DIVISION 08 - OPENINGS

1 STANDARD STEEL FRAMES

1.1 Manufacturers

1.1.1 Ceco Door Products

1.1.2 Republic Builders Products

1.1.3 Steelcraft

1.1.4 The MPI Group

1.1.5 Mesker

1.2 Accessories

1.2.1 Removable Stops - Rolled steel channel shape, mitered corners; prepared for countersink style tamper proof screws

1.2.2 Bituminous Coating - Non-asbestos fibered asphalt emulsion

1.2.3 Primer -

5.2.3

5.4.1 Shop Drawings - Include plans, elevations, sections, details, hardware mounting heights, and attachments to other work

5.4.2 Color Samples for selection of factory-applied color finishes

5.4.3 Closeout Submittals

5.4.3.1 Owner's Manual

5.4.3.2 Warranties

5.4.4 Reports - Based on evaluation performed by a qualified agency, for automatic entrance door assemblies

5.4.4.1 Environmental Product Declaration

5.4.4.2 Evaluation Report for compliance with IBC

5.5 Quality Assurance

5.5.1 Installer Qualifications - Manufacturer's authorized representative, with certificate issued by AAADM, who is trained for installation and maintenance of units required for this Project

5.5.2 Manufacturer Qualifications - A qualified manufacturer with a manufacturing facility certified under ISO 9001

5.5.3 Manufacturer shall have in place a national service dispatch center providing 24 hours a day, 7 days a week, emergency call back service

5.5.4 Certifications - Automatic sliding door systems shall be certified by the manufacturer to meet performance design criteria in accordance with the following standards

5.5.4.1 ANSI/BHMA A156.10

5.5.4.2 NFPA 101

5.5.4.3 UL 325 listed

5.5.4.4 IBC

5.5.4.5 BOCA

5.5.5 Environmental Product Declaration (EPD)

5.5.6 Shall be certified by the manufacturer to comply with the following

5.5.6.1 Prepared under Product Category Rule (PCR) UNCPC 4212

5.5.6.2 Conform to ISO standards 14025, 14040, 14044, 21930

5.5.6.3 Life Cycle Assessment Basis: Cradle to Gate, minimum

5.5.7 Source Limitations - Obtain automatic entrance door assemblies through one source from a single manufacturer

5.5.8 Product Options - Drawings shall indicate sizes, profiles, and dimensional requirements of automatic entrance door assemblies and are based on the specific system indicated

5.5.9 Electrical Components, Devices, and Accessories - Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use

5.5.10 Emergency-Exit Door Requirements - Comply with requirements of authorities having jurisdiction for automatic entrances serving as a required means of egress

5.6 Automatic Entrances Products

5.6.1 Manufacturer - Stanley Access Technologies; Dura-Glide™ 3000 Series sliding automatic entrances or prior approved equal product

5.7 Automatic Entrance Door Assemblies

5.7.1 Provide manufacturer's standard automatic entrance door assemblies including doors, sidelights, framing, headers, carrier assemblies, roller tracks, door operators, activation and safety devices, and accessories required for a complete installation.

5.7.2 Sliding Automatic Bi-Parting Entrances

5.7.2.1 Configuration - Two sliding leaves and two full sidelight; bi- parting

5.7.2.2 Traffic Pattern - Two-way

5.7.2.3 Emergency Breakaway Capability - Sliding leaves and sidelights

5.7.2.4 Mounting - Between jambs

5.8 Door Operators

5.8.1 Provide door operators of size recommended by manufacturer for door size, weight, and movement; for condition of exposure; and for long-term, operation under normal traffic load for type of occupancy indicated

5.8.2 - Elec lo(lo6 5c.7e.923w-4.9 (lo6 (c.6 (dr)11..946 -1.2[D)-5.6 (o)4.34-0.004 Tc 0)]TJ-0.h.6 (f).2 (v)-5ic(o)-69 ((o)-6.6

5.9.3.5 Resettable sensor supply fuse protection

5.9.3.6 Motor Protection, over-current protection

5.9.4 Soft Start/Stop - A “soft-start”, “soft-stop” motor driving circuit shall be provided for smooth normal opening and recycling

5.9.5 Obstruction Recycle

5.9.5.1 Provide system to recycle the sliding panels when an obstruction is encountered during the closing cycle

5.9.5.2 If an obstruction is detected, the system shall search for that object on the next closing cycle by reducing door closing speed prior to the previously encountered obstruction location, and will continue to close in check speed until doors are fully closed, at which time the doors will reset to normal speed

5.9.5.3 If obstruction is encountered again, the door will come to a full stop

5.9.5.4 The doors shall remain stopped until obstruction is removed and operate signal is given, resetting the door to normal operation

