



Section 09 50 Ceilings/ Section 11 15 Security, Detention and Banking Equipment

Part 1 – General

1.01 Scope

Furnish and install the Defender Security Metal Tile Ceiling System as manufactured and supplied by Steel Ceilings Inc., Johnstown, Ohio

1.02 Related Sections

- Section 09510 Acoustical Ceilings
- Section 09250 Plaster and Gypsum Board
- Section 15550 Heating, Ventilating and Air-conditioning
- Section 16500 Lighting

1.03 References

- American Society for Testing and Materials (ASTM)

C635 Standard specification for the manufacture, performance and testing of metal suspension systems for acoustical tile and lay-in panel ceilings

C636 Standard practice for installation of metal ceiling suspension systems for acoustical tile and lay-in panels

E84 Test method for surface burning characteristics of building materials

CISCA Ceilings and Interior Systems Construction Association

1.04 Submittals

- Provide product data sheets listing dimensions, style, edge detail, perforation pattern and finish
- Alternates require prior approval no later than 21 days prior to bid date. In addition to the requirements above, submittals for approved alternates must include samples of actual products to be substituted together with test certificates supporting performance claims, a mock up and a written warranty.

1.05 Project Conditions Environmental Requirements

- Area to receive ceiling systems shall be protected from the weather

- Wet trades work shall be complete and dry prior to installation of ceiling system
- Installation shall not proceed until the temperature and humidity conditions closely approximate finish condition

1.06 Attic Stock

Provide 2% (3% etc) of the ceiling system area materials to be used as attic stock

1.07 Performance

- Materials and installation must comply with Local Building Code and Regulations
- Materials should be stored and handled in accordance with CISCA's *Acoustical Ceilings – Use and Practice*
- Materials to comply to CISCA's *Metal Ceilings Technical Guidelines*
- There are no special seismic requirements

Part 2 – Products

2.01 Manufacturer

Defender Security Metal Pans and Suspension System shall be as manufactured and supplied by Steel Ceilings Inc., Johnstown, Ohio: www.steelceilings.com

2.02 Materials

Suspension System

- T-Bar suspension system shall be formed from galvanized steel and shall be special heavy duty with face dimension of $\frac{15}{16}$ " and square bulb. Main runners shall be spaced not to exceed 48" on center by direct suspension from the existing structure with not less than 12-gauge pre-straightened hanger wires, wrapped tightly 3 full turns, spaced 48 inches on center.
- Wall molding shall be formed from 18-gauge galvanized steel in C-shape to receive metal pans
- Hold downs shall be formed from same materials as the molding

Lay-In Metal Panels

- Metal pans shall be formed from 18-gauge galvanized steel — minimum A40/G40
- Panels shall be 24" x 24" (24" x 48")

- Panels shall have splayed flanges
- Panels shall be perforated (non-perforated) with pattern F (or B)
- Panels shall fit snugly on the suspension system and shall have vertical legs splayed at less than 90 degrees to engage the bulb of the heavy duty suspension system without the use of any clips
- Panels shall be post painted to seal all perforations with polyester powder global white (color) gloss level 12% to 15%

Acoustical Infill

- Panels shall be supplied with 1" (2", etc.) thick 1pcf (2 pcf, etc.) glass fiber insulation wrapped in flame-retardant black polyfilm (nonwoven acoustic fleece) to provide sound absorption NRC of 0.75 (0.95, etc.)

Part 3 – Execution

3.01 Examination

- Installer must inspect the area that is to receive the metal ceiling system for conditions that may affect the installation and notify, in writing, any conditions that must be rectified before commencing
- All work above the ceiling shall be completed before proceeding with this installation
- All wet work shall be completed and thoroughly dry before proceeding with this installation

