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OVERHEAD DOOR®

SECTION 111319
HYDRAULIC RECESSED LOADING DOCK LEVELER SPECIFICATION

NOTE: Enable Microsoft Word option to display hidden text to view notes to specifier.

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Recessed loading dock levelers.

1.02 RELATED REQUIREMENTS

A. Section 031000 - Concrete Forming and Accessories: Placement of leveler frame**[and safety lock frame]** into concrete **[loading dock] [_____]**.

B. Section 033000 - Cast-in-Place Concrete.

C. Section 111313 - Loading Dock Bumpers.

1.03 REFERENCE STANDARDS

A. ANSI MH30.1 - Design, Testing, and Utilization of Dock Leveling Devices 2022.

B. AWS D1.1/D1.1M - Structural Welding Code - Steel 2020, with Errata (2022).

C. UL 508A – Standard for Industrial Control Panels.

1.04 SUBMITTALS

A. See Section 013000 - Administrative Requirements for submittal procedures.

B. Product Data: Provide materials and finish, installation details, roughing-in measurements, and operation of unit.

C. Shop Drawings: Indicate required opening dimensions and tolerances, perimeter conditions of construction.

D. Shop Drawings: Indicated framed wall opening, dimensions and tolerances, adjacent construction and fittings required for anchorages, and anchor points.

E. Samples: Submit **[two] [_____]** cuts of **[seal] [shelter] [_____]** covering material, ____ by ____ inch (____ by ____ mm) in size, illustrating color and finish.

F. Manufacturer's Instructions: Indicate special requirements.

G. Manufacturer's Qualification Statement.

H. Welders' Qualification Statement: Welders' certificates in accordance with AWS B2.1/B2.1M and dated within the previous **[12 months] [_____]**.

I. Installer's Qualification Statement.

J. Operation Data: Provide operating instructions, and identify unit limitations.

K. Maintenance Data: Provide unit maintenance information, lubrication cycles, and spare parts manual.

L. Executed warranty.

1.05 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section, with at least [five; or _____] years [documented; or None - N/A] experience.

B. Welder Qualifications: Welding processes and welding operators qualified within previous **[12 months] [_____]** in accordance with AWS D1.1/D1.1M.

C. Installer Qualifications: Company specializing in performing work of type specified and with at least **[three] [_____]** years of **[documented]** experience **[and approved by manufacturer]**.

1.06 FIELD CONDITIONS

A. Existing Conditions: Field verify dimensions of construction related to stationary loading dock equipment prior to fabrication, including **[recessed pit dimensions] [slope of inclined dock approach] [dock height] [and] [_____]**.

1.07 WARRANTY

A. See Section 017800 - Closeout Submittals for additional warranty requirements.

B. Manufacturer Warranty: Provide **[1-year; or ____]** manufacturer warranty for defective work from Date of Substantial Completion. Complete forms in Owner's name and register with manufacturer.

C. Special Limited Warranty: Provide **[4-year; or ____]** warranty for main spring on mechanical levelers following manufacturer warranty. Complete forms in Owner's name and register with warrantor.

D. Special Limited Warranty: Provide **[4-year; or ____]** warranty for parts for hydraulic power unit and cylinders on edge-of-dock levelers following manufacturer warranty. Complete forms in Owner's name and register with warrantor.

E. Extended Correction Period: Correct defective work within **[2-year; or ____]** period commencing on Date of Substantial Completion if dock and door are purchased and installed by manufacturer.

PART 2 PRODUCTS

2.01 MANUFACTURERS

A. Acceptable Manufacturer:
   1. Overhead Door Brand; www.overheaddoor.com; 1 (800) 929-3667.

2.02 RECESSED LOADING DOCK LEVELERS (PIT LEVELER)

A. Overhead Door Brand. Hydraulic **[H68R] [H78R]**.
   1. Provide manufacturer’s standard loading dock levelers, complying with ANSI MH30.1 2022, and of capacity, size, and construction as indicated. Provide nonslip steel platform with complete controls, safety devices, and required accessories. Levelers complying with ANSI MH14.1 lack load testing compliance and are not permitted.
      a. Recessed Concrete Pit: Provide **[preformed] [_____]** concrete pit sized to fit dimensions of specified loading dock levelers.
         1) Reinforce concrete slab as required to support dock leveler.
         2) See Section 03 3000 for additional cast concrete requirements.
   2. Automatic Vertical Compensation: Floating travel of dock leveler ramp edge extended to automatically compensate for upward and downward movement of truck bed during loading and unloading operations.
   3. Automatic Lateral Compensation: Tilting of dock leveler ramp edge extended and resting on truck bed to automatically compensate for canted truck bed up to 4 inches (102 mm) over width of ramp.
   4. Lip Operation: Manufacturer's standard mechanism that automatically extends and supports hinged ramp edge and rests on truck bed over dock leveler's working range, allows ramp edge to yield under incoming truck impact and automatically retracts ramp edge when truck departs.

