the world of blast resistant products. It is important that you perform research and due diligence before using any of these products.

The description of each firm and their products is taken directly from the firm's website and does not represent the opinions of Stone Security Engineering.

To get more information, or discuss any physical security needs, please email <u>Holly@StoneSecurityEngineering.com</u>.

	F	roduc	t	
Organization	Curtainwall	Window	Door	Brief Description by Company
<u>Action Bullet</u> <u>Resistant</u>		x	х	"ABR fabricates bullet resistant windows and doors, blast resistant windows and doors, and also non-bullet resistant storefronts and architectural metal systems. Our systems are designed to be installed in new or retrofit construction, for use in court houses, military bases, police stations, guard booths, banks, schools, gas stations, check cashing facility, convenience stores, or any other warranted application."
<u>Ambico</u>		x	x	"Ambico products can be configured into borrowed light and sidelight frames and has developed two distinct product lines: decorative and engineered. Acoustic door and frame products are designed to meet a wide range of STC standards. Bullet resistant items have been manufactured to withstand stringent ballistic attack including armor-piercing ammunition. Blast resistant products have been developed to survive a wide range of explosive pressures. Stainless steel products are fabricated to provide protection in a broad range of corrosive environments. All Ambico engineered products have been tested for performance at independent laboratories."
<u>APSG</u>		x		"American Physical Security Group provides a complete line of Anti- Ram vehicle barriers, as well as forced entry/ballistic resistant and blast mitigation doors, louvers, security stations and windows for governmental, commercial and architectural applications."

Doors, Windows, Curtainwalls



Product

Organization	Curtainwall	Window	Door	Brief Description by Company
<u>Boyd Aluminium</u>		x		"Boyd offers a wide selection of blast resistant window systems. Each series is available with incredibly versatile installation options and meets requirements for GSA-TS01-2003, UFC 4-010-01 with changes 1, 22 2007, and Anti-Terrorism Force Protection. Boyd's product lines include Certified Level 1 options—the safest rating available. We also offer Certified Level 2 options."
<u>Fensys Middle</u> <u>East</u>		x	x	"Fensys Middle East is the sole distributor and licensed installer of Action Bullet Resistant Inc, USA which is manufacturing high quality bullet and blast resistant windows, doors & curtainwall. The products are tested and approved for bullet resistance levels I to VIII, analytically tested to meet high levels of DoS standards and medium levels GSA/ISC, DoD minimum UFC. The aluminium/steel facades are also blast resistant and which can withstand high levels of blast pressures in different ballistic and industrial environments."
<u>Graham</u> <u>Architectural</u> <u>Products</u>		x	х	"Graham Architectural Products began manufacturing heavy commercial and architectural grade windows in York, Pennsylvania since 1972. For over 40 years, Graham has become known for its accurate reproductions of historical windows – down to the last detail. During that same time, Graham has added a wide variety of products to its line-up including standard windows and doors and blast resistant, hurricane resistant and acoustical specialty products."
				"Hope's® Windows, Inc. is a manufacturer of custom steel and bronze windows and doors. Each window and door

Hope's creates is proudly handcrafted to meet an owner's, architect's and builder's most exacting and demanding

requirements. In addition to architectural products, Hope's

offers a full line of windows and doors for detention and blast resistant applications, including 60, 90, and 120 minute fire

Hopes Window

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rated wall systems."



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Organization	Curtainwall	Window	Door	Brief Description by Company
International Door Incorporated			х	"International Door Inc. offers a full line of single and pair swinging blast-resistant doors for 100 PSF and higher. Vision light configurations range from peep sites to dual glazed window systems. Single and bi-parting sliding door systems are also available with either manual or power controls. Tandem assemblies, as well as double egress options are available as well. Doors can also be fire-rated for up to 3 hours."
<u>Kawneer</u>	х	x	х	"Our comprehensive offering of solutions, allow architects to design for the whole building. Our products conform to the range of government standards and beyond: DoD, ISC/GSA and DOS criteria as well as custom blast mitigation standards."
<u>Krieger Specialty</u> <u>Products</u>		x	х	<i>"Krieger's blast/pressure resistant doors and windows are used in commercial and industrial installations. The doors are designed to protect personnel and property from explosions and explosion borne missiles."</i>
<u>Middle East Metal</u> <u>and Wood</u> Industries, Co. LTD			х	"METALCO was founded on year 1997 and started as a door manufacturer for the local market in the Kingdom of Saudi Arabia. Through the years METALCO has expanded its horizons to the GCC, Middle East and Africa. METALCO is considered to be one of the leading door manufacturers in the Middle East. METALCO manufactures normal and fire rated hollow metal doors, normal and fire rated wooden doors and combination of wood leaf with steel frame. Metalco Blast Resistant Doors have a maximum blast load of 10 psi (70 Kpa) and was been tested in accordance with AISC (9th Edition) and K.S.C. Specification SPC-1427-SC-4100-02, Rev. 01"
<u>Norshield</u>	х	x	x	"Norshield manufactures a complete line of force protection doors, windows, guard booths, security louvers, storefront systems and other building facades to resist attack from ballistic, forced entry and bomb blast threats. Protection levels ranging from UL Level 1 to UL Level 10 ballistics, attack protection from 5 minutes to 60 minutes and blast mitigation up to 60 psi, including Level C and Level D of the GSA Security Criteria and any Level required under the Unified Facilities Criteria UFC-4-010-010."



