



Product Guide Specification

Specifier Notes: This product guide specification is written according to the Construction Specifications Institute (CSI) MasterFormat, Three-Part SectionFormat, and PageFormat, contained in the CSI Manual of Practice. Six-digit section numbers are from the MasterFormat, 2004 Edition.

The section must be carefully reviewed and edited by the Engineer to meet the requirements of the project and local building code. Coordinate with other specification sections and the drawings.

Specifier Notes: This section covers Cooper B-Line slip resistant, Grip Strut® Safety Grating, Grating planks, walkways, treads, ladder rungs and specialty items designed for industrial and commercial walking/working surfaces are included

SECTION 05 53 00, Metal Gratings (05120) Safety Grating, Slip Resistant Walkways, Platforms and Treads

Part 1- General

1.1 Section Includes

- A. Safety Grating walkways, planks, stair-treads with reticulated and formed metal cross struts.
- B. Regular and Heavy Duty Safety Grating products constructed from single-sheet with integrally-formed channels at the edges.
- C. Slip resistant walkways, planks and stair-treads with stamped surface textures/patterns.

1.2 Related Documents & Sections

Drawings and general provisions of the contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this section. Other related sections include:

- A. 05 51 00, Metal Stairs
 - 05 51 19, Metal Grating Stairs
 - 05 51 13, Metal Ladders
 - 05 51 36, Catwalks
- B. 05 55 00, Metals Stair Treads and Nosings

1.3 Submittals

- A. Submit drawings of Safety Grating products, accessories and attachments.
- B. Submit manufacturer's product data on Safety Grating products including, but not limited to; types, materials, finishes, gauge thickness, surface patterns. For each grating cross-section, submit dimensional information, span, load capacity and deflection requirements.
- C. Shop Drawings:
 - 1. Show fabrication and installation details, including plans.
 - 2. Coordination of drawings: Floor plans and sections, drawn to scale. Include scaled layout and relationships between grating and adjacent structural elements.

1.4 References

- A. ASTM A 123 - Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products
- B. ASTM A 240 - Standard Specification for Chromium and Chromium-Nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels and for General Applications
- C. ASTM A 653 - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process
- D. ASTM A 924 - Standard Specification for General Requirements for Steel Sheet, Metallic Coated by the Hot-Dip Process
- E. ASTM A 1011 - Standard Specification for Steel, Sheet and Strip, Hot-Rolled, Carbon, Structural, High-Strength Low-Alloy, and High-Strength Low-Alloy with Improved Formability
- F. ASTM B 209 - Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate
- G. OSHA-Occupational Safety and Health Administration- Standards for walking-working surfaces. Part Number 1910, Subpart D.
- H. RR-G-1602D- Federal Specification For Safety Grating (other than bar type & excluding naval vessels)
- I. ISO 9001:2000 Quality Management System- Requirements.



1.5 Quality Assurance

- A. Manufacturers: Firms regularly engaged in the manufacture of Safety Grating of the types required, whose products have been in satisfactory use in similar service for not less than 5 years.
- B. OSHA Compliance: All grating installations must comply with OSHA Standards for walking working surfaces.
- C. Federal Specification RR-G-1602D (or current revision) defines the criteria for items to be considered "Safety Grating". Slip resistant performance data must be available to support compliance.
- D. Manufacturer must have an ISO registered quality system in place, and Manual available upon request.

1.6 Delivery, Storage and Handling

- A. Deliver Safety Grating and components carefully to avoid damage, denting and scoring of finishes. Do not install damaged material.
- B. Store materials in original packaging and in clean, dry space; protect from weather and construction traffic. Materials to be elevated off of ground by blocks or skids or pallets.

Part 2 Products

2.1 Acceptable Manufacturers

Safety Gratings: Subject to compliance with these specifications, Safety Gratings shall be installed as manufactured by Cooper B-Line Grip Strut Safety Grating (or engineer approved equal).

2.2 Materials and Finish

- A. Hot Rolled, Pickled & Oiled Steel: Commercial steel per ASTM A 1011, minimum yield of 33 ksi.
- B. Mill Galvanized Steel: Commercial steel per ASTM A 653 and ASTM A 924 with G-90 coating designation, minimum yield of 33 ksi.
- C. Hot-Dip Galvanized After Fabrication: Commercial steel per ASTM A 1011, minimum yield of 33 ksi, hot-dip galvanized after fabrication per ASTM A 123.
- D. Aluminum: Alloy 5052, Temper H32 aluminum per ASTM B 209
- E. Stainless Steel: Type 304 (Type 316) stainless steel, 2B or 2D finish, per ASTM A 240.

2.3 Gratings and Components

Safety Grating: (planks)(walkways)(treads)(ladder rungs) shall meet or exceed the Federal Standard for Safety Grating.

Part 3 Execution

3.1 Installation

- A. Inspect areas to receive Grating for obstacles. Notify the Engineer of conditions that would adversely affect the installation or subsequent utilization of the areas. Do not proceed with installation until unsatisfactory conditions are corrected.
- B. Install Grating according to manufacturer's recommendations and as shown on the construction drawings.
- C. Position Grating sections flat and square with ends bearing minimum 1¹/₂" on supporting structure.
- D. Keep sections at least 1¹/₄" away from vertical steel sections and 1¹/₂" from concrete walls.
- E. Allow clearance at joints between sections of maximum 1¹/₂" at side channels and maximum 3³/₈" at ends.
- F. Band random cut ends and diagonal or circular cut exposed edges with a minimum 1¹/₈" thick bar welded at contact points.
- G. Join abutting walkway sections with manufacturer supplied splice plates; bolted or welded as specified.

END OF SECTION