a. Adjustable Lip Extension: **[16 inches (406 mm)] [18 inches (457 mm)] [20 inches (508 mm)]** long.
b. Lip Taper: 7 by 8 feet (2.13 by 2.44 m) only.
c. Hinged Ramp Lip: Nonskid steel plate.
d. Hinge: Provide self-cleaning lug hinges to avoid debris trapped in hinge and replaceable hinge pin for maintenance without breaking welds or grinding of metal.
e. Lip keepers: Adjust for off spec pits to more easily accommodate 18”/20” lips. Provides cross traffic support and off-hour security.

5. Hydraulic Operating System: Electronically controlled, with 1 horsepower frame-mounted **[single; or three phase]** motor; NEMA 4X push button control operated raising and gravity lowering of unloaded ramp. Power voltage: **[120/240 VAC single phase; or 240/480 VAC three phase]**.
   a. Ramp raised to top operating range limit by push button control; ramp lowered below building floor level by gravity.
   b. Hydraulic Failsafe: velocity fuse automatically engages in event of sudden truck departure; maximum fall of 3 inches when loaded up to full rated capacity.
   c. Hydraulic fluid shall be MIL-L-5606, petroleum based hydraulic fluid, aircraft grade.
   d. Motor overload protection shall meet UL508A requirements.
6. Construction: Fabricate loading dock leveler frame, edge, and platform supports from structural and formed C-channel shapes, with platform and continuously supported hinged edge welded to supports; chamfer edge to minimize obstructing material-handling vehicles, and ensure entire assembly fabricated to withstand deformation during operation and storage phases of service.
   a. Platform thickness: ¼ inch.
   b. Lip thickness: **[5/8 inch on 30k and 35k] [3/4 inch on 40k and 45k]**.
   c. Forklift Protection: Three wheel.
   d. Toe Guards: Full range in safety yellow.
7. Ramp Traffic Support: Provide support for ramp at platform level in stored position to support cross-dock traffic with ramp edge retracted. Provide ability to descend below platform level.
8. Ramp Maintenance Support: Provide safety brace mechanism in framework of lift, not within lip, to support ramp in up position during dock leveler maintenance.
   a. Rated Capacity: Capable of supporting **[30,000 lb (13608 kg); 35,000 lb (13063 kg); 40,000 lb (18144 kg); 45,000 lb (20412 kg); _____ lb (_____ kg)]** without permanent deflection or distortion.
9. Platform Size: **[6 by 8 feet (1.83 by 2.44 m); 7 by 8 feet (2.13 by 2.44 m)]** nominal.
10. Platform Length: 8 feet (2.44 m) nominal.
11. Range of Operation: Dock levelers to compensate for height differences between truck bed and loading platform, as follows: 12 inches (305 mm) above dock level, and 12 inches (305 mm) below dock level.
12. Lip Extension Length: **[16 inches (406 mm)] [18 inches (457 mm)] [20 inches (508 mm)]** long.
13. Smooth Path: Beveled edge of lip ramp transition, edge to deck transition, and floor to deck transition to minimize jolts to equipment and workers.
14. Platform Deck: Steel checker plate deck for traction, reinforced on underside, welded to fabricated steel frame.
15. Frame: Clean-pit type, with no dirt traps from cross-pit beams in rear of pit; dock leveler supports at sides of pit, including full front-to-rear openness for ease of cleaning.
16. Hinged Ramp Lip: Nonskid steel plate.
    a. Lip Hinge: Provide self-cleaning lug hinges to avoid debris trapped in hinge, and replaceable hinge pin for maintenance without breaking welds or grinding of metal.
17. Finish: Textured powder coat to increase durability of finish and slip resistance, as well as reduce corrosion and VOCs.

18. Leveler Adjustment: Height adjusters operate above leveler deck to adjust plus or minus 1.25 inches (32 mm) without shims or welding equipment.
19. Transport Loops: Four lifting loops for top transport of leveler by forklift.
20. Bumpers: Standard 410-14.
21. Weather Seals: Brush; Neoprene.

