PS INDUSTRIES INCORPORATED
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SECTION 111300

LOADING DOCK EQUIPMENT

Note to Specifier This specification contains component and configuration options. Where indicated, choose the appropriate choice for your specific project requirements

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. **[Single Smart Gates] [and] [Paired Smart Gates]** Specialty custom designed, slam-proof, dampener assisted, Smart Gate for loading docks, pedestrian walkways, forklift and machinery traffic, and floor and wall openings.
2. Gate Hardware.

B. Related Sections:

1. Division 03 – Cast-in-Place.
2. Division 05 – Metal Ladders.
3. Division 05 – Pipe and Tube Railings.
4. Division 05 – Structural Steel Framing.

1.2 SUBMITTALS

A. 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.

B. 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.

1. Contractor to provide manufacturer with field measurements and mounting structure prior to commencement of shop drawings.

1.3 CLOSEOUT SUBMITTALS

A. Provide Operation and Maintenance data to include methods for maintaining installed products, precautions against cleaning materials and methods detrimental to finishes and performance.

1.4 QUALITY ASSURANCE

A. Manufacturer Qualifications: Manufacturer must demonstrate a minimum of five (5) years successful experience in design and manufacture of similar related closures. Upon request, provide supporting evidence including list of installations, descriptions, name, and method of contact.

B. Minimum Qualifications: Manufacturer must demonstrate compliance and certification of a Quality Management System administered by the International Organization for Standardization (ISO). Documentation of current certification status to be provided upon request.

C. Welder Qualifications: Welders Certified in accordance with American Welding Society Procedures for applicable material used in production of specified product.

1.5 DELIVERY, STORAGE, AND HANDLING

A. Store products in manufacturer's unopened packaging container with identification markings intact until ready for installation.

B. Protect materials from exposure to moisture during storage.

C. Store materials in a dry, warm, ventilated weathertight location. If outdoor storage is required, block materials to store at an incline, to prevent pooling of any moisture and promote runoff. Tarp materials in a tent-like arrangement, elevated above the product with open sides to allow airflow. Store loose or high value components in a dry, controlled environment.

D. Use caution when unloading and handling product to avoid bending, denting, crushing, or other damage to the product.

E. When using forklifts, use forks of proper length to fully support product being moved. Consult "Approved for Construction" drawings or consult with factory for proper lift points.

1.6 PROJECT CONDITIONS

A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's indicated limits.

1.7 WARRANTY

A. Manufacturer’s Standard Warranty: Product to be free from defects in material and workmanship for a period of one (1) year from date of shipment.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Intended as a visible and physical gate systems at elevated openings and floor level walkways where required by U.S. Federal OSHA and ANSI at time of manufacture. Product designed to meet or exceed U.S. Federal requirements of dimensions and load requirements at time of manufacturing.

2.2 SMART GATE

A. Description: Hinged, Smart Gate including Gate Posts, Adjustable Clevis, Upper Arms, Lower Arms, Gate End, Dampener(s), and hardware.

1. Approved Manufacturer: PS Safety Access™, which is located at: 1150 S. 48th Street, Grand Forks, ND 58201; Toll Free Tel: 877.446.1519; Email: 4info@psindustries.com; Web: www.pssafetyaccess.com or www.psindustries.com

a. Basis of Design Product: Model: ESG/ ESGDBL.

B. Substitutions: Not permitted.

C. Single Source Responsibilities: Obtain all smart gates from single manufacturer.

2.3 EQUIPMENT

A. Products Details:

1. The Smart Gate is a slam-proof, dampener-assisted lift gate.

a. Model/Min/Max Opening Width:

ESG MODEL #	OPENING WIDTH	
	MIN	MAX
ESG-60	48 inch	84 inch
ESG-60 w/Toeboard	42 ½ inch	78 ½ inch
ESG-96	84 inch	108 inch
ESG-96 w/Toeboard	78 ½ inch	102 ½ inch
ESG-120	108 inch	132 inch
ESG MODEL #	OPENING WIDTH	
	MIN	MAX
ESG-144	132 inch	156 inch

