SECTION 07 40 00

EXPANDED METAL MESH PANELS FOR BUILDING FACADES AND INTERIORS

\*\* NOTE TO SPECIFIER \*\*   
 This section is based on the products of Niles Fence and Security which is located at:  
 310 N. Pleasant Ave.  
 Niles, OH 44446.  
 Toll Free Telephone: 800-321-7464.  
 Tel: 330-652-0743.  
 Fax: 330-299-0329.  
 Email: [info@nilesfence.com](mailto:info@nilesfence.com) .  
 Web: [www.nilesfence.com.](http://www.nilesfence.com.)  
 Niles Fence & Security, LLC manufactures and distributes the SECUREX line of expanded metal mesh fence systems. Our comprehensive list of expanded metal fence systems and architectural expanded metal for industry has a range of applications. A division of Niles Expanded Metals and Plastics, all SECUREX expanded metal panels can be customized for use as building cladding, railings, fencing and decorative metal accents.

1. GENERAL
   1. SCOPE OF WORK

Supply expanded metal panels manufactured from carbon steel, aluminum and other metals for use as exterior building cladding, decorative architectural features or interior wall coverings and dividers.

* 1. SYSTEM DESCRIPTION

As manufactured by Niles Fence and Security, the system will include expanded metal mesh panels.

* 1. QUALITY ASSURANCE
     1. Manufacturer Qualifications: Minimum of 10 years experience in the manufacture of expanded metal.
  2. RELATED SECTIONS

\*\* NOTE TO SPECIFIER \*\* Delete sections below not relevant to this project; add others as required.

* + 1. 05 50 00 – Metal Fabrications
  1. REFERENCES
     1. ASTM F 1267 – Standard Specification for Metal, Expanded Steel.
     2. ASTM B 209 – Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate.
     3. ASTM E 84 - Standard Test Method for Surface Burning Characteristics of Building Materials.
  2. LEED BUILDING GENERAL REQUIREMENTS AND PERFORMANCE CRITERIA

\*\* NOTE TO SPECIFIER \*\* Delete any LEED information that does not apply.

* + 1. LEED Requirements:

1. MR Credits 2.1 and 2.2 – Construction Waste Management

2. MR Credits 4.1 and 4.2 – Recycled Content

3. MR Credits 5.1 and 5.2 – Regional Materials

4. Innovation in Design Credit 1.1

5. EA Credit 1 – Optimized Energy Performance

6. EQ Credit 4.1 – Low Emitting Materials

7. EQ Credit 8.1 – 75 Percent Daylight and Views

8. EQ Credit 8.2 – 90 Percent Daylight and Views

* 1. SUBMITTALS

\*\* NOTE TO SPECIFIER \*\* Delete any information that does not apply.

* + 1. Product Data: Manufacturer's product data sheets on each product to be used, including details and drawings.
    2. Shop Drawings: Provide plan, frame spacing and sizing, location of panels, attachment methods and material finish as necessary to depict actual products specified, proper design considerations, and installation procedures.
  1. DELIVERY, STORAGE, AND HANDLING
     1. Materials shall be stored in such a manner to ensure proper ventilation and drainage, and to protect against damage, weather, vandalism and theft.

1. PRODUCTS
   1. MANUFACTURERS
      1. The expanded metal mesh panels shall conform to those manufactured by: Niles Fence and Security, 310 N. Pleasant Ave; Niles, OH 44446; Toll Free Tel: 800-321-7464; Facsimile 330-299-0329; or [info@nilesfence.com](mailto:info@nilesfence.com); web: [www.nilesfence.com](http://www.nilesfence.com)
   2. SECUREX EXPANDED METAL ARCHITECTURAL MESH

\*\* NOTE TO SPECIFIER \*\* Select Expanded Metal material type from the following options Delete the remaining options.

* + 1. Base Material.
       1. Aluminum Grade 5005- H34
       2. Aluminum Grade 3003- H34
       3. Carbon Steel
       4. Stainless Steel 304
       5. Stainless Steel 316
       6. Other: Specify \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\*\* NOTE TO SPECIFIER \*\* Select either aluminum or steel expanded metal panels and delete all remaining options. Other sizes and types are also available. If you need custom material or alternate materials, call for manufacturer’s recommendation.

