

**SECTION 05 53 01****SAFETY GRATING****PART 1: GENERAL**

## 1.01 SECTION INCLUDES

- A. Safety grating walkways, planks and grating beneath access covers.
- B. Slip resistant walkways, planks and stair-treads.

## 1.02 SUBMITTALS

- A. Conform to requirements of Section 01 33 00 - Submittals.
- B. Submit manufacturers' product data for following items for approval:
  - 1. Each type of safety grating walkways, and planks.
  - 2. Each type of grating beneath access covers.
  - 3. Each type of slip resistant walkways, planks and stair-treads.
- C. Submit drawings of safety grating / slip resistant grating products, accessories and attachments.
- D. Submit manufacturer's product data on 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.
- E. Shop Drawings:
  - 1. Show fabrication and installation details, including plans.
  - 2. Coordination of drawings: Floor plans and sections, drawn to scale where applicable. Include scaled layout and relationships between grating and adjacent structural elements.

## 1.03 REFERENCES

- A. OSHA – 29 CFR as it pertains to worker safety and walking-working surfaces for stairs, ladders, handrail, and platforms.

**PART 2: PRODUCTS**

## 2.01 MATERIALS AND FINISH

- A. Fiberglass: Polyester or Vinyl ester resin. All molded grating shall have ultraviolet (UV) inhibitors.
- B. Aluminum: Alloy 5052, Temper H32 aluminum per ASTM B 209.
- C. Stair treads shall have integral embedded grit for slip resistance.

## 2.02 GRATINGS AND COMPONENTS

- A. Safety Grating: planks, walkways, treads, ladder rungs shall meet or exceed the Federal Standard for Safety Grating, RR-G-1602D.
- B. The design grating, including connections, shall be in accordance with governing building codes and standards as applicable.
- C. Slip Resistant Grating: planks, walkways, treads, ladder rungs shall be constructed from a single sheet with integrally formed side channels and surface textures.
- D. Grating shall designed to support a minimum of 250 lbs. per square foot uniform load and support all applicable loads.
- E. Deflection shall not exceed 0.25 inch. structural support members shall not deflect more than L/180 of span for structural members unless specifically stated otherwise in construction drawings and/or supplementary conditions.

## 2.03 GRATING BENEATH ACCESS COVERS

- A. For any access opening which is greater than 4 feet above working or walking surface or has a bottom edge greater than 4 feet or more (such as vaults, and wet wells), fall protection grating shall be provided.
- B. Grating shall be provided under access covers such than it can provide fall protection when the cover is left in the open position.
- C. Access cover grating shall:
  - a. Include spring loaded lifting handle.
  - b. Be able to install on access covers regardless of cover manufacturer.
  - c. Be hinged with automatic hold open arm to maintain upright position.
  - d. Be lockable with AW supplied padlock.
  - e. Include all T-316 stainless steel mounting hardware.
  - f. Include powder-coated finish.
- D. Grating shall designed to support a minimum of 250 lbs. per square foot uniform load and support all applicable loads.
- E. All platform grating shall be clipped to the support beams attached with 316 stainless steel or compatible grating clips.
- F. All grating shall be banded to the full depth of the grating.
- G. Each section of grating (for floor grating and stair treads) should not weigh more that 40 pounds.

## **PART 3: EXECUTION**

### **3.01 INSTALLATION**

- A. Inspect areas to receive grating for obstacles. Notify the AW Project 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, accurate in location, alignment, elevation, and are plumb and level.
- C. Field fabricate as necessary for accurate fit.
- D. All structural shapes shall be fabricated per the drawings with good workmanship, closely fitted joints, and finished true to line and in accurate position to permit installation and proper joining of parts in the field.
- E. Position grating sections flat and square with ends bearing minimum 1-1/2" on supporting structure.
- F. Allow clearance at joints between sections of maximum 1/4" at side channels and maximum 3/8" at ends.
- G. Join abutting walkway sections with manufacturer supplied splice plates; bolted or welded as specified.
- H. After fabrication, all cuts, holes, and abrasion shall be sealed to prevent corrosion.

### **3.02 DELIVERY, STORAGE AND HANDLING**

- A. Deliver safety grating / slip resistant 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.
- C. Keep material covered to prevent unnecessary exposure to UV.

**END OF SECTION 05 53 01**