SECTION 08 17 00

INTEGRATED STEEL DOOR ASSEMBLIES

1. GENERAL
	1. SECTION INCLUDES
		1. Integrated metal door opening assemblies including doors, metal frame, operating hardware and accessories. (Syntegra)
	2. RELATED SECTIONS.
		1. Section 05400 – Cold-Formed Metal Framing.
		2. Section 06100 - Rough Carpentry.
		3. Section 08110 - Metal Doors and Frames.
		4. Section 08710 – Door Hardware.
	3. REFERENCES
		1. ANSI/BHMA A156.3 - American National Standard for Exit Devices.
		2. ANSI/BHMA A156.13 - American National Standard for Mortise Locks and Latches Series 1000.
		3. ANSI A156.26 - American National Standard for Continuous Hinges.
		4. ANSI A156.32 – Integrated Door Opening Assemblies.
		5. ANSI/SDI A250.8 – Specifications for Standard Steel Doors and Frames.
		6. NFPA 101 – Life Safety Code.
		7. NFPA 252 - Standard Methods of Fire Tests of Door Assemblies.
		8. ANSI/UL 10C - Standard for Safety for Positive Pressure Fire Tests of Door Assemblies.
		9. UL 305 – Standard for Panic Hardware.
	4. SUBMITTALS
		1. Submit under provisions of Section 01300.
		2. Product Data: Manufacturer's catalog cuts on each product to be used.
		3. Shop Drawings: Indicate each door and frame condition; frame type, profile and installation detail; items of finish hardware, finishes and electrical rough‑in requirements.
		4. Verification Samples: For each finish product specified.
			1. If required by the Architect, submit one sample of each type of typical hardware required illustrating style, color, and finish.
			2. Approved samples may be incorporated into Work.
	5. QUALITY ASSURANCE
		1. Manufacturer Qualifications: A manufacturer with a minimum of five years’ experience manufacturing integrated door assemblies and related products for projects of similar size and complexity to projects of this type.
		2. Supplier Qualifications: Trained and authorized distributor of manufacturer.
		3. Installer Qualifications: Manufacturer trained and authorized.
	6. DELIVERY, STORAGE, AND HANDLING
		1. Packaging: Polyvinyl wrapped, palette by floor, and clearly marked for each opening.
		2. Delivery: Deliver to site in original unopened containers and pallets bearing system manufacturers name, and brand.
		3. Store: Horizontally on level surface, not less than 2 inches off floor in a clean, dry well-ventilated area protected from sunlight, extreme heat, dryness and moisture.
	7. PROJECT CONDITIONS
		1. 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 recommended limits.
	8. WARRANTY
		1. The complete integrated opening assembly (doors, frames and locking hardware) except as noted below shall be warranted to be free of defect in material or workmanship under normal use for a period of five (5) years from date of first shipment. The manufacturer, at its sole option, will repair or replace the product or parts thereof found to be defective in material or workmanship per the details contained in the warranty certificate. Consult full, written warranty for details.
			1. Doors finished in Surfacequest Architectural Fusions: Three years from date of first shipment.
			2. Continuous Hinges: Ten years from date of first shipment.
			3. Door closers: Ten years from date of first shipment.
			4. All electrical functions: Three years from date of first shipment.
2. PRODUCTS
	1. MANUFACTURERS
		1. Acceptable Manufacturer: Syntegra Integrated Doors as distributed by Door Systems, 866-534-3667, [www.doorsysinc.com](http://www.doorsysinc.com)
		2. Substitutions: Not permitted.
		3. Requests for substitutions will be considered in accordance with provisions of Section 01600.
	2. INTEGRATED HOLLOW METAL DOOR OPENING ASSEMBLIES
		1. Product: Syntegra Door Systems.
		2. Frames:
			1. In accordance with ANSI/SDI A250. Fire labeled doors shall comply with NFPA 80.
			2. Construction: All welded type.
			3. Material: Steel, cold rolled, ASTM A1008, 16 gauge.
			4. Fire Resistance Rating: Where indicated in Contract Documents for doors.
			5. Spreader Bar: Removable, at sill.
		3. Frame Anchorage Devices:
			1. To securely fasten to wall construction without distortion or stress.
			2. In accordance with fire resistance rating indicated in Contract Documents.
		4. Door Systems:
			1. Integrated Door Assemblies shall meet or exceed ANSI/BHMA A156.32 Standard for Integrated Opening Assemblies.
			2. Doors shall conform to ANSI/SDI A250.8, Grade 1 for Steel Doors.
			3. Door assemblies shall include door body with factory installed latching/locking devices and will include:
				1. An integrated continuous hinge with hidden fasteners on the door edge.
				2. An adjustable leading edge with hidden lock mounting fasteners and integral, recessed smoke seal.
				3. Doors shall be constructed with a U-shaped, 16 gauge reinforcement channel top and bottom and will include metal internal reinforcements for closers and magnetic holder/releases.
				4. Door assemblies shall be tested and listed for use without the need for overlapping astragals.
			4. Thickness: 1-3/4 inches.
			5. Faces: 18 gauge cold rolled steel, with no seams or spot welds.
			6. Core: Honeycomb.
			7. Core: Steel stiffened.
			8. Core: Polystyrene.
			9. Core: Lead lined.
			10. Configurations:
				1. Elevator smoke assembly, single.
				2. Elevator smoke assembly, pair.
				3. Elevator lobby assembly, single.
				4. Elevator lobby assembly, pair.
				5. Cross corridor fire doors, single.
				6. Cross corridor fire doors, pair.
				7. Stairwell doors, single.
				8. Stairwell doors, pair.
				9. Areas of assembly, single.
				10. Areas of assembly, pair.
				11. Surgical suites, single.
				12. Surgical suites, pair.
			11. Electric Doors: Remotely controlled.
				1. Operation: Fail safe.
				2. Operation: Fail secure.
				3. Operation: Electric unlatching in conjunction with motor operator by others.
	3. FINISHES
		1. The designations used in schedules and elsewhere to indicate hardware finishes are those listed in ANSI/BHMA A156.18 or traditional U.S. finishes shown by certain manufacturers for their products.
