

Architect's Specification Guideline:

| | |
|------------------------------------|-----------------|
| Hollow Metal Section | 08 11 00 |
| Wood Door Section | 08 14 00 |
| Aluminum Door/Frame Section | 08 11 16 |
| Door Hardware Section | 08 71 00 |



**The University of Texas at Dallas
Richardson, Texas**

Date December 14, 2007
Revised Date May 10, 2011
Revised Date June 27, 2013
Revised Date January 9, 2015
Revised Date January 29, 2016
Revised Date April 25, 2016
Revised Date June 2, 2016
Revised Date October 21, 2016

Revised May 12, 2017

**University of Texas at Dallas
Richardson, Texas**

Metal Door & Frame Specification Guideline

The purpose of this guideline is assist the design Architect in the proper selection of Metal Door & Frames and to ensure maintaining The University of Texas at Dallas standardization of door application. It is the Architect's responsibility to coordinate these products to meet applicable building codes, life safety codes and ADA requirements during preparation of Section 08 11 00-Metal Door & Frames.

The Architect is to consult with a representative of The University of Texas at Dallas during preparation of the Door Schedule to determine the function of each door and required locations of access control products.

The metal door & frame specification must contain the following:

1. Use of specified manufacturer's products that have continuous steel channel framed door construction (Curries 707/747/777 Trio E as reference standard). Exterior doors to be high efficiency doors with a full operable U value of .29 or better, 777 Trio E with kerf weather strip frames.

Acceptable Manufacturers:

- Curries
- CECO

2. Cross-corridor door & frame assemblies to utilize low profile design, concealed vertical rod exit shall not be utilized.

3. Destructive testing of random door(s) to confirm reinforcements for hardware is as specified; non-compliance acceptable basis for rejection of products supplied, in their entirety; compliant, replacement products supplied at no additional cost to Owner.

4. Minimum Gauge:

- Frames-16 Gauge Galvanized at exterior openings
- Interior Doors-18 Gauge Interior
- Exterior Doors- 16 Gauge Galvanized

5. Electrical Wiring: Provide for all hollow metal doors and frames receiving electrical hardware preps; this includes but not limited to electric thru wire hinges and pivots, electrical wiring harnesses, door position switches, electric strikes and magnetic locks as noted in door hardware sets in Division 08, "Door Hardware".

- a. Electrified doors: All doors required for the application of electronic locks, remote monitoring, door position switches, electroluminescent egress marking systems, door mounted electric signage, etc. which require the door to have wires through the door shall be provided pre-wired with pre-drilled raceway. Raceway to accommodate concealed wiring harness and standardized Molex™ plug connectors on both ends to accommodate up to twelve wires. Coordinate connectors on end of the wiring harness to plug directly into the electrified hardware and the electric thru wire hinge or pivot specified in hardware sets in Division 08, "Door Hardware".

- b. Electrified frames: Electrical Knock Out Boxes: Factory weld 18 gauge electrical knock out boxes to frame for electrical hardware preps; this includes but not limited to electric thru wire hinges and pivots, electrical wiring harnesses, door position switches, electric strikes and magnetic locks as noted in door hardware sets in Division 08, "Door Hardware".
 - i. Provide electrical knock out boxes with a dual 1/2-inch and 3/4-inch knockouts.
 - ii. Conduit to be coordinated and installed in the field (Division 26 – Electrical) from middle hinge box and strike box to door position box to the junction box above the door header.
 - iii. Wire to be pulled through conduit from a junction box to the hinge side of the door or strike side of door (as specified in hardware schedule). Cable to use standardized Molex™ plug connectors at hinge or strike location.
 - iv. Plenum wire to be pulled from the junction box back to the access control panel and power supply for all monitored doors (including but not limited to doors with Card Readers, electrified locks, DPS and/ or REX). Cable to allow for a single cable run that incorporates the four components (card reader, electric lock, DPS, REX). Provided within Division 26.
 - v. Electrical knock out boxes to comply with NFPA requirements and fit electrical door hardware as specified in hardware sets in Division 08, "Door Hardware".
 - vi. Electrical knock out boxes for continuous hinges should be located in the center of the vertical dimension on the hinge jamb.
6. Pre-Installation Conference: Conduct conference at Project site for hollow metal frames with electrical knockout boxes to verify installation of conduit on frames (Division 26).
7. Frames & doors certified as installed in accordance with SDI-122-99.
8. Stairwell doors must have vision panels.

