

## SECTION 05 51 33

## METAL LADDERS (GRABSAFE® Ladder Rung Continuation Grips)

**PART 1 GENERAL**

## 1.01 SECTION INCLUDES

- A. Specialty custom designed GRABSAFE® Ladder Rung Continuation Grips (Patent Numbers 6,095,283; 6,347,685; 6,619,428) for walk-through fixed ladders, including,
  - 1. GRABSAFE® - Model Number GBS-CLMP (Clamp On).
  - 2. GRABSAFE® - Model Number GBS-WELD (Weld On).

Note: Owner of GrabSafe trademark is Ellis Ladder Improvements, Inc

## 1.02 RELATED SECTIONS

- A. Section 05 51 33 – Metal Ladders
- B. Section 05 52 13 – Pipe and Tube Railings
- C. Alternates: Similar products of other manufacturers subject to A-E prior approval and must meet the requirements provided by this specification.

## 1.03 REFERENCES

- A. OSHA 1910, Subpart D, 1910.24 Fixed Industrial Ladders
- B. OSHA 1926, Subpart X, 1926.1053 Ladders
- C. US Corps of Engineers Safety and Health Requirements Manual 11 03
- D. ANSI A14.3, Safety requirements for Fixed Ladders
- E. AISC M016 Manual of Steel Construction, Allowed Stress Design
- F. ASTM A 36/A 36M Standard Specification for Structural Steel
- G. ASTM A123 (Standard Specification for Zinc coating – Hot Dip Galvanizing of Iron and Steel Products);
- H. ASTM Z325 (Bolts, Nuts, and Washers)
- I. Joint Surface Preparation, SSPC-3, Power Tool Cleaning
- J. American Society for Testing and Materials (ASTM) - ASTM A36 Standard Specification for Carbon Structural Steel
- K. American Iron and Steel Institute (AISI) - AISI CL 304.
- L. American Welding Society Structural Welding Code (AWS) - AWS D1.1, D1.2

## 1.04 SYSTEM DESCRIPTION

- A. The GRABSAFE® provides horizontal grab bars to assist in stepping through the top 42" portion of fixed ladders.

## 1.05 SUBMITTALS

- A. General: Provide submittals in accordance with Conditions of the Contract.
- B. Shop Drawings: Provide shop drawings showing layout, hardware, and finishes. Include applicable material specifications and sections detailing mounting and connections.
- C. Installation: Provide installation instructions and drawings detailing installation procedure.
- D. Closeout Submittals: Provide Operation and Maintenance data to include methods for maintaining installed products, precautions against cleaning materials and methods detrimental to finishes and performance.

## 1.06 QUALITY ASSURANCE

- A. Experience: Manufacturer must demonstrate a minimum of Five (5) years successful experience in design and manufacture of similar related products.
- B. Provide evidence to the effect, including list of installations, descriptions, name and method of contact shall be provided.
- C. Welder Qualifications: Welders Certified in accordance with American Welding Society Procedures: AWS-1-GMAW-S, WPS No. B2.004.90 for applicable material used in production of specified product.

### 1.07 DELIVER, STORAGE, AND HANDLING

- A. Delivery
  1. Deliver materials in manufacturer's original, unopened, undamaged shipping container with identification labels intact.
- B. Storage
  1. Store all materials in a dry, controlled area to protect from elements and damage. If outdoor storage is required, block materials to store at an incline, to prevent pooling of any moisture and promote runoff.
  2. Do not tarp tightly, as this will entrap moisture. Instead, tarp materials in a tent-like arrangement, elevated above the product with open sides to allow airflow.
  3. For additional questions on delivery, storage, or handling, contact the patent holder and primary sales agent – Ellis Ladder Improvements, Inc. at 800-372-7775 or email at [ELI@FallSafety.com](mailto:ELI@FallSafety.com).
- C. Handling
  1. Use caution when unloading and handling product to avoid bending, denting, crushing, or other damage to the product.

### 1.08 WARRANTY

- A. Special Warranty
  1. Manufacturer guarantees this product and components to be free from manufacturing defects for a period of One (1) year from date of shipment.

### 1.09 MAINTENANCE

- A. Routine inspections and maintenance (Determined by owner).
- B. General housekeeping of immediate area.
- C. Immediate replacement or repair of damaged or missing components.

## PART 2 PRODUCTS

### 2.01 MANUFACTURING

- A. Product must be manufactured as directed and approved by Patent Holder and Primary Sales Agent Ellis Ladder Improvements, Inc., 306 Country Club Drive, Wilmington, DE 19810; Toll Free (800) 372-7775, telephone (302) 571-8470, [ELI@FallSafety.com](mailto:ELI@FallSafety.com), [www.FallSafety.com](http://www.FallSafety.com)
- B. Substitutions not permitted.

### 2.02 PERFORMANCE

- A. Products Details:
  1. GRABSAFE® provides horizontal grab bars to step through ladders portion of your fixed ladders. GRABSAFE® gives personnel horizontal hand holds to ascend or descend the full height of a fixed ladder.
  2. Only horizontal grip members are reliable to sustain a fall of the body if the foot slides off the rung for any reason. If a vertical member is held, no matter what the shape of the side rail or the strength of grip, the force of falling causes the hand to slide, producing an impact with the next rail obstruction, which causes release of the handhold and a resulting fall.
  3. Model/Operation Options:
    - a. Model: GBS-CLMP - GRABSAFE® Clamp-On Installation.
    - b. Model: GBS-WELD - GRABSAFE® Weld-On Installation.
  4. Material requirements: See Section 2.03 COMPONENTS.

### 2.03 COMPONENTS

- A. Attributes
  1. GRABSAFE® to be fabricated from structural or formed steel shapes, ASTM A36; tubing, ASTM-A-500 Grade B, ASTM-A-513; bars, ASTM-A-36, M1020; of appropriate

size and strength, welded construction. Optional materials include Stainless Steel (304 or 316).

2. Finish on all exposed surfaces to be Hot Dip Galvanized, Power Coat Safety Yellow, or Stainless Steel. Stainless Steel products to be mill finish, welds are ground smooth, not polished, and are factory acid washed, neutralized and rinsed.

#### 2.04 SOURCE QUALITY CONTROL

- A. Obtain GRABSAFE® product from single manufacturer.

### **PART 3 EXECUTION**

#### 3.01 EXAMINATION

- A. Compliance: Comply with all manufacturer's product data, including installations instructions, reference drawings, shipping, handling, and storage instructions, and product carton instructions for installation.

#### 3.02 INSTALLATION/APPLICATION

- A. GRABSAFE® Installation
  1. Install in accordance with manufacturer's installation instructions, shop drawings, and details.
  2. All bolted connections must be tight with no fewer than two threads exposed and the nuts are to be positively locked by provide lock nuts.
- B. Tolerances
  1. All dimensional requirements must be in accordance with manufacturer's installation instructions and shop drawings.

#### 3.03 FIELD QUALITY CONTROL

- A. Installation: Product to be installed using good general construction methods and practices, in accordance with manufacturer's instructions and drawings.
- B. Field Tests/Installation Verification:
  1. Verify all anchorage is in accordance with manufacture's installation instructions and applicable data sheets.

#### 3.04 CLEANING

- A. Repair or replace damaged installed products or components.
- B. Touch up damaged finish.

#### 3.05 PROTECTION

- A. Protect installed product and finish surfaces from damage during handling, storage, and installation.
- B. Protect installed product and finish surfaces during normal and general use.