* + 1. Aluminum Expanded Metal Mesh Panels.
       1. Type: VERTEX 300125
          1. Strand Width: 0.800 inches (20mm)
          2. Strand Thickness:0.125 inches (3mm)
          3. SWD: 3.2 inches (81mm)
          4. LWD: 8.0 inches (203mm)
          5. Percent open area: 44.
          6. Weight per square foot: 0.95 lbs.(0.43Kg)
       2. Type: VERTEXMAX 300190
          1. Strand Width: 0.900 inches (22mm)
          2. Strand Thickness: 0.190 inches (4.8mm)
          3. SWD: 3.2 inches (81mm)
          4. LWD: 8.0 inches (203mm)
          5. Percent Open Area: 44.
          6. Weight per sq. foot: 1.53lbs (0.69Kg).
       3. Type: SUNSHADE 112081
          1. Strand Width: 0.50 inches (12.7mm)
          2. Strand Thickness: 0.081 inches (2mm)
          3. SWD: 1.30 inches (33mm)
          4. LWD: 3.0 inches (76mm)
          5. Percent Open Area: 23
          6. Weight per sq. foot: 0.89 lbs (0.40Kg)
       4. Type: HONEYCOMB 100125
          1. Strand Width: 0.125 inches (3mm)
          2. Strand Thickness: 0.125 inches (3mm)
          3. SWD: 1.00 inches (25.4mm)
          4. LWD: 1.50 inches (38mm)
          5. Percent Open Area: 77.
          6. Weight per sq. foot: 0.44 lbs ( 0.20Kg)
       5. Type: LOUVER 316040
          1. Strand Width: 0.080 inches (2mm).
          2. Strand Thickness: 0.040 inches (1mm).
          3. SWD: 0.19 inches (4.8mm).
          4. LWD: 0.75 inches (19mm).
          5. Percent Open Area: 11.
          6. Weight per sq. foot: 0.47lbs (0.21Kg).
       6. Type: SURF 012051
          1. Strand Width: 0.100 inches (2.5mm).
          2. Strand Thickness: 0.051 inches (1mm).
          3. SWD: 0.60 inches (15mm).
          4. LWD: 1.20 inches (30mm).
          5. Percent Open Area: 63.
          6. Weight per sq. foot: 0.24 lbs (0.1Kg).
       7. Type: RHYTHM 112125
          1. Strand Width: 0.140 inches (3.5mm).
          2. Strand Thickness: 0.125 inches (3mm).
          3. SWD: 1.50 inches (38mm).
          4. LWD: 3.0 inches (76mm).
          5. Percent Open Area: 78.
          6. Weight per sq. foot: 0.34 lbs (0.15Kg).
    2. Steel Expanded Metal Mesh Panels.
       1. Type: SUNSHADE 112016
          1. Strand Width: 0.50 inches (12.7mm)
          2. Strand Thickness: 0.059 inches (1.5mm)
          3. SWD: 1.40 inches (35.5mm)
          4. LWD: 3.0 inches (76mm)
          5. Percent Open Area: 26.
          6. Weight per sq. foot: 1.88 lbs (.85 Kg)
       2. Type: LOUVER 316022
          1. Strand Width: 0.070 inches (1.7mm).
          2. Strand Thickness: 0.030 inches (0.7mm).
          3. SWD: 0.19 inches (4.8mm).
          4. LWD: 0.75 inches (19mm).
          5. Percent Open Area: 26.
          6. Weight per sq. foot: 0.92(Kg).
       3. Type: SURF 012016
          1. Strand Width: 0.100 inches (25.4mm).
          2. Strand Thickness: 0.059 inches (1.5mm).
          3. SWD: 0.55 inches (14mm).
          4. LWD: 1.20 inches (30mm).
          5. Percent Open Area: 62.
          6. Weight per sq. foot: 0.92lbs (0.41Kg).
       4. Type: RHYTHM 112009
          1. Strand Width: 0.140 inches (3.5mm).
          2. Strand Thickness: 0.134 inches (3.4mm).
          3. SWD: 1.50 inches (38mm).
          4. LWD: 3.0 inches (76mm).
          5. Percent Open Area: 82.
          6. Weight per sq. foot: 1.05 lbs (0.47 Kg).
       5. Type: SQUARE 078016
          1. Strand Width: 0.135 inches (3.4mm).
          2. Strand Thickness: 0.124 inches (3.1mm).
          3. SWD: 0.96 inches (24mm).
          4. LWD: 1.575 inches (40mm).
          5. Percent Open Area: 72.
          6. Galvanized weight per sq. foot: 1.58 lbs (0.71Kg).
  1. EXPANDED METAL PANEL FINISHES

\*\* \*\* NOTE TO SPECIFIER \*\* Select the finish from the following options Delete the remaining options.

* + 1. Mill finish.
    2. All aluminum expanded metal mesh panels shall be clear anodized.
    3. All carbon steel expanded metal panels shall be Color Coated Finish:
       1. All color coated expanded metal mesh material shall be coated using Securex Plus 8-12 mil finish as manufactured by Niles Fence and Security. Materials will be electro deposition E-coat, color coated and top coated with a TGIC polyester powder.

PART 3 EXECUTION

3.1 EXAMINATION.

* + 1. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.2 PREPARATION

* + 1. All new installation shall be laid out by contractor in accordance with construction plans.
    2. Prepare all work areas and components. Clean all debris from work area prior to installation.

3.3 INSTALLATION – GENERAL CONDITIONS

* + 1. Installation and layout out of the expanded metal mesh panels shall be approved by the owner or general contractor prior to installation.
    2. Coordinate mechanical, electrical, fire and similar cut outs with drawings and to allow for clear passage.
    3. Install expanded metal panels with the SWD and LWD of the diamond pattern running concurrent with architectural drawings.

3.4 PROTECTION

* + 1. Protect installed products until completion of project.
    2. Touch-up, repair or replace damaged products before substantial completion.

END OF SECTION