Wood Door Specification Guideline

The purpose of this guideline is assist the design Architect in the proper selection of Wood Doors and to ensure maintaining The University of Texas at Dallas (UTD) standardization of door application. It is the Architect's responsibility to properly coordinate these products to meet applicable building codes, life safety codes and ADA requirements during preparation of Section 08 14 00-Wood Doors.

The Architect is to consult with a representative of The University of Texas at Dallas during preparation of the Door Schedule to determine the function of each door and required locations of access control products.

The wood door specification must contain the following:

1. Wood Doors shall be constructed of SCL Material and carry a life time warranty.
2. Wood doors shall match existing veneer and finish on renovation construction. Consult with UTD for veneer and finish for New Construction.
3. Wood doors shall comply with UL10C. Intumescent seals shall be supplied in the door on Rated Openings.
4. Acceptable Manufacturers:
 - Maiman Thermal Fused (for laminate)
 - Graham
5. Electrical Wiring: Provide for all wood doors and frames receiving electrical hardware preps; this includes but not limited to electric thru wire hinges and pivots, electrical wiring harnesses, door position switches, and electric strikes as noted in door hardware sets in Division 08, "Door Hardware".
 - a. Electrified doors: All doors required for the application of electronic locks, remote monitoring, door position switches, electroluminescent egress marking systems, door mounted electric signage, etc. which require the door to have wires through the door shall be provided pre-wired with pre-drilled raceway. Raceway to accommodate concealed wiring harness and standardized Molex™ plug connectors on both ends to accommodate up to twelve wires. Coordinate connectors on end of the wiring harness to plug directly into the electrified hardware and the electric thru wire hinge or pivot specified in hardware sets in Division 08, "Door Hardware".
6. Pre-Installation Conference: Conduct conference at Project site for wood door and hollow metal frames with electrical knockout boxes to verify installation of conduit on frames (Division 26 – Electrical).

Aluminum Door & Frame Specification Guideline

Aluminum Doors used only upon the approval of The University of Texas at Dallas.

The purpose of this guideline is assist the design Architect in the proper selection of Aluminum Doors & Frames and to ensure maintaining The University of Texas at Dallas standardization of door application. It is the Architect's responsibility to properly coordinate these products to meet applicable building codes, life safety codes and ADA requirements during preparation of Section 08 11 16-Aluminum Door & Frames.

The Architect is to consult with a representative of The University of Texas at Dallas during preparation of the Door Schedule to determine the function of each door and required locations of access control products.

The aluminum door & frame specification must contain the following:

1. Acceptable Manufacturers: No Substitutions Allowed.
 - A. Kawneer 350 Tuff line
 - B. Vistawall Heavy Duty
 - C. Tubelite Heavy Duty
2. All Aluminum doors shall have a 6-inch stile (referred to as wide stile) with a minimum bottom rail of 10 inches, and a minimum top rail of 7 inches.
3. All Aluminum doors shall have a center cross rail shall be used for doors with exit devices.
4. Electrical Wiring: Provide for all aluminum doors and frames receiving electrical hardware preps; this includes but not limited to electric thru wire hinges and pivots, electrical wiring harnesses, door position switches, and electric strikes and magnetic locks as noted in door hardware sets in Division 08, "Door Hardware".
 - A. Electrified doors: All doors required for the application of electronic locks, remote monitoring, door position switches, electroluminescent egress marking systems, door mounted electric signage, etc. which require the door to have wires through the door shall accommodate concealed wiring harness and standardized Molex™ plug connectors on both ends to accommodate up to twelve wires. Coordinate connectors on end of the wiring harness to plug directly into the electrified hardware and the electric thru wire hinge or pivot specified in hardware sets in Division 08, "Door Hardware".
 - B. Electrified frames: Conduit shall be installed for all electrical wiring from junction box at top of storefront framework to electrical hinge location. Conduit installed for all electrical hardware preps; this includes but not limited to electric thru wire hinges and pivots, electrical wiring harnesses, door position switches, and electric strikes as noted in door hardware sets in Division 08, "Door Hardware".
 - i. Conduit to be coordinated and installed in the field (Division 26 – Electrical) from middle hinge box and strike box to door position box to the top of the storefront framework.