		2. Provide quality of finish, including thickness of plating or coating (if any), composition, hardness, and other qualities complying with manufacturer's standards, but in no case less than specified by referenced standards for the applicable units of hardware.
		3. Frames: Factory prime painted for field-applied finish.
		4. Door Faces:
			1. Prime painted to receive field applied finish.
			2. Factory applied electrostatic or powder coat paint, color as selected by Architect.
			3. Surfacequest Architectural Fusions, pattern as selected by Architect
		5. Lite Kits:
			1. Prime painted to receive field applied finish.
			2. Factory painted, bronze color.
			3. Factory painted, black color.
			4. Factory painted, white color.
		6. Hardware: As indicated in Hardware Schedule.
	4. HARDWARE
		1. Continuous Hinges:
			1. Continuous hinges shall meet ANSI/BHMA A156.26 requirements.
			2. Type: Pin and barrel or geared construction.
			3. Integrated into door edge at the factory.
		2. Integrated Locking/Latching Hardware:
			1. General:
				1. Provide a complete integrated door opening assembly including the installation and adjustment of the latching mechanism within the door construction.
				2. Latching to be accomplished by single or optional multi-point mechanism. Top latching shall be accomplished by friction reducing latch bolt with 7/8 inch throw.
			2. Integrated Exit Devices (XT).
				1. Shall meet ANSI/BHMA A156.3, Grade 1 requirements.
				2. Panic Exit Devices: Listed and labeled by a Nationally Recognized Independent Testing Laboratory for panic protection to UL 305.
				3. Fire Exit Devices: Listed and labeled by a Nationally Recognized Independent Testing Laboratory for panic and fire protection to UL 10C and UL 305.
				4. Exit devices shall be clean and unobtrusive in design with a minimal bar height of 4 inches. The push bar of exit devices shall not exceed a projection of 3/16 inch when in the held open position and 1-3/16 inches when closed and shall be made of heavy duty aluminum extrusion, available in anodized and true architectural finishes using a metal cladding; end caps shall be metal with concealed fasteners.
				5. Exit devices shall have CleanVuehygienic release feature allowing for full access to the recessed pushbar for cleaning without disassembly.
				6. Outside lever trim, when required, shall be clean and unobtrusive in design with a maximum projection of 2-1/2 inches and shall match design of other hardware furnished on project unless otherwise specified. No escutcheons shall be required. Lever mechanism must be protected by integral clutch assembly. Lever can be locked by cylinder as required.
				7. Electric operation of exit device shall be accomplished with the use of a motor that retracts bar to a 3/16 inch projection.
			3. Single Lever or Lever X Lever Latch (LX).
				1. Levers shall be clean and unobtrusive in design with a maximum projection of 2-1/2 inches and shall match design of other hardware furnished on project unless otherwise specified. No escutcheons shall be required. Lever mechanism must be protected by integral clutch assembly. Lever can be locked or unlocked by cylinder as required.
				2. Lever operation can be accomplished on one or both sides of the door.
				3. Levers shall operate and secure each leaf of a pair of doors independently without the need for coordinators, astragals, and automatic flushbolts.
				4. Door systems are listed for fire protection per UL10C.
			4. Push Pad (PX).
				1. Push Pad shall be clean and unobtrusive in design with a minimal bar height of 4 inches and a length of 8 inches. The push pad shall not exceed a projection of 3/16 inch when in the held open position and 1-3/16 inch when closed and shall be made of heavy duty aluminum extrusion, available in anodized and true architectural finishes using a metal cladding; end caps shall be metal with concealed fasteners.
				2. Outside lever trim, when required, shall be clean and unobtrusive in design with a maximum projection of 2-1/2 inches and shall match design of other hardware furnished on project unless otherwise specified. No escutcheons shall be required. Lever mechanism must be protected by integral clutch assembly. Lever can be locked by cylinder as required.
				3. Electric operation of push pad shall be accomplished with the use of a motor that retracts push pad to a 3/16 inch projection.
				4. Push pad and latching mechanism are listed for fire protection per UL10C.
		3. Gasketing:
			1. Shall be a compression type product for use with steel doors and labeled for use on fire-rated doors.
3. EXECUTION
	1. EXAMINATION
		1. Field Conditions:
			1. Prior to commencing installation, examine parts of building structure, which are to receive door systems and component parts.
			2. Report, in writing, conditions which would prevent proper execution or endanger permanency of the work to the Architect.
		2. Field Dimensions:
			1. Where possible, verify frame tolerances before fabrication of door systems.
			2. Notify Architect of variances with reviewed shop drawings.
		3. Coordinate door opening assembly details with adjacent work to assure proper attachments, clean junctions, etc.
	2. INSTALLATION
		1. Install in accordance with manufacturer's instructions, approved submittals, and in proper relationship with adjacent construction.
		2. Frames:
			1. Set plumb and square in accordance with DHI standards.
			2. Tolerances:
				1. Squareness of frame head: 1/16 inch.
				2. Plumb for each frame jamb: 1/16 inch.
				3. Alignment for each side in plan: 1/16 inch.
				4. Twist: 1/16 inch.
			3. Brace until adjacent wall is constructed.
			4. Securely anchor to adjacent wall.
			5. Furnish and install clips, fastenings, and anchorages and conceal unless otherwise noted.
		3. Door Systems:
			1. Hang to maintain manufacturer’s installation tolerances.
			2. Adjust to freely swing without binding, sticking, or sagging, and to eliminate excessive clearances.
		4. Adjust hardware for smooth operation and proper function.
	3. DOOR HARDWARE SCHEDULE

