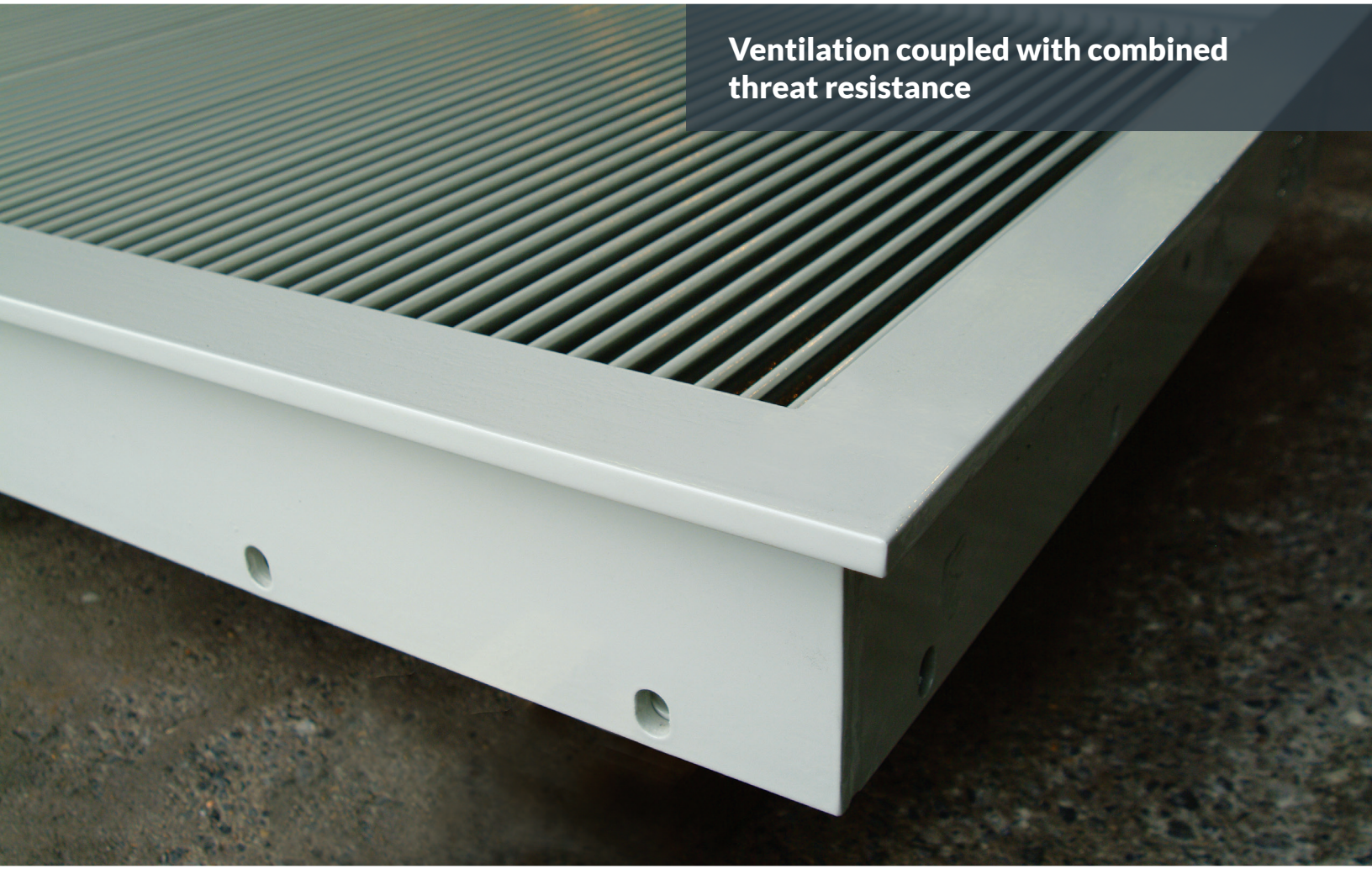


Louvers

Ventilation coupled with combined threat resistance



Maximum Security Louvers provide UL 752 and DOS-certified protection against mob-level forced-entry attacks and rifle-level ballistic threats in applications where buildings require airflow for equipment and occupants. A unique chevron slat design offers extraordinary protection against firearm assaults and exceptional rain shedding capabilities.