- ii. Wire to be pulled through conduit from a junction box to the hinge side of the door or strike side of door (as specified in hardware schedule). Cable to use standardized Molex™ plug connectors at hinge or strike location.
 - iii. Plenum wire to be pulled from the junction box back to the access control panel and power supply for all monitored doors (including but not limited to doors with Card Readers, electrified locks, DPS and/ or REX). Cable to allow for a single cable run that incorporates the four components (card reader, electric lock, DPS, REX). Provided within Division 26.
- 5. Floor closers are not permitted
- 6. Pre-Installation Conference: Conduct conference at Project site for aluminum frames with electrical conduit to verify installation of conduit and wire pulling on frames (Division 26).
- 7. Geared continuous hinges

FRP Door Specification Guideline

The purpose of this guideline is assist the design Architect in the proper selection of Fiberglass Reinforced Doors & Frames and to ensure maintaining The University of Texas at Dallas standardization of door application. It is the Architect's responsibility to properly coordinate these products to meet applicable building codes, life safety codes and ADA requirements during preparation of Section 08 16-Aluminum Door & Frames. Fiberglass Reinforced Doors must be used for food preparation areas, as well as high-humidity loading docks.

The Architect is to consult with a representative of The University of Texas at Dallas during preparation of the Door Schedule to determine the function of each door and required locations of access control products.

The FRP door & frame specification must contain the following:

1: Acceptable Manufacturers: No Substitutions Allowed.

- A. Ceco
- B. Curries
- C. Special-Lite

2. FRP Doors must have skins at least .120" thick.

3. FRP Doors shall have 3 sided aluminum frames.

4. Electrical Wiring: Provide for all aluminum doors and frames receiving electrical hardware preps; this includes but not limited to electric thru wire hinges and pivots, electrical wiring harnesses, door position switches, electric strikes and magnetic locks as noted in door hardware sets in Division 08, "Door Hardware".

A. Electrified doors: All doors required for the application of electronic locks, remote monitoring, door position switches, electroluminescent egress marking systems, door mounted electric signage, etc. which require the door to have wires through the door shall accommodate concealed wiring harness and standardized Molex™ plug connectors on both ends to accommodate up to twelve wires. Coordinate connectors on end of the wiring harness to plug directly into the electrified hardware and the electric thru wire hinge or pivot specified in hardware sets in Division 08, "Door Hardware".

B. Electrified frames: Conduit shall be installed for all electrical wiring from junction box at top of storefront framework to electrical hinge location. Conduit installed for all electrical hardware preps; this includes but not limited to electric thru wire hinges and pivots, electrical wiring harnesses, door position switches, electric strikes and magnetic locks as noted in door hardware sets in Division 08, "Door Hardware".

- iv. Conduit to be coordinated and installed in the field (Division 26 – Electrical) from middle hinge box and strike box to door position box to the top of the storefront framework.

- v. Wire to be pulled through conduit from a junction box to the hinge side of the door or strike side of door (as specified in hardware schedule). Cable to use standardized Molex™ plug connectors at hinge or strike location.

Plenum wire to be pulled from the junction box back to the access control panel and power supply for all monitored doors (including but not limited to doors with Card Readers, electrified locks, DPS and/ or REX). Cable to allow for a single cable run that incorporates the four components (card reader, electric lock, DPS, REX). Provided within Division 26

Door Hardware Specification Guideline

The purpose of this guideline is assist the design Architect in the proper selection of Door Hardware and to ensure maintaining The University of Texas at Dallas (UTD) standardization of door hardware. It is the Architect's responsibility to properly coordinate these products to meet applicable building codes, life safety codes and ADA requirements during preparation of the Hardware Sets when developing Section 08 71 00-Finish Hardware.

