

DOOR & HARDWARE

FACILITY SPECIFICATION GUIDELINE



Southwest Virginia Community College

Richlands, VA

Reviewed and Approved by: _____

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DOOR AND HARDWARE FACILITY SPECIFICATION GUIDELINE

SECTION 08110

SECTION 08210

SECTION 08710

EDIT DATE: January 16, 2007

The purpose of this document is to support the equivalence of door hardware specifications for Southwest Virginia Community College. Products detailed herein are the standard of quality to be used on new projects and renovations. Exceptions would include owners request for continuations of existing systems: i.e. - Existing key system.

It is the intent of this document to provide guidelines for the architect's specification section 08710, for product groups and the hardware schedule. These items are to be coordinated to meet the requirements of life safety codes, ADA requirements and applicable building codes.

All aluminum door hardware shall be provided in compliance with this specification guideline, and such shall be noted in sections 08710 and 08410.

The door hardware section 08710 preamble is to include the following:

“Prior to installation of hardware, the project architect shall contact the manufacturers’ representatives to arrange and hold a jobsite meeting to instruct the installing contractors’ personnel on the proper installation of their respective products. Seminar shall be attended by installers of hardware (including electrical hardware) for aluminum, hollow metal and wood doors. Training will include the use of installation manuals, hardware schedule, templates and physical product samples.”

“The manufacturer’s representative(s) for the life safety and security products shall inspect and approve the installation of the products they represent. Any identified installation or product issues shall be directed to the attention of the Architect for the purpose of generating the final punch list.”

SPECIFICATION GUIDELINE SECTION 08110 – HOLLOW METAL

Substitutions or Alternates not permitted unless noted below.

Item Description	Preferred Manufacturer and Catalog Series		Acceptable Alternative Manufacturers
Hollow Metal Frames	Curries	M Series	CECO SU Series Steelcraft

Product Notes and Applications:

Interior Frames:

Profile: M / MK / DEM

Gauge: 16 @ openings up to and including 4'-0" wide
14 @ openings over 4'-0" wide & MK Profile

Steel: Cold-rolled steel

Welding: Continuous face welded, dressed and ground smooth, prime paint

Exterior Frames:

Profile: M

Gauge: 14

Steel: A60 galvanized

Welding: Continuous face welded, dressed and ground smooth, prime paint

- Frames shall include shipping bar at bottom to insure frame integrity during shipping. All shipping bars shall be removed prior to frame installation. Install frames per manufacturers and SDI (Steel Door Institute) standards and instructions.
- Fire rated frames require metal applied label indicating rating designation.
- Reinforce frames for surface mounted hardware and cut-out, drilled and tapped to receive mortised hardware.
- Electrified Openings: Doors shall be pre-wired with sufficient number of concealed wires to accommodate electric function of specified hardware. Provide Molex type standardized plug in connectors to accommodate up to twelve wires.

SPECIFICATION GUIDELINE SECTION 08110 – HOLLOW METAL

Substitutions or Alternates not permitted unless noted below.

Item Description	Preferred Manufacturer and Catalog Series		Acceptable Alternative Manufacturers
Hollow Metal Doors	Curries	707 Series 747 Series	CECO Legion Medallion Steelcraft L Series B Series

Product Notes and Applications:

Interior Doors:

Series: 707

Gauge: 18

Steel: Cold-rolled

Edges: Seamless - tack weld, grind smooth, fill and touch-up paint

Exterior Doors:

Series: 747

Gauge: 16 gauge

Steel: A60 galvanized

Edges: Seamless - Continuous weld, grind smooth, fill and touch-up paint

- Fire rated doors require metal applied label indicating rating designation.
- Doors shall be internally reinforced for surface mounted hardware and cut-out, drilled and tapped to receive mortised hardware.
- Electrified Openings: Doors shall be pre-wired with sufficient number of concealed wires to accommodate electric function of specified hardware. Provide Molex type standardized plug in connectors to accommodate up to twelve wires.

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SECTION 08210 – Wood Door

Substitutions or Alternates not permitted unless noted below.

Item Description	Preferred Manufacturer and Catalog Series		Acceptable Alternative Manufacturers
Wood Doors	Graham	GPD PC Series GPD FD 45 GPD FD 60 GPD FD 90	Marshfield DPC-1/DFP-20 DFM – 45 DFM – 60 DFM – 90 Eggers PC Series FD Series VT Industries Flush Wood Doors

Product Notes and Applications:

- Construction: 5-ply
- Core: Particleboard @ non-rated and 20-minute rated openings
Mineral @ 45, 60 and 90-minute rated openings
- Face veneer: Red Oak, Premium Grade, Plain Sliced, Balanced Matched
- Edges: Same as face veneer
- Matching: Pairs within the same opening
- Warranty: Lifetime of installation

- Doors shall be factory pre-finished to match existing facility standard.
- Finish shall be type TR-6 / UV cured catalyzed polyurethane.
- Pre-fit for opening size and pre-machine for hardware as specified.
- Fire rated doors require metal applied label indicating rating designation.
- Doors shall be internally reinforced for attachment of hardware without the use of through bolts.
- Electrified Openings: Doors shall be pre-wired with sufficient number of concealed wires to accommodate electric function of specified hardware. Provide Molex type standardized plug in connectors to accommodate up to twelve wires.

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SECTION 08710 – Door Hardware

Substitutions or Alternates not permitted unless noted below.