\*\* NOTE TO SPECIFIER \*\* Select one or more of the hardware sets below. Modify hardware sets as required to suit actual project requirements. Delete hardware sets not required.

* + 1. HW 01 Elevator Cab, Single, held open:

1 ea. Fdge mount cont. hinge EM 628 SYN

1 ea Flush Push Pad Operator PX 630 SYN

1 ea Lever Latch LX-F01 630 SYN

1 ea Pocket Closer DSI -5051 689 DSI

1 ea. Wall Magnet DSI -200 628 DSI

1 Set Smoke Seal SS DBZ SYN

* + 1. HW 02 Elevator Cab, Pair, held open:

2 ea. Edge mount cont. hinge EM 628 SYN

2 ea Flush Push Pad Operator PX 630 SYN

2 ea Lever Latch LX-F01 630 SYN

2 ea Pocket Closer DSI -5051 689 DSI

2 ea. Wall Magnet DSI -200 628 DSI

1 Set Smoke Seal SS DBZ SYN

* + 1. HW 03 Elevator lobby, pair of doors, same swing, pocketed, held open

2 ea. Edge mount cont. hinge EM 628 SYN

2 ea Flush Panic Exit Device XT 630 SYN

2 ea Lever Latch LX-F01 630 SYN

2 ea Pocket Closer DSI -5051 689 DSI

2 ea. Wall Magnet DSI -200 628 DSI

1 Set Smoke Seal SS DBZ SYN

* + 1. HW 04 Cross Corridor, pairs of doors, double egress, pocketed, held open,

2 ea. Edge mount cont. hinge EM 628 SYN

2 ea Flush Panic Exit Device XT 630 SYN

2 ea Pocket Closer DSI -5051 689 DSI

2 ea. Wall Magnet DSI -200 628 DSI

1 Set Smoke Seal SS DBZ SYN

* + 1. HW 05 Pairs of doors, same swing, cross corridor, electrified exit device, automatic operator:

2 ea. Edge mount cont. hinge EM 630 SYN

2 ea Electrified Flush Panic X Lever XT-LC-ML 630 SYN

 (lever always locked)