Industries

- Government
- Military
- Oil & Gas
- Critical Infrastructure
- Commercial



Applications

The uniqueness of Harden Maximum Security Louvers can be seen in their simple, efficient design. Structural steel “T” frames combine with chevron-style inserts to create a system that is effective in both shedding rain and deflecting bullets. Widely accepted as the basis of design on many projects, Harden has manufactured thousands of units for a wide variety of applications.

Factory welded to simplify installation in the field, modules are constructed in sizes up to 4' x 10' (1.22 m x 3.05 m). Louvers can be ganged together to create an even larger louver wall.

Design Overview

Tested to Department of State Standard SD-STD-01.01 Rev. G (Amended) and UL 752 Level 8, Harden Maximum Security Louvers offer the utmost in DOS certified ballistic and forced-entry resistance while providing essential ventilation for mechanical equipment used to support building operations. Certified to withstand a simulated “mob” attack for 60 minutes and 5.56 M193, 5.56 M855 and 7.62 M80 ballistic rounds, these louvers are designed to provide the ultimate in protection. Insect screening to impede pest infiltration is provided as standard.

The modular structural steel construction lends to conjoining single units together to form large louver walls without sacrificing the security rating. Small sizes are available for ductwork applications. Available in over 200 colors and with stainless steel or aluminum trim, they are also capable of meeting architectural design requirements.



Fabricated as a complete system, typical construction includes a structural steel louver frame, louver panel insert, ballistic protection bars, trim or cladding and a plate or tube-type sub-frame.

Harden Maximum Security Louvers offer architects and end users:

- **Anti-Terrorism Level Security** – where conformance to U.S. Department of State forced-entry/ballistic resistant threat levels is required
- **Design Flexibility** – numerous cladding and trim options offer the ability to complement other building materials
- **Durability** – structural steel materials and high-quality finishes provide extreme durability and low maintenance throughout the life cycle

Standard Features

- Perimeter frame with steel louver insert
- Pre-drilled and tapped sub-frame in one of three styles
 - o Embed plate with studs for newly poured concrete walls
 - o Tubing with chemical or mechanical anchors for existing masonry walls
 - o Tubing for welding to steel walls
- Stainless steel pest screen on interior

Standard Finish

- Hot dip galvanized per ASTM A123

Optional Features

Optional Finishes

- Epoxy primer
- Manufacturer's standard finish coat. Contact Harden for color chart

Model Comparison Guide

Harden Model Series	HL-2133 (T-frame)
Louver and Frame Construction	Steel
Frame Depth	7.13" (181 mm)
Frame Profile	T-shape. Does not require secondary ballistic stop bars
Maximum Certified Size	Contact Harden for details
Mounting Technique	M12 bolts
Ballistic Resistance	5.56 M193, 5.56 M855, 7.62 M80 Per DOS SD-STD-01.01 Rev G (Amended); UL 752 Level 8
Forced Entry Resistance	60 minutes Per DOS SD-STD-01.01 Rev G (Amended)
DOS Code	2133
Blast Resistance	N/A
Free Area (AMCA 500)	39.4%

Technical Data

Applicable Standards, Testing & Certifications

- Department of State, SD-STD-01.01 Rev. G (Amended): Certification Standard – Forced Entry and Ballistic Resistance of Structural Systems
- UL 752, UL Standard for Safety for Bullet-Resisting Equipment
- AMCA Standard 500: Laboratory Methods of Testing Louvers for Rating
- Contact Harden for pressure drop and free area velocity performance data

Installation Considerations

- Louvers are fully assembled at the factory, and require only minimal preparation prior to installation
- Sub-frames can be shipped in advance of louver assembly
- Three different methods of installation are available depending on the stage and type of wall construction:
 - o Pre-drilled and tapped plate-type embeds cast into concrete
 - o Pre-drilled and tapped steel tube-type sub-frames bolted into the wall
 - o Pre-drilled and tapped steel tube-type sub-frames welded to the wall structure
- Louvers can be ganged together to create a large louver wall

Maintenance

Regular inspection of louver and flashing is recommended.

Availability & Cost

Louver systems are typically manufactured to order and subject to production lead times at the time of purchase. Contact Harden for details.

Warranty

Harden warrants that its Architectural Security products shall remain free of defects in material and workmanship under normal use for a period determined by the individual project specification.





**Harden offers a complete
line of Architectural and
Perimeter Security Products**

- Windows & Deal Trays
- Doors
- Louvers
- Roof/Escape Hatches
- Anti-Climb Sliding Gates
- Passive Bollards



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