

SECTION 055300

HEAVY DUTY WELDED STEEL GRATINGS

******* Ohio Gratings Inc. manufactures several basic construction materials including steel, stainless steel and aluminum bar gratings, safety gratings, stair treads, and fiberglass gratings. Ohio Gratings Inc. also manufactures several types of ornamental metal fencing.**

This guide can be used to specify various steel bar gratings and stair treads. These can be used for platforms, trench covers, and many other applications. Steel bar gratings can be specified as a separate section or as part of another building element. For the later, paragraphs from this guide would be inserted into the section specifying the element constructed with steel gratings. *****

The specifier will need to edit this product specification to reflect the options and applications being used. Most editing can be accomplished by deleting unnecessary requirements. Options are indicated by []. For final editing, all brackets and notes will need to be deleted from the guide.

Part 1: General

1.1 Scope

The contractor shall provide all labor, materials, equipment and incidentals as shown, specified and required to furnish and install grating, stair treads and frames.

1.2 Quality Assurance

A.1 Manufacturer Qualification: A company specializing in the manufacturing of metal bar gratings with not less than 10 years of documented experience.

A.2 Comply with applicable provisions and recommendations of the following: NAAMM Metal Bar Grating Manual designated ANSI/NAAMM MBG 531 (Aluminum and Light Duty Steel and Stainless Steel Grating) and MBG 532 (Heavy Duty Steel Grating).

A.3 Heavy Duty Steel:

ASTM A1011 for hot rolled carbon steel sheet and strip. ASTM A510 for carbon steel wire rods and coarse round wire. ASTM A666 for stainless steel

B.1 Take field measurements prior to preparation of final shop drawings and fabrication where required to ensure proper fitting of the work.

1.3 References

- A. ASTM A1011/A-04 Standard Specification for Steel Sheet and Strip
- B. AISI 1008 Standard Low Carbon Steel
- C. ANSI/NAAMM-MBG-531-00 Metal Bar Grating Manual
- D. ASTM A-123 Standard Specification for Zinc Hot-Dip Galvanized Products.

1.4 Submittals

- A. The contractor shall submit for approval shop drawings for the fabrication and erection of all work. Include plans, elevations, and details of sections and connections. Show type and location of all fasteners.
- B. The contractor shall submit the manufacturer's specifications, load tables, anchor details and standard installation details.
- C. Samples of grating and anchorage system shall be submitted for approval.

Part 2: Product

General:

Design is based upon use of carbon steel gratings as manufactured by Ohio Gratings, Inc. and terminology used herein may include reference to the specific performance or product of this manufacturer. Such reference shall be construed only as establishing the quality of materials, operational features and workmanship to be used under this Section and shall not, in any way, be construed as limiting competition.

- 1. Grating: Heavy Duty Welded Steel W Series by Ohio Gratings Inc., or equal.
- 2. Bearing Bars: Rectangular bar [1", 1-1/4", 1-1/2", 1-3/4", 2", 2-1/4", 2-1/2", 3", 3-1/2", 4", 4-1/2", 5", 5-1/2", 6"] depth x [1/4", 5/16", 3/8", 1/2"] width on a maximum of [15/16", 19/16", 22/16", 30/16", 38/16"] centers. (Note other spacing may be specified at the discretion of the architect/engineer.)
- 3. Cross Bars: To be [size] welded at right angles to bearing bars at 4" centers maximum. (Note 2" cross bar centers may be specified at the discretion of architect/engineer.)
- 4. Surface: [Plain, Serrated].
- 5. Loading: Grating to carry a pedestrian loading equal to a uniform load of 100# per square foot over the required clear span with deflection not to exceed 1/4". (Note: alternate loading requirements may be specified at the discretion of the architect/engineer.)
- 6. Finish: The gratings shall be provided [Mill, Shop Black Pain, Galvanized after Fabrication].
- 7. Fabrication and Tolerances shall be in accordance with ANSI/ NAAMM Metal Bar Grating Manual.

Part 3: Execution

3.1 Installation

- A. Prior to grating installation, contractor shall inspect supports for correct size, layout and alignment. Any inconsistencies between contract drawings and supporting structure deemed detrimental to grating placement shall be reported in writing to the architect or owner's agent prior to placement.
- B. Install grating in accordance with shop drawings and standard installation clearances as recommended by ANSI / NAAMM Metal Bar Grating Manual.
- C. Cutting, Fitting and Placement.
 - 1. Perform all cutting and fitting required for installation. Grating shall be placed such that cross bars align.
 - 2. Wherever grating is pierced by pipes, ducts and structural members, cut openings neatly and accurately to size and weld a rectangular band bar of the same height and material as the bearing bars.
 - 3. Cutouts for circular obstructions are to be at least 2" larger in diameter than the obstruction.
 - 4. Utilize standard panel widths wherever possible.

D. Protection of Aluminum from Dissimilar Materials:

1. Where aluminum surfaces come into contact with dissimilar metals, surfaces shall be kept from direct contact by painting the dissimilar metal with one coat of bituminous paint or other approved insulating material.
2. Where aluminum surfaces come into contact with dissimilar materials such as concrete, masonry or lime mortar, exposed aluminum surfaces shall be painted with one coat of bituminous paint or other approved insulating material.

3.2 Grating Attachment

Use approved attachment system and fasteners to secure grating to supporting members as shown on plans.

End Section 055300