5.9.6 Programmable Controller - Microprocessor controller shall be field programmable.

5.9.6.1 The following parameters may be adjusted

5.9.6.1.1 Operating speeds and forces as required to meet specified ANSI/BHMA standard

5.9.6.1.2

5.10.4.3.1 Connect door operators to electrical power distribution system

5.10.4.4 Glazing

5.10.4.4.1 Performed in accordance with sliding automatic entrance manufacturer's

6.3.3.1 Visit the project site with the General Contractor and installer and check the hardware for any shortages or shipment damage

6.3.3.2 Instruct the installer on any special conditions and the adjustments required for the proper installation of the finish hardware

6.3.4 After Installation

6.3.4.1 Check the project for the proper application of the finish hardware according to the approved hardware schedule

6.3.4.2 Check that all items, including door control devices, have been properly adjusted and are operating properly

6.3.4.3 Notify the Architect of any hardware not installed in accordance with the approved hardware schedule or properly adjusted

6.3.4.4 If hardware is found that is not installed correctly or properly adjusted, the General Contractor must adjust, repair, or replace, as directed by the Architect

6.3.4.5 Instruct the owner personnel in the proper operae 6e 6e 6ee76 (p)-0.8, ardanen 6e -3.2(e)- (p)-0.8 (

6.5.12.3.4 Incorporate "Keying Requirements Meeting" decisions into keying submittal upon review of door hardware keying system including, but not limited to, the following

6.5.12.4 Access control requirements

6.5.12.5 Key control system requirements

6.5.12.6 Schematic diagram of preliminary key system

6.5.12.7 Flow of traffic and extent of security required

6.5.12.7.1 Record minutes and distribute copies within two days after meeting to participants, with copies to Architect, Owner, participants, and those affected by decisions made

6.5.12.7.2 Deliver established keying requirements to manufacturers

6.6 Acceptable Manufacturers and Products

6.6.1 Continuous Geared Hinges

6.6.1.1 Acceptable manufacturers, models and applications

6.6.1.1.1 Bommer: FS--HD1

6.6.1.1.2 Hager; 780-210HD1

6.6.1.1.3 McKinney; MCK22HD1

6.6.1.1.4 Pemko; FS-HD1

6.6.1.1.5 Stanley; 655HD

6.6.1.2 Provide for all exterior high frequency doors and all exterior doors equipped with exit devices

6.6.1.3 Provide for retrofit work where new doors are being installed into existing frames

6.6.1.4 Provide heavy duty full surface types

6.6.1.5 Finish - Satin aluminum or Dark Bronze for all Storefront or Brown/Bronze Painted Doors

6.6.1.6 Finish to match door, not Hardware

6.6.2 Butt Hinges

6.6.2.1 Acceptable manufacturers, models and applications

6.6.2.1.1 Bommer; BB5005, BB5004, BB5001, & BB5000

6.6.2.1.2 Hager; BB1199, BB1168, BB1191, & BB1279

6.6.2.1.3 McKinney; T4A3386, T4A3786, TA2314, & TA2714

6.6.2.1.4 Stanley; FBB199, FBB168, FBB191 & FBB179

6.6.2.2 Provide anti-friction types for all butt hinges

6.6.2.3 Provide non removable pins for all out swing exterior doors

6.6.2.4 Provide stainless steel types for all restroom doors, toilet doors, and all other areas which may require non-ferrous material

6.6.2.5 Provide heavy weight types for all interior doors equipped with exit devices and all other high frequency doors, such as entrance doors to classrooms, labs, libraries, cafeterias, auditoriums, restrooms, and all doors over 36" wide

