

PART 1: GENERAL

1.1 Scope

A. Purpose: These specifications are presented as a general guide to the architect or structural engineer in preparing project specifications.

B. OPEN-GRIP®, DECK SPAN® and TREAD-GRIP® Safety Grating and Stair Treads:

1. Do not use these products without prior structural design by a qualified engineer or architect.
2. Furnish and install as specified in all areas where shown on the drawings.

C. Intended Use:

1. OPEN-GRIP®, DECK SPAN® and TREAD-GRIP® Safety Grating:
 - a. For general purpose use in plants and process facilities by industry, commerce, and public utilities.
 - b. For mobile and stationary equipment.
2. OPEN-GRIP®, DECK SPAN® and TREAD-GRIP® Safety Grating Stair Treads:
 - a. For utility stairs and fire escapes in commercial and private buildings when permitted by local building codes.
 - b. Not for staircases used regularly by the general public where flat closed surfaces are desired.

1.2 Qualifications

A. OPEN-GRIP®, DECK SPAN® and TREAD-GRIP® Safety Grating and Stair Treads, and accessories:

1. Manufactured by Morton Manufacturing Company
2. Installed in accordance with its current printed directions.
3. Safety Grating:
 - a. Meet safe allowable loads and deflections as required by qualified engineer or architect.
 - b. Slip Resistance: Federal Specification RR-G-1602C, Section 4.4.3.

1.3 Contractor Submittals

A. Erection drawings of grating layout, framing and supports, unit dimensions, type and location of fasteners and welds.

B. Manufacturer's shop details, including section, cut outs, and banding details.

C. Catalog cuts or calculations verifying performance to safe allowable loads and deflection criteria

1.4 Storage and Handling

- A. Store and handle materials to avoid damage.**
- B. Remove damaged and deteriorated materials from the premises. Dented material can jeopardize structural integrity of product.**

PART 2: PRODUCTS

2.1 Grating Materials

A. Safety Grating and Walkways: OPEN-GRIP®, DECK SPAN®, TREAD-GRIP® and STAR-DECK®.

B. Material:

1. Carbon Hot Rolled, Pickled and Oiled Steel: ASTM A1011
2. Mill Galvanized Steel: ASTM A653 and A924.
3. Stainless Steel Alloy: Type 304-2B (DECK SPAN® and TREAD-GRIP® only).
4. Aluminum Alloy: 5052-H32

C. Material gauge or thickness:

1. DECK SPAN®: 14 gauge steel, 12 gauge steel, 16 gauge stainless steel, .080" or .100" thick aluminum.
2. OPEN-GRIP®: 13 gauge steel, 11 gauge steel and .125" thick aluminum.
3. TREAD-GRIP®: 13 gauge steel, 11 gauge steel and .125" thick aluminum.
4. STAR-DECK®: 11 gauge steel (other material available upon request).

D. Selection Width:

1. OPEN-GRIP®:
 - a. Channels: 5", 7", 10", 12", 18"
 - b. Walkway: 24", 30", 36"
2. DECK SPAN®:
 - a. Channels: 4-3/4" (2 diamond)
7" (3 diamond)
9-1/2" (4 diamond)
11-3/4" (5 diamond)
18-3/4" (8 diamond)
24" (10 diamond)
 - b. Walkway: 24" (10 diamond)

3. TREAD-GRIP[®]:
 - a. Channels: 7", 10", 12"
 - b. Sheets: 36" maximum
 - c. Ladder Rungs: 2 Row (1-1/4")
3 Row (1-5/8")
4 Row (2-1/4")

4. STAR-DECK[®]:
 - a. Sheets: 48" maximum

E. Selection Height:

1. OPEN-GRIP[®]:
 - a. Channels: 1-1/2", 2"
 - b. Walkway: 5"
2. DECK SPAN[®]:
 - a. Channels: 1-1/2", 2", 2-1/2", 3"
 - b. Walkway: 4-1/2"
3. TREAD-GRIP[®]:
 - a. Channels: 1-1/2", 2"

F. Selection Length:

1. OPEN-GRIP[®]:
 - a. Standard length: 10' or 12'
 - b. Special order available.
2. DECK SPAN[®]:
 - a. Standard length: 10' (121-1/2") or 12' (144")
 - b. Special order available. To order in full or half diamond length increments only.
3. TREAD-GRIP[®]:
 - a. Standard length channels: 10' or 12'
 - b. Standard length sheets: 10'
 - c. Standard length ladder rungs: 16", 18", 48-3/4" and 60"
 - d. Special order available
4. STAR-DECK[®]:
 - a. Standard length: 100"
 - b. Special order available

G. Open Area:

1. DECK SPAN[®], TREAD-GRIP[®] or OPEN-GRIP[®] provide maximum open area for drainage and ventilation.

H. Slip Resistance: Federal Specification RR-G-1602C.

PART 3: EXECUTION

3.1 General

Install grating in accordance with manufacturer's recommendations, structural drawings, and approved erection and shop drawings.

3.2 Condition of Surfaces

A. Prior to grating installation:

1. Inspect supports for correct size, layout and alignment.
2. Verify that surfaces to receive grating are free of debris, burrs, bridging, welds, and other irregularities.
3. Bearing surfaces:
 - a. Recommended minimum: 1-1/2".
 - b. Smooth and level so adjoining sections provide a safe, even walking surface.
4. Notify the design or consulting engineer or owner's agent in writing of defects detrimental to proper application of grating so defects can be remedied before grating is applied.

3.3 Grating Installation

A. Recommended Clearance:

1. Steel:
 - a. Perimeter: 1/4" minimum.
 - b. End joints: 3/8" maximum.
 - c. Between panels: 1/8" general use; 1/4" maximum.
2. Concrete:
 - a. Perimeter: 1/2".
 - b. Between panels: 1/4" maximum.

B. Positioning and banding:

1. Position flat and square with ends bearing min. 1-1/2" on supporting structure.
2. Band random cut ends, diagonals, and coped corners:
 - a. With a minimum 1/8" thick bar.
 - b. Equal to overall grating thickness.
 - c. Welded at contact point at the discretion of the design engineer.
 - d. When additional supports are required, do not use banding as a replacement.

3.4 Grating Attachment

A. Attach grating to supports without warp or deflection.

B. With anchoring device or welding, attach planks at every point of contact with supporting structure.

C. Multiple-width applications:

1. In field of platform, attach plank to supporting structure with a minimum of one attachment at each end of plank on alternate sides.
2. Spans exceeding 8 ft: Weld or bolt side channels of adjacent planks together at midpoint of span.

D. Fastener Attachments: Secure each end to supporting members and at every point of contact:

1. OPEN-GRIP®: Use two bolt seat washers and 1/2" or 3/8" carriage bolts & nuts.
2. DECK SPAN®: Use two diamond washers and 5/16" carriage bolts & nuts.

E. Weld Attachment:

1. Weld channels between supports to provide uniform deflection in adjacent panels.
2. Side channel: Secure to supports by fusion welding with 1/8" fillet welds 1" long.
3. Adjacent planks: Weld together with 1/8" fillet welds 1" long, 24" on center staggered top and bottom.