ESGDBL MODEL #	OPENING WIDTH	
	MIN	MAX
ESGDBL-120	108 inch	168 inch
ESGDBL-120 w/Toeboard	97 inch	157 inch
ESGDBL-192	180 inch	228 inch
ESGDBL-192 w/Toeboard	169 inch	217 inch
ESGDBL-240	228 inch	276 inch
ESGDBL MODEL #	OPENING WIDTH	
	MIN	MAX
ESGDBL-288	276 inch	324 inch

2.4 MATERIALS

A. Smart Gate to be fabricated from the following type of material;

Note to Specifier Other Materials/ Finishes optional by custom request.

1. Steel: Commercial quality, low carbon structural or formed shapes, tubing, and bars of appropriate size and strength with welded construction.

B. Gate Post and Catch Post to be manufactured of the same material type and finish as Smart Gate.

1. Formed 10-gauge sheet to fit gate arms.
2. Base to be 3/8" welded plate, adjustable for correct clear opening width and anchorage.

C. Upper Gate Arms to be manufactured of the same material type and finish as Smart Gate.

1. Straight 2" square, 14-gauge tubing.
2. Straight 1 – ¾" square, 14-gauge tubing with minimum of 24" and maximum of 30" of sliding adjustment.

D. Lower Gate Arms to be manufactured of the same material type and finish as Smart Gate.

1. Straight 2" square, 14-gauge tubing.
2. Straight 1 – ¾" square, 14-gauge tubing with minimum of 24" and maximum of 30" of sliding adjustment.

E. Adjustable Clevis to be manufactured of the same material type and finish as Smart Gate.

1. Formed 10-gauge bracket for gate arm adjustment following dampener installation.

F. Gate End to be manufactured of the same material type and finish as Smart Gate.

1. Formed, welded 10-gauge sheeting for housing within Catch Post.

Note to Specifier Any model number higher than ESG-60 and ESGDBL-120 will have: two (2) dampeners per Smart Gate.

G. Dampeners: Slam-proof and control descent speed, adjustable to 90º vertical when open.

H. Placards: Site mounted, caution label with graphic fall hazard symbol Shall be white background color with colored graphics. Site mounted, OSHA compliance label with white background color with black graphic. Factory mounted, caution label with graphic dampener pinch-point hazard symbol with white background with colored graphics.

I. Mounting Hardware: Provide carbon steel power stud anchor, minimum 3/8" diameter and 3" length, to anchor to min. 3000 psi concrete, and nuts.

J. Finish:

1. Steel Shop Finish: Apply the following paint system in accordance with manufacturer recommendations and instructions;

Note to Specifier Other Material/ Finishes optional by custom request.

a. Finish: Powder Coat Safety Yellow

K. Packaging: Gate parts, mounting hardware bagged and placed in bag, and installation instructions.

1. Standard packaging has gate parts individually packaged in cardboard carton.
2. Exterior of carton to marked with product name, model, size, and finish.

2.5 FABRICATION

A. Fit and factory assemble items in largest practical sections, for shipment 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. Do not begin installation until mounting substrates have been properly prepared.

B. If substrate preparation is the responsibility of another subcontractor, notify Architect of uncompleted preparation before proceeding.

C. Inspect opening for compliance with manufacturer requirements. Verify open conditions are within required tolerances.

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

A. Install in accordance with manufacturer's installation instructions, "Approved for Construction" drawings, shipping, handling, and storage instructions, and product carton instructions for installation.

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

C. Verify that hinge assemblies operate freely and correctly.

D. Verify all anchorage is in accordance with manufacturer's installation instructions and applicable data sheets.

3.4 FIELD QUALITY CONTROL

A. Product to be installed using good general construction methods and practices, in accordance with manufacturer's instructions and shop drawings.

3.5 CLEANING

A. Touch-up, repair or replace damaged products or components before Substantial Completion.

B. Clean all surfaces.

3.6 PROTECTION

A. Protect installed products until completion of project.

END OF SECTION