6.6.2.6 Size - 4.5" x 4.5" for doors up to 36" wide; 5.0" x 4.5" for all doors over 36" wide

6.6.2.7 Finish

6.6.2.7.1 Satin stainless steel for non-ferrous types

6.6.2.7.2 Satin chrome plated for steel base types

6.6.3 Exterior Security Exit Devices

6.6.3.1 Acceptable manufacturers, models and applications

6.6.3.1.1 Corbin Russwin; ED5200S x M52 series (SecureBolt)

6.6.3.1.2 Yale Security; 7155 series (SquareBolt)

6.6.3.1.3 Precision; Apex 2100

6.6.3.1.4 Von Duprin; CD-xp98 Series

6.6.3.1.5 Provide heavy duty ANSI grade 1, type 28 types

6.6.3.1.6 Provide for all exterior doors requiring exit devices

6.6.3.1.7 Provide devices with direct throw latch bolts; Pullman latches are not acceptable

6.6.3.1.8 Concealed or surface vertical rod devices are not acceptable

6.6.3.1.9 Provide key cylinder dogging, no tool

6.6.3.1.10 Provide offset pull exterior trim

6.6.3.1.11 Finish - Satin stainless steel

6.6.4 Interior Standard and Fire Exit Devices

6.6.4.1 Acceptable manufacturers, models and applications

6.6.4.1.1 Corbin Russwin; ED5200 series

6.6.4.1.2 Sargent; 8800 series

6.6.4.1.3 Von Duprin; 98 series

6.6.4.1.4 Yale Security; 7100 series

6.6.4.1.5 Precision; Apex 2100 series

6.6.4.2 Provide heavy duty, ANSI grade 1 devices

6.6.4.3 Provide all non-rated devices with inside key cylinder dogging feature

6.6.4.4 Provide offset pulls for all high frequency non-rated doors

6.6.4.5 Provide lever trim for all fire rated doors

6.6.4.6 Mount all devices with thru-bolts at all mounting points

6.6.4.7 Concealed vertical rod types are not acceptable

6.6.4.8 Surface applied vertical rod types less bottom rods are acceptable only for use on double egress doors, as required by codes

6.6.4.9 Finish - Satin stainless steel

6.6.5 Removable Mullions

6.6.5.1 Acceptable manufacturers, models and applications

6.6.5.1.1 Precision KR822, KR822F

6.6.5.1.2 Corbin Russwin; 710KM, 707AKM, or 808

6.6.5.1.3 Sargent; L980, 12-L980, or 650A

6.6.5.1.4 Von Duprin; KR4954, KR9954, or 656

6.6.5.1.5 Yale Security; KRM100, KRM100F, or M300

6.6.5.2 Provide key removable types

6.6.5.3 Provide wall mounting brackets to store mullion when out of the opening

6.6.5.4 Provide removable mullions with stabilizers

6.6.5.5 Finish

6.6.5.6 Primed for painting, steel mullions

6.6.5.7 Satin aluminum, for aluminum mullions

6.6.6 Lock Sets

6.6.6.1 No Cylindrical Locks unless given consent by Facility Services Acceptable manufacturers, prod Tc 0.006 30.006 Tw acEMC /H3 ÞÞ 35 ÞÞDC 0.004 Tc -0.004 Tw -6.261 (L)-2 (c)-1.9 (e)-3 (p)13.1 (

6.6.6.2.3 Sargent; 8200 series x LS1J lever trim

6.6.6.2.4 Yale Security; 8800FL series x CRxCN lever trim

6.6.6.2.5 Schlage; L9000 Series x 03N lever trim

6.6.6.2.6 Provide heavy duty ANSI grade 1 mortise types

6.6.6.2.7 Provide key cylinders, as required. See keying requirements.

6.6.6.2.8 Provide lever trim that meets ADA requirement

6.6.6.2.9 Provide cast levers x wrought escutcheon trim, thru-bolted to door

6.6.6.2.10 Provide wrought box strikes for all locks

6.6.6.2.11 All locks shall be free for egress from inside room at all times

6.6.6.2.12 Finish - Satin chrome plated

6.6.7 Door Closers

6.6.7.1 Acceptable manufacturers, models and applications

6.6.7.1.1 Corbin Russwin; DC6000 series

/ 2 0 6.6.7.1.2 LCN; 4040 series 0 6.6.7.1.1 tj 1 4 T c0 1 T T

6.6.12.2 Finish - 626

6.6.12.3 Lockset - CR CN 8822FL

6.6.12.4 Trim Retrofit - CN 88-260

6.6.12.5 Cylinder - Best Small Format

6.6.12.6 Lock Core - Medeco 7 Pin 33N70000006-26-BDU

6.7 Facility Management System (Access Control Controllers)

6.7.1 The Access Control capabilities shall include, but are not be limited to

6.7.1.1 Access controllers terminal interfaces, card readers, conduit, wire and accessories required to provide a complete operational system

6.7.2 The equipment and installation shall comply with the current applicable provisions of the following standards

6.7.2.1 National Electric Code

6.7.2.2 Local and state building codes

6.7.2.3 All requirements of the local authority having jurisdiction

6.7.2.4 Underwriters Laboratories, Inc.

6.7.2.5 The system and all components shall be listed by Underwriters Laboratories, Inc., for use in Access Control Systems under the following standards as applicable. UL 294 Access Control System Unit

6.7.3 All access controller panels shall be h2.3 (e)7.9 (li)7.9 (y)s,e h2.3 (e)7.9 (li)7.9all babL 294 Acc Cs2(A)1(s)-1.ite

6.7.11.6 Silence Local Alarms

6.7.12 System operators shall, from the operator interface, be able to manually unlock controlled doors for a variable time period, or program an event to automatically unlock and lock doors during a particular time period