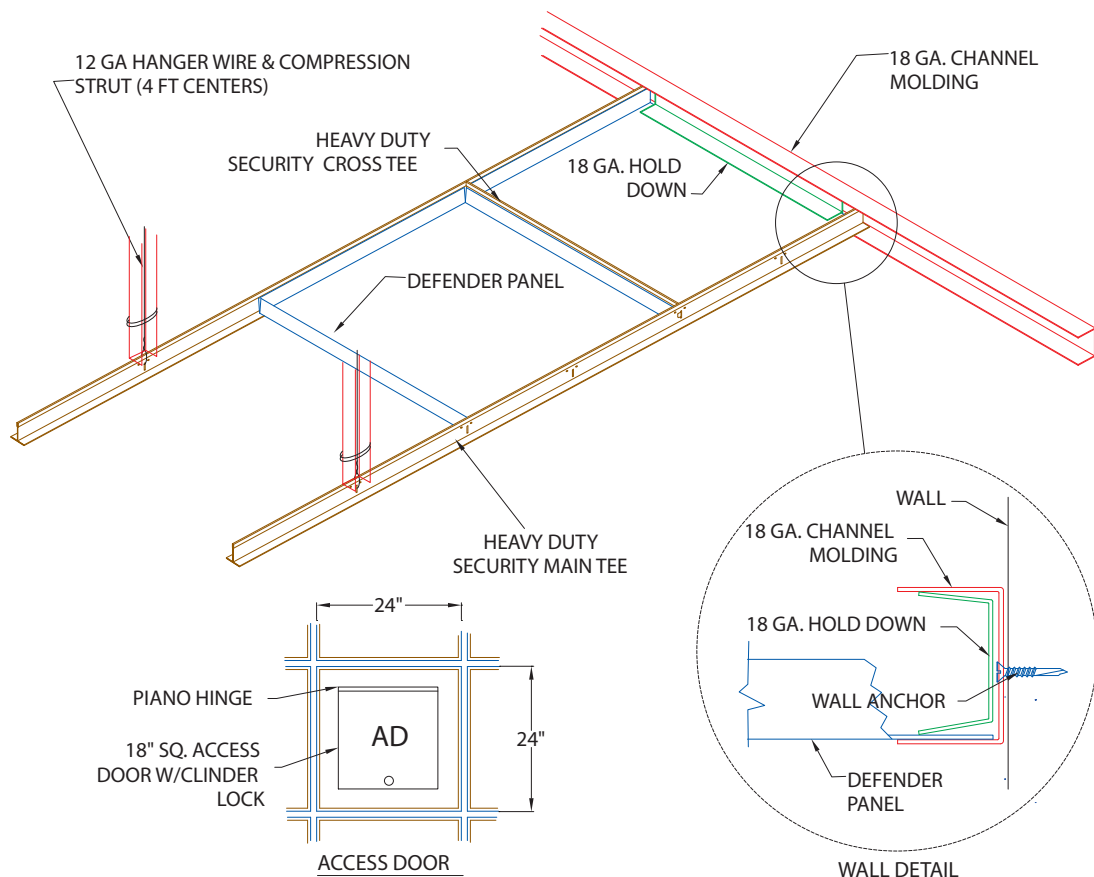
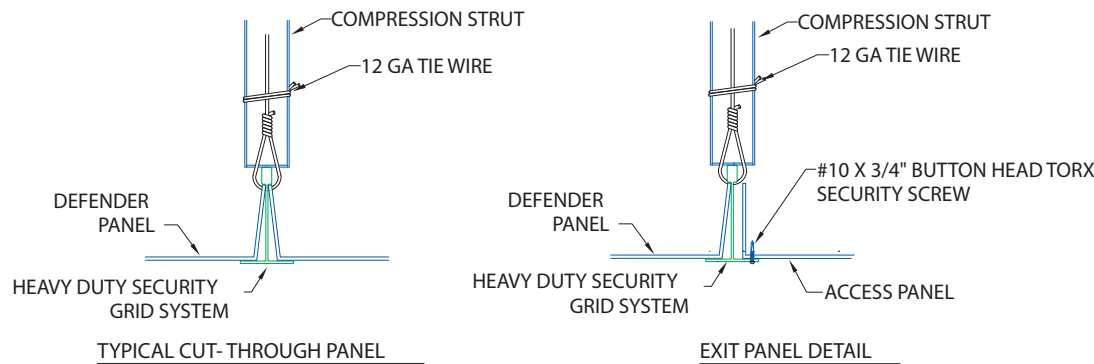
3.02 Installation

- Metal Ceiling components shall be delivered in unopened cartons and shall be clearly marked with manufacturer's name
- Material shall be stored in dry and protected areas
- Install the ceiling system in accordance with the manufacturer's recommendations and the approved shop drawings
- Cut panels shall, where possible, not be less than one half of full size
- Panels shall be free from defects and damaged panels shall be removed and replaced

SECURITY DEFENDER

METAL PAN SYSTEM

SIZE (INCHES)	Min. 24x24, Max. 24x48
ACCESSIBILITY	Exit panel/access door only
VISUAL	Exposed
EDGE DETAIL	Sloped
MATERIALS	Steel, Stainless Steel
FINISHES	Painted, Natural
RELATIVE COST	\$



OVERVIEW

The Steel Ceilings Defender Metal Pan System has been an important product in the security metal ceilings business for years. It affords the end user a medium level of security, since there is no easy access into the plenum space at any point in the ceiling except via special exit panels or access doors. The panels are held in place by engaging the splayed upturned legs under the square bulb of an extra-heavy-duty suspension system.

MODULE

Defender is available in 24" x 24" and 24" x 48".

METAL

The metal panels are manufactured from 18-gauge galvanized steel. Panels can also be produced in aluminum, but would have limited security application.

PERFORATIONS

Defender is available in Steel Ceilings "F" pattern only. The panels can also be provided without perforations.

EDGE TREATMENTS

All edges are sloping in standard design but are not visible from below.

ACOUSTICS

The perforated metal panels can be provided with either a non-woven fabric or a fiberglass pad that is wrapped at the factory in black flame retardant polyfilm. Noise reduction coefficients of up to .95 can be achieved depending on the thickness and density of the fiberglass pad that is used. In areas where sound transmission needs to be controlled, attenuation pans can be provided on the back of the perforated pans that can achieve a CAC rating of up to 40 dB.

TYPE OF INSTALLATION

The Defender system consists of an extra-heavy-duty exposed ceiling suspension system that is installed in typical fashion with 9- or 12-gauge hanger wires as required, or threaded rod. Additional compression struts are installed at hanger locations to resist upward movement of the ceiling.

CONCEALED OR EXPOSED SUSPENSION SYSTEM

The entire ceiling assembly has an unobtrusive exposed appearance.

FINISHES

The finished appearance of the ceiling system is either a powder paint finish in white or custom colors.

APPLICATIONS

This non accessible ceiling can be used for interior applications.

FIRE PERFORMANCE

The ceiling system has been tested in accordance with ASTM E-84 and is considered incombustible. The material has a Flame Spread of less than 25 and Smoke Generation of less than 50.

IMPACT

All materials are 100% recyclable with a high recycled content.