

**SECTION 08 7 1 53
EMPLS**

ELECTROMAGNETIC/MECHANICAL PANIC BAR LOCKING SYSTEM (EMPLS)

PART 1 - GENERAL

1.01 REFERENCE STANDARDS

- A. UL 305 - Standard for Panic Hardware; Current Edition, Including All Revisions.

1.02 GENERAL REQUIREMENTS

- A. The Contract Documents include: the "Contract Drawings"; the "Specifications"; the "Special Notice to Contractors Summary Form", latest edition; the "Form of Proposal", and all amendments and addenda, all of which govern the work of this Contract.
- B. DESCRIPTION OF WORK: Provide materials, labor, equipment and services necessary to furnish, deliver, and install a new functional Electromagnetic Panic Bar Locking System (EMPLS) at all front addresses shown on the Drawings and specified herein, generally as follows:
- C. Provide Electromagnetic/Mechanical Panic Bar Locking System (EMPLS) to three (3) new doors.
- D. Remove existing magnet coils, armatures, key switches, and egress pushbutton assemblies from the existing entrances as part of project demolition.
- E. Install new armatures, key switches and proximity tag assembly as part of new entrance doors as specified herein.
- F. Disconnect existing power supply units, control systems and wiring associated with the existing doors. The Contractor shall provide new EMPLS controls, interface relay assembly, and all associated equipment. Intercom, proximity fob system and EMPLS wiring shall be located in separate conduits. Existing raceways and wiring may be reused if in good working conditions. After the installation all doors shall function in full compliance with all the latest applicable safety regulations and the specifications.
- G. The Contractor shall verify that all existing equipment to remain is properly functioning.
- H. The Contractor shall bring to the attention of the Authority any condition, including inadequate power supply, which would prevent the EMPLS from properly functioning , or any existing conditions which would result in a completed EMPLS installation not in full compliance with the Drawings and these Specifications.
- I. Provide a two- (2) year guarantee of both parts and labor for the new Electromagnetic Mechanical Panic Bar locking security system and control panel as specified.
- J. Provide a minimum of four (4) hours of operating and maintenance instruction for the Development superintendent and his/her field staff.
- K. Provide all other labor and materials as may be reasonably inferred to be required to make the work of this Section complete.

1.03 QUALITY ASSURANCE

- A. All electrical work shall be performed under the supervision of an electrician having a valid license in the City of New York.
- B. Conformance Labels
- C. All electrical materials and equipment for which there is a nationally recognized standard shall bear the conformance labeling of the third party inspection authority, such as Underwriters Laboratories Inc., Factory Mutual, or ETL. Where the phrase "where there are established UL standards shall bear the UL label", or words of similar intent appear in other Sections, the instructions for the conformance label above shall apply.

1.04 WORK PERMITS: SUBMIT COPIES OF ALL THE REQUIRED PERMITS TO NYCHA BEFORE STARTING ANY PHYSICAL WORK.

- A. The entire installation shall be done in complete compliance with the latest applicable New York City Electrical Code, Building Code, Fire Protection Code, Life Safety Code (((NFPA 101))) and meet with all the requirements of agencies having jurisdiction.
- B. Before starting any physical work the contractor shall first review his/her works plan with the NYCHA representative for this job. He/she shall also coordinate his/her work with contractors for Electrical works, Intercom System and Proximity Key Fob Access System. All these works shall be done in smooth coordination with one another so that there is no duplication and interruption of works.

1.05 RELATED WORK SPECIFIED ELSEWHERE

- A. Section 08 11 19 – Stainless Steel Entrance Doors
- B. Section 08 71 00 – Finish Hardware.
- C. Section 27 51 23 -- Intercom System
- D. Section 28 13 00 -- Access Control System

1.06 SUBMITTALS

- A. See Division 01, General Requirements/Section 01 33 00 Submissions.
- B. Shop drawings for all devices, boxes, and connections, including Entrance Locking System Drawing(s) showing the relative location of all basic components.
- C. Manufacturer's product literature on all devices.
- D. Wiring diagrams for all devices and connections.
- E. Guarantees and Warrantees for all products and installations.
- F. System catalog consisting of a detailed manual cataloging all manufactured components of the building EMPLS. Catalog info shall include:
 - 1. Name of part, or component and part, or model number.
 - 2. Manufacturer's name and phone number.
 - 3. A detailed system schematic numerically keyed to the parts list.
 - 4. All parts shall be supplied by one manufacturer.

1.07 REQUIREMENTS AND RESTRICTIONS

- A. All the components of the electromagnetic mechanical panic bar locking system shall be from a Manufacturer whose system is in operation for at least two years and who can bring in reference of reliable and satisfactory operation.
- B. All hardware used shall be of the vandal-resistant type.
- C. Electromagnetic mechanical panic bar locks provided for this contract shall meet the requirements of the American National Standard for Electromagnetic Mechanical Locks, ANSI/BHMA STANDARD A156.23-1992.