2 ea. Mortise Cylinder By Others

1 ea. Automatic operator By Others

1 Set Smoke Seal SS DBZ SYN

2 ea. Kickplate KP 630 SYN

1 ea. Wire Transfer EPT-EM-105 SYN

1 ea. Power Supply PS-1 SYN

* + 1. HW 06 Pairs of doors, double egress, cross corridor, electrified exit device, automatic operator:

2 ea. Edge mount cont. hinge EM 630 SYN

2 ea Electrified Flush Panic Exit Device XT-ML 630 SYN

2 ea. Mortise Cylinder By Others

1 ea. Automatic operator By Others

1 Set Smoke Seal SS DBZ SYN

2 ea. Kickplate KP 630 SYN

1 ea. Wire Transfer EPT-EM-105 SYN

1 ea. Power Supply PS-1 SYN

* + 1. HW 07 Pair of doors, same swing, lever x lever:

2 ea. Edge mount Cont. hinge EM 630 SYN

2 ea Lever x Lever Latch LX-F05 630 SYN

1 ea. Mortise Cylinder 630 By Others

2 ea Surface Closer DSI -5051-H 689 DSI

1 Set Smoke Seal SS DBZ SYN

* + 1. HW 8 Pairs of doors, cross corridor, double egress non-pocketed, active:

2 ea. Edge mount cont. hinge EM 630 SYN

2 ea Flush Panic Exit Device XT 630 SYN

2 ea Surface Closer DSI -5051-H 689 DSI

1 Set Smoke Seal SS DBZ SYN

2 ea. Armor Plate AP 630 SYN

* + 1. HW 9 Unequal pair, both leaves active with exit device x lever trim:

2 ea. Edge mount cont. hinge EM 630 SYN

1 ea Flush Panic Exit Device x Lever Trim XT-L 630 SYN

1 ea Flush Push Pad Device x Lever Trim PX-L 630 SYN

2 ea Surface Closer DSI -5051-H 689 DSI

1 Set Smoke Seal SS DBZ SYN

2 ea. Kickplate KP 630 SYN

* + 1. HW 10 Unequal pair, cross corridor, same swing, pocketed, held open:

2 ea. Edge mount cont. hinge EM 628 SYN

1 ea Flush Panic Exit Device x Lever Trim XT-L 630 SYN

1 ea Flush Push Pad Device PX 630 SYN

2 ea Surface Closer DSI -5051 689 DSI

1 Set Smoke Seal SS DBZ SYN

* + 1. HW 11 Areas of Assembly, independent latching pairs:

2 ea. Edge mount cont. hinge EM 630 SYN

2 ea Lever x Lever Latch LX-F04 630 SYN

1 ea. Mortise Cylinder By Others

1 ea. Mortise Thumbturn 630 By Others

2 ea Surface Closer DSI -5051-H 689 DSI

1 Set Smoke Seal SS DBZ SYN

2 ea. Kickplate KP 630 SYN

* + 1. HW 12 Single door, stairwell, access to occupied floors:

1 ea. Edge mount cont. hinge EM 630 SYN

1 ea Flush Panic Exit Device x Lever Trim XT-L 630 SYN

1 ea Surface Closer DSI -5051-H 689 DSI

1 Set Smoke Seal SS DBZ SYN

1 ea. Kickplate KP 630 SYN

* + 1. HW 13 Single door, stairwell, last exit out of building in means of egress:

1 ea. Edge mount cont. hinge EM 630 SYN

1 ea Flush Panic Exit Device, EO XT 630 SYN

1 ea Surface Closer DSI -5051-H 689 DSI

1 Set Smoke Seal SS DBZ SYN

1 ea. Kickplate KP 630 SYN

* + 1. HW 14 Single door, stairwell, with electrified hardware:

1 ea. Edge mount cont. hinge EM 630 SYN

1 ea Electrified Flush Panic X Lever XT-LC-ML 630 SYN

1 ea. Mortise Cylinder By Others

1 ea Card reader By Others

 1 ea Surface Closer DSI -5051-H 689 DSI

1 Set Smoke Seal SS DBZ SYN

1 ea. Kickplate KP 630 SYN

1 ea. Wire Transfer EPT-EM-105 SYN

1 ea. Power Supply PS-1 SYN

* + 1. HW 15 Surgical suite:

2 ea. Full Mortise Cont. hinge, swing clear SC 630 SYN

2 ea Lever x Lever Latch w/ Electrified LX-F01-ML 630 SYN

 Latch Retraction

1 ea. Automatic Door Operator By Others

1 Set Smoke Seal SS DBZ SYN

2 ea. Armor Plate AP 630 SYN

1 ea. Wire Transfer EPT-EM-105 SYN

1 ea. Power Supply PS-1 SYN

END OF SECTION