

SECTION 055133

METAL LADDERS (GRABSAFE® - Ladder Rung Continuation Grips)

PART 1 - GENERAL

1.1 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)

1.2 RELATED SECTIONS

- A. Section 055133 – Metal Ladders.
- B. Section 055213 – Pipe and Tube Railings.
- C. Section 05120 – Structural Steel.

1.3 REFERENCES

- A. OSHA 1910, Subpart D, 1910.24 Fixed Industrial Ladders
- B. OSHA 1926, Subpart X, 1926.1053 Ladders
- C. ANSI A14.3, Safety requirements for Fixed Ladders
- D. AISC M016 Manual of Steel Construction, Allowed Stress Design
- E. ASTM A 36/A 36M Standard Specification for Structural Steel
- F. ASTM Z325 (Bolt, Nuts, and Washers)
- G. Joint Surface Preparation, SSPC-3, Power Tool Cleaning
- H. American Society for Testing and Materials (ASTM) - ASTM A36 Standard Specification for Carbon Structural Steel
- I. American Iron and Steel Institute (AISI) - AISI CL 304.
- J. American Welding Society Structural Welding Code (AWS) - AWS D1.1, D1.2

1.4 DESIGN / PERFORMANCE REQUIREMENTS

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

Rev. Date: 112818

1.5 SUBMITTALS

- A. Submit under provisions of Section 01300.
- B. Product Data: Manufacturer's data sheets on each product to be used, including:
 - 1. Preparation instructions and recommendations.
 - 2. Storage and handling requirements and recommendations.
 - 3. Installation instructions.
- C. Shop Drawings: Provide shop drawings showing layout, profiles, and product components, including anchorage, hardware, and finishes. Include dimensional plans, applicable material specifications, elevations and sections detailing mounting and connections.
- 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.
- E. Manufacturer's Certificates: Certify products meet or exceed specified requirements.

1.6 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, upon request.
- 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.

1.7 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 manufacturer at 877-446-1519 or email to 4psinfo@psindustries.com.
- C. Handling

1. Use caution when unloading and handling product to avoid bending, denting, crushing, or other damage to the product.
2. When using forklifts, use forks of proper length to fully support product being moved. Consult shop drawings or consult with factory for proper lift points.

1.8 WARRANTY

A. Special Warranty

1. The manufacturer provides a limited warranty on this product and components to be free from manufacturing defects for a period of one (1) year from ship date.

1.9 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

2.1 MANUFACTURERS

- A. Approved Manufacturer: PS Access Solutions™, 1150 S. 48th Street, Grand Forks, ND 58201. Toll Free Tel: 877-446-1519. Web Site: www.psaccesssolutions.com or www.psindustries.com. E-mail: 4psinfo@psindustries.com.
- B. Substitutions: Not permitted.
- C. Request for substitutions will be considered in accordance with provisions of Section 01600.
- D. Obtain all GRABSAFE® assemblies from single manufacturer.

2.2 EQUIPMENT

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 2.3 MATERIALS.

Rev. Date: 112818

2.3 MATERIALS

A. Attributes

1. GRABSAFE® to be fabricated from structural or formed steel shapes, ASTM A36; tubing, ASTM-A-500 Grade B; bar, ASTM-A-36; plate/bar, ASTM-A-569; of appropriate size and strength, welded construction. Optional materials include Stainless Steel (304 or 316L).
2. Finish on all exposed surfaces to be Powder Coat Safety Yellow.
3. Packaging: Gate to be fully assembled with mounting hardware and installation instructions mill cloth bagged and attached to gate. Standard packaging has assembled gate individually packaged in cardboard carton. Exterior or carton to marked with product name, model, size and finish.

2.4 FABRICATION

- A. Fit and shop assemble items in largest practical sections, for delivery to site.
- B. Fabricate items with joints tightly fitted and secured.
- C. Supply components required for anchorage of fabrications. Fabricate anchors and related components of same material and finish as fabrication, except where specifically noted otherwise.

PART 3 - EXECUTION

3.1 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.

3.2 PREPARATION

- A. Clean surfaces thoroughly prior to installation.
- B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

3.3 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

Rev. Date: 112818

1. All dimensional requirements must be in accordance with manufacturer's installation instructions and shop drawings.

3.4 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.

3.5 CLEANING

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

3.6 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.

END OF SECTION