PART 3 EXECUTION

3.01 EXAMINATION

A. Verify **[existing conditions] [and] [_____]** meet the manufacturer's requirements before starting work.

B. Examine loading dock equipment area for compliance with requirements for installation tolerances and other conditions related to this work.

C. Examine walls and floors of loading dock equipment concrete pits for suitable conditions, verify that pits are plumb and square, and properly sloped back to front of loading dock for drainage.

D. Verify that rough-in wall opening and anchors are acceptable, correctly sized, and aligned to proper tolerances.

E. Verify that frames installed in concrete and masonry are correctly located.

F. Proceed with installation after unsatisfactory conditions have been corrected.

3.02 PREPARATION

A. Prepare loading dock equipment for size and locations as indicated, and provide anchoring devices with templates, diagrams, and installation instructions.

B. Prepare metal curb angles along concrete edges of recessed pits with top flush with loading platform and fit exposed ends together to form smooth hairline joints.

3.03 INSTALLATION

A. Install loading dock leveler unit in prepared opening in accordance with manufacturer's written instructions.
   1. Set square and level.
   2. Anchor unit securely, flush with building floor, and weld back of leveling dock to pit frame; touch-up welds with paint.
   3. Position mechanical pit levelers above or below dock height, inclusive of end loading with lip pendant.

B. Install edge-of-dock levelers to ensure arrangement is adequate to accommodate lift in proper relation to the loading platform.
   1. Anchor and/or weld edge-of-dock leveler securely in place, in accordance with manufacturer's written instructions.
   2. Weld anchor holes in contact with continuously embedded loading dock edge channel.
   3. Weld or bolt bumper blocks to face of loading dock.

C. Install **[seal] [and] [shelter]** components in accordance with manufacturer's instructions.
   1. Set plumb and level.
   2. Attach anchors and fittings to prepared wall construction and opening frame.

D. Grease fittings to lubricate deck hinge for smooth operation.

3.04 ADJUSTING

A. Adjust installed loading dock equipment **[and safety devices]** for smooth and balanced operation **[and lubricate as recommended by manufacturer]**.

B. Test dock levelers for vertical travel within operating range as indicated and adjust as necessary for proper operation.

C. After installation, inspect exposed factory finished loading dock equipment, and repair damaged finishes.

3.05 CLEANING

A. See Section 017000 - Execution and Closeout Requirements for additional requirements.

B. Clean recessed pits of debris.

3.06 CLOSEOUT ACTIVITIES

A. See Section 017800 - Closeout Submittals, for closeout submittals.

B. See Section 017900 - Demonstration and Training, for additional requirements.

C. Demonstrate proper operation of **[loading dock equipment] [_____]** to Owner's designated representative.

D. Demonstration: Demonstrate operation of system to Owner's personnel.
   1. Use operation and maintenance data as reference during demonstration.
   2. Conduct walking tour of project.
   3. Briefly describe function, operation, and maintenance of each component.

E. Training: Train Owner's personnel on operation and maintenance of system.
   1. Use operation and maintenance manual as training reference, supplemented with additional training materials as required.
   2. Provide minimum of **[two hours] [one day] [_____]** of training.
   3. Instructor: Manufacturer's training personnel.
   4. Location: At project site.
   5. Location: Owner's offsite classroom facilities may be used.
   6. Location: Provide local classroom facilities.
   7. Location: At manufacturer's training facility; include travel expenses for **[one member] [two members] [_____ members]** of Owner's staff.

3.07 PROTECTION

A. Protect finishes until completion of project.

B. Touch up damaged finishes after Substantial Completion.

3.08 MAINTENANCE

A. See Section 017000 - Execution and Closeout Requirements, for additional requirements relating to maintenance service.

B. Provide a separate maintenance contract for specified maintenance service.

C. Provide service and maintenance of operating equipment for a period of **[one year] [two years] [_____]** from Date of Substantial Completion.
   1. Provide maintenance service by skilled employees of loading dock equipment installer.
   2. Includes **[monthly] [quarterly] [_____]** preventive maintenance, repair or replacement of worn or defective components, lubrication, cleaning, and adjusting as required for proper operation of loading dock equipment at rated speed and capacity.
   3. Provide manufacturer's authorized replacement parts and supplies.

END OF SECTION