

SPIDER GLASS and LITE-WALL

Now certified as BLAST-ENHANCED bolted glazing systems

Solaglas now has blast-mitigation certification for the **SPIDER GLASS** articulated bolted glazing system and for the **LITE-WALL** bolted glazing system.

Testing was carried out in March 2011 at the GL Spadeadam test facility, as part of a study of point glazed systems. Testing was in accordance with ISO 16933 "Glass in Building – Explosion resistant security glazing – Test and classification for arena air blast loading".

Test Synopsis

Test venue:	GL Noble Denton Spadeadam
Date of testing:	March 2011
Systems tested:	SPIDER GLASS and LITE-WALL ISO
Test standard:	ISO 16933 "Glass in Building – Explosion resistant security glazing – Test and classification for arena air blast loading"
System rating:	100kg charge at 29m

Test Results

SPIDER GLASS, single glazed MST bolt:

- D rating achieved, 'very low hazard'

LITE-WALL ISO, double glazed LW 4000 bolt:

- C rating achieved, 'minimal hazard'



Test Rig: before blast impact



Test Rig: showing post-blast impact

For further details, contact:

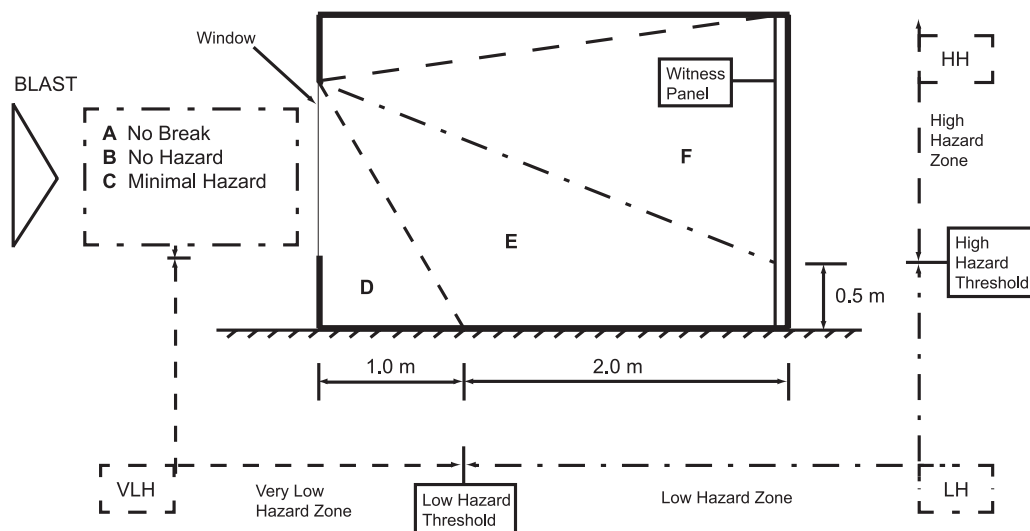
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ISO 16933 Glazing Hazard Ratings and Description

ISO 16933 defines the glazing hazard ratings, "A" to "F", which are based on the level of glazing damage and the degree to which glazing fragments are dispersed inside the test cubicle.



Hazard Rating	Hazard Rating Description	Definition
A	No Break	The glazing is observed not to fracture and there is no visible damage to the glazing system.
B	No Hazard	The glazing is observed to fracture but the inner, rear face leaf is fully retained in the facility test frame or glazing system frame with no breach and no material is lost from the interior surface. Outer leaves from the attack face may be sacrificed and may fall or be projected out.
C	Minimal Hazard	The glazing is observed to fracture. Outer leaves from the attack face may be sacrificed and may fall or be projected out. The inner, rear face leaf shall be substantially retained having the total length of tears plus the total length of pullout from the edge of the frame less than 50 percent of the glazing sight perimeter. Also, there are no more than 3 rateable perforations or indents anywhere in the witness panel and any fragments on the floor between 1m and 3m from the interior face of the specimen have a sum total united dimension of 250mm or less. Glazing dust and slivers are not accounted for in the hazard rating. If by design intent there is more than 50% pullout but the glazing remains firmly anchored by purpose designed fittings a rating of C (Minimal Hazard) may be awarded provided the other fragment limitations are complied with. The survival condition and anchoring provisions shall be described in the test report.
D	Very Low Hazard	The glazing is observed to fracture and significant parts are located no further than 1m behind the original location of the rear face. Parts may be projected any distance from the attack face towards the blast source. Also, there are no more than 3 rateable perforations or indents anywhere in the witness panel and any fragments on the floor between 1m and 3m from the interior face of the specimen have a sum total united dimension of 250mm or less. Glazing dust and slivers are not accounted for in the rating.
E	Low Hazard	The glazing is observed to fracture but glazing fragments or the whole of the glazing fall beyond 1m and up to 3m behind the interior face of the specimen and not more than 0.5m above the floor at the vertical witness panel. Also, there are 10 or fewer rateable perforations in the area of the vertical witness panel higher than 0.5m above the floor and none of the perforations penetrate more than 12mm.
F	High Hazard	Glazing is observed to fracture and there are more than 10 rateable perforations in the area of the vertical witness panel higher than 0.5m above the floor or there are one or more perforations in the same witness panel area with fragment penetration more than 12mm.



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