PART 2 – PRODUCTS

2.01 MATERIALS - GENERAL

- A. All material supplied under this contract shall be new, of the latest model or design as of bid date, UL listed and approved for use in New York City by the Bureau of Electrical Control.

2.02 DOOR LOCKING SYSTEM: LO-CCMAG20

- A. Touchbar Exit Device with Latch, Entrances
 - 1. Redundant electromagnetic Lock Control
 - 2. Vandal-Resistant Elements
 - 3. With Door Position Status Switching
- B. Exterior Level Trim

1. Keyed Release (Mortise Cylinder by Others)
 2. Remote Release (Intercom or Card Access by Others)
 3. Electromagnetic Lock Release by Lever
 4. Anti-Vandal Slipclutch
- C. Electromagnetic Lock
1. With Door Position Status Switching

2.03 POWER SUPPLY: PS-112-HA (EMPLS-RM)

- A. 24VDC release for exterior lever unit
- B. 24VDC power for electromagnetic locks
- C. Access control input
- D. Intercom input or proximity fob input
- E. Test button
- F. Audible signal annunciator
- G. Applications: LO-CCMAG20: Apartment Building Outswing Entrances

2.04 EMPLS SYSTEM – GENERAL

- A. The Electromagnetic/Mechanical Panic Bar Locking System for each entrance door so designated shall be a combination of a heavy duty-exit device with latch and two electromagnetic locks located mortise mounted in a vertical channel within a custom fabricated integral stainless steel door frame as shown on drawings. The system shall be similar to MAGLATCH Model LO-CCMAG20 by Securitech or equal.
- B. Exiting from the interior shall be by depression of the exit device panic bar, providing single action egress at any time. The electromagnetic locks shall be de-energized simultaneously with the movement of either the interior panic bar or exterior lever handle. The electromagnetic locks shall be mounted on a base containing a plug so that the electromagnetic locks may be replaced without field wiring. Exterior unlocking for entrance doors shall be either by a key and depression of a lever handle, or by a signal from the stand-alone intercom door release push-button or the access control system, which shall cause the interface relay to open.
- C. For EMPLS system described above micro switches shall be contained within the trim units of the interior panic bar or exterior lever trim. All micro switches shall be installed so as to be resistant to “switch-bounce” on impact. In the event of power failure, the electromagnetic locks shall disengage, and interior panic bar shall function normally, permitting free egress. The exterior lever shall remain in the locked position in the event of power failure, requiring a key to enter.

2.05 SYSTEM COMPONENTS EMPLS

- A. Electromagnetic Locks: Electromagnetic Locks shall operate at 24V DC (0.42 amperes) and shall provide a minimum 1200 lbs. holding power and shall contain a door position status switch. Each electromagnetic lock shall include a stainless steel mounting baseplate with a fixed quad connector plug. Electromagnetic lock shall have a corresponding socket so that the electromagnetic lock can be replaced without field wiring. The armature shall be factory mounted on a stainless steel plate, prepared for mounting within the custom housing. Two electromagnetic locks are to be provided per door. See Drawings for size requirements to mount within custom vertical housing.
- B. Exit Device: Touch-pad exit device with ¾” throw dead latching latchbolt. Touch-pad shall cover a minimum of half of door width, with sound reduction dampening feature of touch- pad during depression and extension. Lock stile chassis shall be of investment cast steel. Exit device shall be listed to UL 305 for panic hardware. Device housing exposed surfaces are to be minimum 16 gauge 0 inch thick) stainless steel. Metal end caps are to be secured to bracket interlocking with device’s channel base and hinge side filler. Security torx fasteners to be provided for all exposed fasteners. Device to provide ¼ inch (0.25 inch) projection between door face and housing. Integral load-bearing switches to release electromagnetic locks instantly upon

depression of pad and prior to full retraction of the latchbolt. The active case cover shall be fabricated of stainless steel, minimum 14 gauges, and 12" tall and shall conceal the thru-bolt fasteners of the exterior trim. The hinge-side cover shall be fabricated of stainless steel, minimum 14 gauge, 7" tall and shall be fastened to a mounting plate which is thru-bolted at two locations to an exterior stainless steel thru-bolt plate.