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Organization	Curtainwall	Window	Door	Brief Description by Company
<u>Oldcastle Glass</u>	x	x	x	"Oldcastle BuildingEnvelope® is an unquestionable leader in blast mitigation technology. Our products include blast mitigation architectural glass, blast mitigation curtain wall, windows, entrances and storefronts. Our exclusive BlastMax® meets the most stringent codes for blast resistance."
<u>Overly Door</u> <u>Company</u>		x	x	"We offer a full line of single and pair swinging blast-resistant doors. Vision light configurations range from peep sites to dual glazed window systems. Single and bi-parting sliding door systems are also available with either manual or power controls. Tandem assemblies, as well as double egress options are available as well."
<u>Protective Door</u> <u>Industries</u>		x	x	"Protective Door Industries (PDI's) blast resistant doors and windows assure blast protection and dependable service under critical conditions for interior or exterior environments including: Chemical, paint or hazardous material storage rooms, Pharmaceutical, Bioscience, refineries, ammunition depots, missile tests and launch sites."
<u>Ross Security</u> <u>Solutions</u>		x	х	"Ross Security Systems is a manufacturer and integrator of physical security products designed to provide comprehensive <u>Anti-</u> <u>Terrorism / Force Protection (AT/FP) solutions</u> for government, military and homeland security applications. Ross works closely with its customers and strategic partners to design, implement and support site-specific security systems that are risk-level appropriate and affordable to purchase and maintain."
Security Metal Products Corp			х	"Started in 1955, Security Metal Products manufactures standard and custom hollow metal doors and frames for many applications including blast resistance."
<u>Thermolite</u>		x		"The Thermolite Window System is a state-of-the-art patented window system designed to provide protection against bomb blast, ballistic, hurricanes, audio espionage and create an immediate energy cost return on investment (ROI)."

Applied Knowledge



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Organization	Curtainwall	Window	Door	Brief Description by Company
<u>U.S. Bullet</u> <u>Proofing</u>		x	х	"United States Bullet Proofing's product line consists of Safe rooms, Guard booths, Doors, Windows, Wall Armor, and High Security Accessories. Our products can meet UL 752 Level 8 Standards for Ballistic protection. With regard to Blast capability, our ballistic products meet or exceed GSA Level C or D blast criteria. Our Forced Entry Products have been tested to meet the 60 minute criteria of the Department of State standard."
<u>US Aluminum</u>		x		"C.R. Laurence Co., Inc. (CRL) is the leading supplier to the glazing, architectural, railing, construction, industrial, and automotive industries. Offering more than 60,000 products, the company serves the industry from locations throughout North America, Europe, and Australia."
<u>US Bulletproofing</u>		x	x	"United States Bullet Proofing's product line consists of Safe rooms, Guard booths, Doors, Windows, Wall Armor, and High Security Accessories. Our products can meet UL 752 Level 8 Standards for Ballistic protection. With regard to Blast capability, our ballistic products meet or exceed GSA Level C or D blast criteria. Our Forced Entry Products have been tested to meet the 60 minute criteria of the Department of State standard."
<u>YKK AP Inc.</u>	х	x	х	"YKK AP is a world leader in the manufacture of aluminum building products. Using only the best materials and technologies, YKK AP makes entrance, storefront, curtain- wall and window wall systems for the commercial building industry. To ensure control of quality, delivery, and cost, we have vertically integrated all manufacturing at our technologically advanced manufacturing facilities in Dublin, Georgia."



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Organization	Curtainwall	Window	Door	Brief Description by Company
<u>Cascade Coil</u>		x		"GuardianCoil [®] is a woven wire blast mitigation product installed as a window covering or as in-wall shielding behind wallboard to capture and absorb airborne glass shards and fragments. GuardianCoil [®] also works as a safety guard around machinery, heavy equipment and testing apparatuses to contain high-powered energy impacts. The woven wire mesh collapses around the fragment projectile, safely dissipating its energy. This natural enveloping mechanism significantly reduces the chance of injury or damage to people and property. Cascade Coil custom manufactures our Guardian Coil [®] product in a wide variety of wire types, gauges and weave sizes."
Wausau Window		x		"With more than ten years' experience in blast hazard mitigation, Wausau's expertise can be leveraged on your project, including: standard operable windows, fixed window wall or curtainwall, or systems custom-designed to your unique requirements."