6.7.13 Reports

6.7.13.1 Shall be generated automatically or manually, and directed to either OWS displays, printers, or disk files

6.7.13.2 At minimum, the system shall allow the user to easily obtain the following

6.7.13.2.1 List of all cardholders

6.7.13.2.2 List of all transactions currently available

6.7.14 The system shall provide on-line query generation which can be used to obtain specific information from the above logs based on user defined parameters. These queries, once defined, may be stored and used again when needed

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6.7.15 The system shall be provided complete with all equipment and documentation necessary to allow an operator to independently perform the following additional functions

6.7.15.1

6.8.4.2 All other items not listed above

7 AUTOMATIC DOOR OPERATORS

7.1 General

7.1.1 Products detailed herein are the standard of quality to be used on new projects and renovations or additions to existing buildings

7.1.2 Coordinate all products to meet the requirements of life safety codes, ADA requirements, and applicable building codes

7.1.3 All hardware for automatic door operators shall be specified and provided in this section.

7.2 Quality Assurance

7.2.1 Installer Qualifications

7.2.1.1 Manufacturer's authorized representative, with certificate issued by AAADM, who is trained for installation and maintenance of units required for the project

7.2.1.2 Manufacturer shall have in place a national service dispatch center providing 24 hours a day, 7 days a week, emergency call back service

7.2.1.3 Certifications; Automatic door operators shall be certified by the manufacturer to meet performance design criteria in accordance with the following standards: ANSI/BHMA A156.19, NFPA 101, UL 3225 Listed, UL 10C Listed, IBC and BOCA

7.2.1.4 Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use

7.2.2 Field Quality Control

7.2.2.1 Field Measurements: Verify openings to receive automatic door operators by field measurements before fabrication and indicate measurements on Shop Drawings

7.2.2.2 Verify all surfaces to be plumb, straight and secure; substrates to be of proper dimension and material

7.3 Warranties

7.3.1 Manufacturers' standard warranties to cover defects in materials and workmanship

7.3.1.1 Warranty period to begin at date of substantial completion

7.3.1.2 Copies of all warranties shall be provided to the University at completion of the project

7.3.1.3 Automatic door operators shall be free of defects in material and workmanship for a period of one (1) year

7.3.1.4 During the warranty period the Owner shall engage a factory-trained technician to perform service and affect repairs. A safety inspection shall be performed after each adjustment or repair and a completed inspection form shall be submitted to the Owner

7.4 Manufacturer

7.4.1 Stanley Access Technologies; M-Force Series automatic door operator or prior approved equal product

7.5 Components

7.5.1 Header Case; Header case shall not exceed 6" (152 mm) square in section and shall be fabricated

7.5.1.3 Signage - Provide signage in accordance with ANSI/BHMA A156.19

7.6 Swinging Door Operators

7.6.1 General

7.6.1.1 Provide door operators of size recommended by manufacturer for door size, weight, and movement; for condition of exposure; and for long-term, maintenance-free operation under normal traffic load for type of occupancy indicated

7.6.2 Electromechanical Operators - Self-contained unit powered by a minimum 3/16 horsepower, permanent-magnet DC motor; through a high torque

7.6.2.11 Quiet Performance: The operator shall be designed to output audible noise ratios less than or equal to 50dba

7.6.2.12 Manual Use: The operator shall function as a manual door closer in the direction of swing with or without electrical power. The operator shall deliver an even, consistent open force across the entire transition from door fully closed to door fully open

7.6.2.13 Electrical service to door operators shall be provided under Division 26 Electrical. Minimum service to be 120 VAC, 5 amps

7.7 Electrical Controls

7.7.1 Electrical Control System - Electrical control system shall include a microprocessor controller and a high-resolution position encoder. The encoder shall monitor revolutions of the operator shaft and send signals to microprocessor controller to define door position and speed

7.7.1.1 The high-resolution encoder shall have a resolution of not less than 1024 counts per revolution. Systems utilizing external magnets and magnetic switches are not acceptable.

7.7.1.2 Electrical control system shall include a 24 VDC auxiliary output rated at 1 amp.

7.7.2 Performance Data - The microprocessor shall collect, and store performance data as follows

7.7.2.1 Counter - A non-resettable counter to track operating cycles

7.7.2.2 Event Reporting: Unit shall include non-volatile event and error recording including number of occurrences of events and errors, and cycle count of most recent events and errors

7.7.2.3 LED Display - Display presenting the current operating state of the controller

7.7.3 Controller Protection - The microprocessor controller shall incorporate the following features to ensure trouble free operation

7.7.3.1 Automatic Reset I13f4.3 ( )-11r .1(o)-675o(o)-675o(o)-675o7.36 (7.)6 (3.)16.9 (1)]TJ/TT1 7.250 Tc 0 Tw

7.7.3 AControllecn3 (r P)-3 (at)-m30.0