- C. Strike Plate: An adjustable, investment cast stainless steel strike shall be provided for mounting on the vertical frame housing. The strike plate shall be fastened to the frame with a minimum of four Torx security head type fasteners. Strike plate shall contain the door position switch magnet concealed within the strike plate.
- D. Exterior Lever Handle Trim: The exterior lever handle unit shall be manufactured of cast Zamac and shall have a US682 (satin chrome) finish. The exterior lever handle shall be cast of type 304 stainless steel, finished to match trim. All lever handles shall contain a steel slip-clutch apparatus which will allow the handle to be lowered or raised and not retract the latch if forced without insertion of the key, released by the access control system or released by the intercom. The handle can then be lifted, or depressed, and restored to the original operating position without the use of any special tools. The trim shall contain an opening for a standard mortise cylinder, which shall unlock the lever handle after insertion and rotation of a key. The cylinder shall be fastened to the trim by a minimum of two locking points, accessible through the rear of the trim. Cylinder shall be removable without disassembling the trim. Initial depression of the handle shall operate the microswitch, located in the housing, to release the electromagnet, and complete depression shall retract the latch. The assembly shall be through bolted to the interior trim with four stainless steel 1/4" diameter threaded bolts and security fasteners. A handle stop which prevents handle rotation of over 180 degrees shall be connected to the bottom of the unit and also fastened to the door.
- E. Electric Release: The exterior trim shall also contain a 24 Volt AC solenoid which shall be operated by a relay located in the control panel. The solenoid shall provide momentary release for such time as the solenoid is actuated.
- F. Cylinder protector: The cylinder shall be mounted within a cylinder housing, finished to match the exterior trim. The cylinder housing shall accommodate all standard diameter mortise cylinders, either 1-1/8" or 1-1/4" in length, and shall contain figure 8" opening for removable core cylinder. See hardware section for mortise cylinder and restricted key system requirements.
- G. "Quick-Switch" Cylinder Change Feature: The cylinder shall be fastened to the trim by a minimum of two locking points, accessible through the rear of the trim. The exterior trim shall contain a "Quick-Switch" cylinder apparatus so that the mortise cylinder may be removed without having to remove the lever handle trim units. The apparatus shall be operated via the insertion of an Allen wrench through a hole, which is only visible after removal of the upper interior trim, and unscrewing.

PART 3 – INSTALLATION

3.01 INSTALLATION OF EMPLS

- A. The EMPLS and all related hardware and wiring shall be mounted in new custom fabricated doors and frames as detailed on Drawings. Door/frame preparation for cutouts, mortising, templating and reinforcing shall be as per manufacturer's instructions and/or as detailed.
- B. All doors and frames shall be pre-wired and pre-tested prior to delivery and installation.
- C. All wiring connections to system components within the door and frame shall be made with approved type, UL listed wire to wire quick snap nylon pin connectors for ease of service and maintenance.

3.02 TESTING AND OPERATION

- A. After the completion of the installation and before the final acceptance by NYCHA the contractor shall test the entire system in presence of the NYCHA representatives. NYCHA will determine if all the equipment meet with the requirements of the specifications and the system

works properly. Test and adjust all components of the EMPLS and stand alone intercom system, access control system and post office lock to assure proper operation at time of Final Acceptance. If there is any deviation the contractor shall fix the system to the full satisfaction of NYCHA at no additional cost to the Authority before the final acceptance.

- B. Provide Certificate of Compliance from manufacturer's representative and installer to review maintenance manual and to train Housing Authority personnel.

3.03 WIRES AND CABLES, AND CONNECTORS

- A. The Contractor shall furnish and install all wire and cable in conjunction with this Contract.
- B. All wire for extending existing circuit conductors shall be # 12 AWG, Type THWN or THW.
- C. Control wiring shall be minimum No. 16 AWG. Type THWN, THHN or THW solid copper. Terminal strips and wire nuts shall be used for wire splicing, except within doorframes.
- D. Control wiring splicing in door frames for all electronic components (i.e. magnet coils, micro switches etc.) shall be made with approved type, U.L. listed, wire to quick snap nylon pin connectors for ease of maintenance and service.
- E. See Section 26 for additional requirements

3.04 JUNCTION BOXES

- A. Where used, junction boxes shall conform to the requirements of the New York City Electrical Code. Junction boxes shall be stamped galvanized steel, 4 inches square, 1-1/2 inches deep with blank cover for junction and splicing purposes. No exposed junction boxes shall be installed without the prior approval of the Authority.
- B. See Section 26 05 37 for additional requirements.

3.05 WIRE AND CABLE

- A. No wiring or cable shall be left exposed or accessible in any manner. It shall be contained in a raceway system, box or other suitable fitting.
- B. Terminate and splice all conductors installed with suitable lugs, terminating devices and cover splice with tape or suitable material equal to or greater than the insulation rating of the factory applied insulation material of the conductor.
- C. See Division 26 for additional requirements.

3.06 GUARANTEE

- A. The contractor shall include in the base bid a guarantee for a period of two (2) years from date of final acceptance. The guarantee shall include all parts, labor, insurance and all else required to keep the entire system (up to the utility interface) in good operating order. This includes, but is not limited to, defective workmanship, damaged or defective lobby wiring and locking devices/controls which affect operation of the system.
- B. The Contractor shall schedule one (1) quarterly inspection of building per year during the guarantee period and shall respond to a call to effect repairs to the EMPLS security systems within 24 hours of notification and shall restore operation of the security system within 48 hours of notification.

END OF SECTION 08 7 1 53