The Architect is to consult with a representative of The University of Texas at Dallas during preparation of the Hardware Sets to determine the function of each door and required locations of access control products.

The door hardware specification must contain the following:

Part 1 – General:

1.01 QUALITY ASSURANCE

A. Pre-Installation Conference for Hardware: Prior to installation of mechanical and electronic hardware, arrange a conference between manufacturer's representatives, hardware supplier, hardware installers and related trades to review materials, procedures and coordinating related work.

B. Hardware specification shall be reviewed and approved by UTD.

1.02 EXTRA MATERIALS

- i. Provide for Owner's maintenance department stock:
 - 1. Provide 2 of each lock function.
 - 2. Provide 1 of each exit device function.
 - 3. Provide 2 of each closer arm application used.

1.03 ELECTRONIC HARDWARE SYSTEMS

Provide complete wiring diagrams prepared by an authorized factory employee for each opening requiring electronic hardware, except openings where only magnetic hold-open devices are specified. Provide a copy with each hardware schedule submitted after approval.

Provide complete operational descriptions of electronic components listed by opening in the hardware submittals. Operational descriptions to detail how each electrical component functions within the opening incorporating all conditions of ingress and egress. Provide a copy with each hardware schedule submitted for approval.

Provide elevation drawings of electronic hardware and systems identifying locations of the system components with respect to their placement in the

door opening. Provide a copy with each hardware schedule submitted for approval.

Prior to installation of electronic hardware, arrange conference between supplier, installers and related trades to review materials, procedures and coordinating related work.

The electrical products contained within this specification represent a complete engineered system. If alternate electrical products are submitted, it is the responsibility of the distributor to bear the cost of providing a complete and working system including re-engineering of electrical diagrams and system layout, as well as power supplies, power transfers and all required electrical components. Coordinate with electrical engineer and electrician to ensure that line voltage and low voltage wiring is coordinated to provide a complete and working system.

For each item of electrified hardware specified, provide standardized Molex™ plug connectors to accommodate up to twelve (12) wires. Molex plug connectors shall plug directly into through-door wiring harnesses, frame wiring harnesses, electric locking devices and power supplies.

Part 2 – Products:

2.01 KEYING

- A. **Keying Meeting:** Prior to the release of orders to the lockset manufacturer, meet with the UTD Sign & Key Shop to review the keying requirements.
- B. Cores should be small format interchangeable core, 7 pin, Best “L” keyway, uncombined (unless otherwise specified in key meeting).
- C. UTD will provide key tree for pinning of cores.
- D. Deliver two key blanks per core, **uncut**, with the cores to the UTD Sign and Key Shop. Only Best brand keys are acceptable.

2.02 Cores - Match Owners Existing Key Systems. No Substitutions Accepted

- A. Acceptable Manufacturers:
 - 1. Arrow
 - 2. Best
- B. Renovation work—Match Building existing key system.
- C. Locksets shall be ordered less core and construction cores shall be provided during the construction period.

D. Traka key cabinet to be provided for each new construction building.

2.03. **Hinges:** Acceptable Products: Heavy weight

| | <u>McKinney</u> | <u>Hager</u> |
|-----------------|-----------------|--------------|
| Stainless steel | T4A3386 | BB1199 |
| Steel | T4A3786 | BB1168 |

- A. All hinges to be five knuckle, in accordance with manufacturers guidelines, ball-bearing type.
- B. Hinges shall be stainless steel material on exterior doors. Steel material on interior doors.
- C. Provide NRP hinges on all doors.
- D. Furnish four (4) hinges up to 84 inches high and one (1) additional hinge for every 30 inches or fraction thereof.
- E. Provide size 4-1/2 inch x 4-1/2 inch for all 1-3/4 inch thick doors up to and including 36 inches wide. Doors over 36 inches wide provide 5 inch x 4-1/2 inch hinges.
- F. Where required to clear trim or permit doors to swing 180 degrees, furnish hinges of sufficient throw.
- G. Substitutions per Section 01 31 00
- H. Where electrically operated locksets and exit devices are required, furnish continuous circuit hinges with the number of wires required by electrical hardware it supports plus two additional wires for future considerations. All electric hinges installed with a Quick Connect Molex feature to insure compatibility with the electrical hardware.
- I. No butt hinges or pivots are to be used on aluminum doors.
- J. No pivots or continuous hinges permitted on wood doors.

