

Deansteel Manufacturing Company has offered ballistic doors and frames for over ten years, due to increased security demands around the world we have expanded our line of security products and are proudly including Blast Resistant Doors and Frames in our Deansteel BRP division (Bullet & Blast Resistant Products). Our low level blast doors, frames, and windows comply with the requirements of UFC 4-010-01 DOD Minimum Anti-Terrorism Standards for Buildings. Our Blast Resistant Window assemblies have been analyzed by Baker Engineering & Risk Consultants to “**provide a medium level protection to building occupants for General Services Administration (GSA) Level C, Level D, and Department of Defense (DoD) Minimum Antiterrorism blast loads over a range of window sizes**”<sup>1</sup>.

Blast Threats Used for Analysis Purpose		
Reference Threat	Applied Peak Pressure (psi)	Applied Blast Impulse (psi-msec)
GSA Level C	4.0	28
GSA Level D	10.0	89
DoD Common <sup>2</sup>	5.8	41

The analysis conducted by BakerRisk “**focused on providing a GSA Performance Condition 2 or ASTM Minimal Hazard response rating with the window frame, recommended glazing designs, and anchorage designs**”<sup>1</sup>.”

Window Hazard Level Descriptions			
ASTM Hazard Rating	ASTM Description	Similar GSA Performance Condition	GSA Description
No Break	The glazing is observed not to fracture and there is no visible damage to the glazing system.	1	Glazing does not break. No visible damage to glazing or frame.
No Hazard	The glazing is observed to fracture but is fully retained in the facility test frame or glazing system frame, and the rear surface (the surface opposite the air blast loaded side of the specimen) is intact.	2	Glazing cracks but is retained by the frame. Dusting or very small fragments near sill or on floor acceptable.
Minimal Hazard	The glazing is observed to fracture and the total length of tears in the glazing plus the total length of pullout from the edge of the frame is less than 20% of the glazing sight perimeter. Also there are less than 3 pinhole perforations and no fragment indents anywhere in a vertical witness panel located 3m (120in.) from the interior face of the specimen, and there are fragments with a sum total united dimension of 25mm (1.0in) or less on the floor between 1m (40in) and 3m (120in) from the interior face of the specimen. Glazing dust and slivers are not accounted for in the rating.		

<sup>1</sup>BakerRisk Project 01-1628-001-06 – Deansteel Manufacturing – Blast Capacity Assessment of Steel Window Frame

<sup>2</sup>This threat combines two threats defined in UFC 4-010-10

### Safety Compliance

Deansteel Manufacturing’s Blast Resistant door & frame products were analyzed and certified by an independent laboratory. Test reports and supporting data are available upon request.

### Testing Agencies

Deansteel’s DSLB-3 Window Frame Assemblies were analyzed by Baker Engineering & Risk Consultants. BakerRisk is an internationally recognized firm that specializes in predicting, preventing, and mitigating hazards from fires, explosions, and toxic releases. Upon request, additional report analysis, data, designs, and information is available. Please contact our office directly or your Deansteel Manufacturing sales representative for further details.

### Window Assembly Design

Deansteel’s window assemblies were analyzed in a variety of width & height combinations to provide our customers with the flexibility to choose the window size that meets their needs. The sizes analyzed are shown below:

Description	Width	Ht
Small Square	24”	24”
Small Rectangular	24”	36”
Medium Square	42”	42”
Med. Rectangular	48”	66”
Large Square	60”	60”
Large Rectangular	60”	96”

**Bullet Resistant & Marine Joiner products are available in a Blast Resistant capacity.**