	P	Produc	t	
Organization	Walls	FRP	Buildings	Brief Description by Company



	F	Produc	t	
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<u>Defense Tech</u>	x			"Defend-X [®] Blast Mitigating Structural Coating is strong yet flexible. Structures coated with Defend-X [®] can withstand blasts up to 20 times greater than an untreated structure can endure. Defend-X [®] can significantly increases the structural integrity of many common construction materials, for example; wood, steel, concrete, brick and many more. In the event of a blast, treated structural components will flex but stay together. Secondary fragmentation is one of the most lethal hazards during an explosion."
<u>Hesco</u>	х			<i>"HESCO Barriers Blast Wall Plus EEC has been a key component in providing Force Protection since 1991. HESCO Barriers Blast Wall is extensively used in the protection of personnel and key assets."</i>
<u>Hunter</u> <u>Buildings</u>			х	<i>"Hunter Buildings is uniquely equipped to custom design and manufacture blast-resistant buildings to meet your most detailed specifications."</i>
Industrial Safety Modules			x	"These engineered personnel and storage blast resistant modules can be designed to meet your specific needs with configurations for Controlled Entry Point Offices, Equipment/Sensitive Substance Storage, Restrooms, and numerous other applications. All components were found to respond at or below "low-medium" range of damage when subjected to a 8 psi free-field blast load with 200 msec duration. Damage to non-structural components such as conduit pipes, light fixtures, HVAC unit and interior sheathing is expected to be minor under the 8 psi free-field blast load with 200 msec duration."
<u>InterDAm</u>	x			"This engineered wall product provides protection of both personnel and equipment from the effects of explosions, fire and impact, in hazardous environments such as offshore oil and gas platforms. Blast resistant and/or fire rated walls and cladding, engineered to suit the application."

Applied Knowledge



Product

Organization	Walls	FRP	Buildings	Brief Description by Company
<u>LineX</u>	x			"Known in research circles as an Energy Resistant Coating (ERC), the PAXCON coating is flexible, yet stronger than steel. This means that walls outfitted with the unique PX-3350 coating can withstand explosions up to 20 times greater that a normal, uncoated wall. In the event of an explosion, the PAXCON coated walls flex, but stay together. PX-3350 can be applied to numerous types of structural materials, including wood, steel, plasterboard, concrete, brick, block and more."
<u>Metalith</u>	x			"The Metalith is a prefabricated steel barrier structure which offers superior blast mitigation, force protection, anti-ram vehicle protection cost efficiency, and ease of installation. The product is available in multiple sizes and configurations to meet the custom requirements of any site in need of physical perimeter security."
<u>RedGuard</u>			x	"Engineered for blasts of 8 psi (200 msec in duration), blast- resistant buildings and adheres to API 753 and meet the criteria for a low to medium response rating by the American Society of Civil Engineers. Standard lease sizes are 8' x 10', 8' x 20' and 8' x 40'."
<u>Specialty-</u> Products	x			"Dragonshield-BC polyurea consists of a plural-compoent spray applied polymer technology and developed for blast mitigation and fragmentation/spall containment. Properties include: Ultra high tensile strength, moderate elongation and hardness."
<u>Tata (Bi-Steel)</u>	x			<i>"Bi-Steel provides superior performance to reinforced concrete in situations where structures need to be protected against explosive attack. This high performance steel/concrete composite material has been fully tested and</i>

protective structures."

steel/concrete composite material has been fully tested and meets the requirements of the UK and US Governments for



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Organization	Walls	FRP	Buildings	Brief Description by Company
Tecdur				"The bolted or welded wallpanel system 'IDM ProPanel' secures the safety of your environment. Lightweight wall systems of all fire ratings with blast rating if required. blast wall can be regarded as a firewall for which an additional functional requirement applies, i.e. that apart from the usual wind loading, the wall needs to be able to resist a certain blast overpressure. As a consequence the IDM Propanel and the IDM Panel Welded, in principle can be considered as a blast wall. To extend the favourable characteristics of our IDM-Propanel systems to blast wall applications with large spans and higher blast loads, a hybrid shape has been developed comprising columns integrated in the wall system at a relatively short spacing (2.0 - 3.0 metre), to carry the blast loads transferred from IDM-Propanel infill panels. In this hybrid shape a discrimination has been made between the load bearing function, i.e. the infill panels. This 'best of both worlds' solution takes advantage of both the favourable high strength characteristics of hot rolled sections and the light weight, separating and insulating properties of the walls. Especially for walls that are required to have a stainless steel external skin this blast wall is a very competitive structure."