2.04. **Pivots:** Acceptable Products:

A. Pivots and intermediate pivots on aluminum doors are currently not authorized by the owner

2.05. **Lockets:** Acceptable Products: **No Substitutions Allowed**

A. Mortise Locks: Sargent 8200 LNJ

- | | | | |
|----|--------------------|---------|---------|
| B. | Lock Functions. | | Sargent |
| 1. | Classrooms | 8237 | |
| 2. | Offices | 8255 | |
| 3. | Storerooms | 8204 | |
| 4. | Non Locking | 8215 | |
| 5. | Restrooms | 8265 | |
| 6. | Classroom Security | 49-8238 | |

C. Keypad Locks not permitted.

2.06. **Exit Devices:** Acceptable Products:

- Von Duprin 99 Series - preferred as campus standard
 - Sargent 80 Series
- A. Exit devices installed at all exterior egress doors, fire exit doors, and stairwell doors.
 - B. Provide pull trim at exterior doors. Provide Lever trim for interior applications.
 - C. Provide though bolts for all exit devices.
 - D. Provide standard hex-key dogging on all non-fire rated exit devices. Cylinder dogging used only at the request of the Owner.
 - E. Vertical rod exit devices not permitted unless required by code. Rim exit device and removable mullion to be provided and installed wherever possible. When vertical rod exit devices are used, provide and install interior surface mount vertical rod exit devices as Less Bottom Rod (LBR) unless otherwise indicated.
 - F. All exterior doors requiring access control furnished with 56- function (Electric Latch Retraction). Provide 24 Volt, 1 amp for each device, power supply for Sargent 56-.
 - G. Provide (EPT) Electric Power Transfer on all doors with Electric Latch Retraction.
 - H. Provide Key Removable Mullions as Required by Owner.
 - I. Provide all doors with factory documented three (3) year warranty.

2.07. **Door Closers:** Acceptable products: No Substitutions Allowed.
Preferred Manufacturer:

1. Interior Doors:
 - A. LCN 4041XP - preferred as campus standard
 - B. Sargent 1431 Series

2. Exterior Doors (Cast Iron):

- A. LCN 4040XP - preferred as campus standard
- B. Sargent 281 Series

3. High Traffic and High Abuse Openings:

- A. Norton SafeZone (7100 SZ)

- A. Through bolts not permitted unless required by Door Manufacturer at rated openings.**
- B. Provide spring cushion arm on all exterior applications and interior out swinging corridor applications where floor stops are not permitted. No wall stops on sheetrock walls.
- C. Supply appropriate arm assembly and drop plates where required for each closer so that closer body and arm are mounted on non-public side of door opening and on the interior side of exterior openings, except where required otherwise in the hardware sets.
- D. Provide blade stop spacers and fifth screw hole supports where required by frame conditions.
- F. All door closers shall have a factory documented twenty-five (25) year warranty.

2.08. **Automatic Door**

Preferred Manufacturer:

1. LCN 4640 Series: **No Substitutions Allowed**

- A. All door closers shall be ANSI 156.19, Grade 1 Certified.
- B. Units shall have adjustments for door closing force and back check, motor assist from 0 to 30 seconds, motor start up delay, vestibule interface delay, electric lock delay, and door hold open delay up to 30 seconds.
- C. Operator units shall provide conventional door closer opening and closing forces unless the power operator motor is activated by an initiating device with door closer assembly having adjustable spring size, back check valve, sweep valve, latch valve, speed control valve, and pressure adjustment valve to control door closing.
- D. Operators shall have push and go function to activate power operator or power assist functions. Units shall have a presence detector input to prevent a closed door from opening or a door that is fully opened from

closing and shall have a hold open toggle input to allow remote activation for indefinite hold open; door shall close the second time the input is activated.

- E. Operators shall have a SPDT relay for interfacing with latching or locking devices.
- F. All controlling operator switches shall be of radio-frequency design and not hardwired.
- G. All controlling operator switches shall be wall mounted, not pedestal or bollard post.

2.09. Door Stops:

| Item | Rockwood | Trimco | Rixon | ABH |
|----------------|-----------------|---------------|-----------------------|----------------------------|
| Exterior Doors | 467 | 1209 | | |
| Interior Doors | 441 | 1210 | | |
| Wall Stops | 409 | 236 | | |
| Overhead Stops | | | 9 series 10 series | 9000 series 3300 series |

- A. Furnish door stops:
 - a. Wall stop used for hard walls
 - b. Floor stop used for exterior doors and interior doors with sheetrock walls
 - c. Overhead stop on door closer when no wall or floor permitted
 - i. Use cushion stop whenever possible; hard stop else

2.10. Flat Goods:

| Item | Rockwood | Hager |
|-------------|-----------------|--------------|
| Pulls | 108 | 33E |
| Push Plates | 70C 6 x 16 | 30S |

- A. All kick plates shall be 10” high x 2” less door width on single doors, 1” less door width on pairs of doors.
- B. All armor plates shall be a maximum 40” high or as high as possible without conflicting with locksets and exit devices, and 2” less door width on single doors, 1” less door width on pairs of doors.
- C. All protection plates shall be 16 gauge (.050) inch thick.
- D. All protection plates shall have countersunk holes and all four edges beveled.

2.11. **Flush Bolts & Coordinators:**

| Item | Rockwood | Hager |
|-----------------------|-----------------|---------------|
| Flush Bolts | 555 | 282D |
| Automatic flush bolts | Not permitted | Not permitted |
| Dust Proof Strikes | 570 | 280X |
| Coordinator | 1700 series | 297D |

2.12. **Electromechanical Products:**

| Item | Company | Model | Comments |
|---------------------------|--------------------------|--------------------|---|
| Electronic Locks | Sargent | 8271 | No substitutions |
| Electric Latch Retraction | Sargent | QEL | |
| Power Supplies | Sargent Von Duprin | 3510, BPS24 | Securitron, AccuPower |
| Magnetic Holders | Rixson | FM998 | Magnetic holders tied to FACP & be code compliant |
| Auto Door Operators | LCN | 4640 Series | minimum 1 paired opening per building |
| Electric Power Transfers | Securitron Von Duprin | CEPT-10 EPT-10 | |
| Key Pad Locksets | Not permitted | | |
| Magnetic Locks | Not permitted | | |
| Electric Strikes | HES | 9600 | |
| Connectors | Sargent Von Duprin | Electrolynx CON | |

2.13. **Seals and Gaskets:**

Pemko preferred as campus standard

| Item | Pemko | National Guard |
|--------------|----------------|-----------------------|
| Thresholds | 171A | 425E |
| Weatherstrip | 315CR | 130NA |
| Smoke Seals | S88 | 2525 |
| Drip Caps | 346 | 16 |
| Sweeps | 345AP, 18041CP | C627 |
| Astragal | 305N | 125N |

A. To comply with UL 10C, UBC test 7-2, provide category “A” Intumescent as part of the fire rated wood door assembly. This material specified in Section 08 14 00- Wood Doors.

2.14. **Padlocks:**

- a) Must be SFIC
- b) Contact owner for additional details

Part 3 – Execution:

1 QUALITY ASSURANCE

A. Post-Installation Inspection for Hardware: Upon completion of installation of all door hardware and prior to Owner acceptance of the project, arrange a post-installation inspection of all mechanical and electrical door hardware. Inspection shall include the Contractor, Architect, Hardware Supplier and hardware manufacturer's representative. Repair or replace any product installed improperly or functioning incorrectly. Any additional costs related to repair or replacement shall not be the responsibility of the Owner.