Item Description	Preferred Manufacturer and Catalog Series		Acceptable Alternative Manufacturers
Butt Hinges	McKinney	TA2714 TA2314 T4A3786 T4A3386	Bommer BB5000 BB5001 BB5004 BB5005 Lawrence Brothers BB4401 BB4901 BB4951 BB5151

Product Notes and Applications:

- Interior wood doors.
- Interior and exterior hollow metal doors.
- Out swinging lockable doors shall have NRP hinges.
- Exterior lockable doors shall have NPR and SSF hinges.
- Width of hinges shall be sufficient to clear trim and wall conditions as shown on the drawings.
- Size: 4 ½” x 4 ½” for doors up to 3’-0” in width, 5” x 4 ½” for doors over 3’-0” in width. Provide heavy weight hinges (.180) at high traffic doors.
- *Electric Hinges: Provide sufficient number of concealed wires to accommodate electric function of specified hardware. Locate electric hinge at center location. Provide McKinney MG-16 mortar guard for each electric hinge specified. Provide Molex type standardized plug in connectors to accommodate up to twelve wires.

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SECTION 08710 – Door Hardware

Substitutions or Alternates not permitted unless noted below.

Item Description	Preferred Manufacturer and Catalog Series		Acceptable Alternative Manufacturers
Pivots	Rixson	Doors up to 3/0" wide and 7/2" high Top Pivot 147 x 180 with 3/4" Offset Intermediate Pivot M19* with 3/4" Offset Doors over 3/0" wide and/or 7/2" high H147 x H180 Top Pivot with 3/4" Offset M19* Intermediate Pivot with 3/4" Offset	Chase Doors Jackson Corporation

Product notes and applications:

- Provide (1) intermediate pivot for every additional 30" of door height over 60".
- High traffic interior doors with panic hardware that are subject to extreme abuse: Use pivots.
- Provide 2604 Pivot Locator installation tool kit for all pivot applications.
- When scheduling doors with weights near or over 250 pounds, consult the Rixson factory for application consulting.
- *Electric Pivots: Provide sufficient number of concealed wires to accommodate electric function of specified hardware. Provide Molex type standardized plug in connectors to accommodate up to twelve wires.

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SECTION 08710 – Door Hardware

Substitutions or Alternates not permitted unless noted below.

Item Description	Preferred Manufacturer and Catalog Series		Acceptable Alternative Manufacturers
Continuous Hinges	McKinney	MCK-12HD MCK-25HD	Pemko CFM 83SLFHD CFM 83D Zero 910DB-A 914DB-A

Product notes and applications:

- Exterior Aluminum and FRP doors: Use continuous hinges.
- When retrofitting new doors in existing frames and frame hinge preparations are compromised: Use continuous hinges.

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Substitutions or Alternates not permitted unless noted below.

Item Description	Preferred Manufacturer and Catalog Series		Acceptable Alternative Manufacturers
Power Transfers	Securitron	EPT	

Product notes and applications:

- Use at heavy use electrical openings to transfer power from frame to door. Provide at all electrical applications using continuous hinges.

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SECTION 08710 – Door Hardware

Substitutions or Alternates not permitted unless noted below.

Item Description	Preferred Manufacturer and Catalog Series		Acceptable Alternative Manufacturers
Flush Bolts	Trimco	3810 / 3815 Series Automatic Flush Bolts 3910 Series Dust Proof Strike	<p style="text-align: center;">DCI</p> 780 Series Manual Flush Bolts 842 Series Automatic Flush Bolts 570 Series Dust Proof Strike <p style="text-align: center;">McKinney</p> FB M / FB W Series Manual and Automatic Flush Bolts DPS Series Dust Proof Strike 3913 / 3917 Series Manual Flush Bolts

Product notes and applications:

- Manual or automatic flush bolts as necessary for code compliance. Install with dust proof strike.
- Provide extended top rod for oversized doors when using manual flush bolts.

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Substitutions or Alternates not permitted unless noted below.

Item Description	Preferred Manufacturer and Catalog Series		Acceptable Alternative Manufacturers
Cylinders and Keying	Best	Interchangeable Core	NO SUBSTITUTION

Product notes and applications:

- Cylinders shall be keyed to an existing grand master key system.
- Keying requirements to be coordinated and completed at factory to protect the integrity of the system. Field keying will not be permitted and will be considered as just cause for rejection of supplier.
- Cylinders shall be an integral part of the locks as manufactured by specified lock supplier. Substitution of foreign made cylinders or components will not be allowed and also will be cause for rejection of supplier.
- Furnish cylinders with construction masterkeying for use during the construction period. Permanent cores shall be installed upon completion of the project.
- Keys will be furnished as follows:

Change Keys:	(3) each per cylinder.
Master Keys:	(6) each section.
Grand Master Keys:	(6) each.
Construction Master Keys:	(5) each.
Construction Control Keys:	(5) each.

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SECTION 08710 – Door Hardware

Substitutions or Alternates not permitted unless noted below.

Item Description	Preferred Manufacturer and Catalog Series		Acceptable Alternative Manufacturers
Locks and Latches	Mortise Locksets	<p align="center">Sargent 8200 Series x LNL trim design</p>	<p>Corbin Russwin ML2000 Series x NSA trim design</p> <p align="center">Yale 8800FL Series x AUR trim design</p>

Product notes and applications:

- Backsets: 2-3/4 inches.
- Locks shall have field adjustable, beveled armored front, with a 1/8 inch thickness minimum.
- Latchbolt shall be solid one-piece 3/4 inch throw anti-friction stainless steel.
- Deadbolt shall be a full one inch throw made of stainless steel and have two (2) hardened steel roller inserts.
- Install custom strikes to match existing frame preparations when new lock is scheduled to be installed in existing frame. Existing frames to be modified to accept new custom strikes.
- Provide lockset lever handles, and escutcheons with a silver ion based anti microbial finish.
- Doors entering public occupied rooms off corridors: Use classroom security locks. Double cylinder lock. Key locks or unlocks outside trim. Outside trim can be locked from inside room. Inside trim is always able to retract latchbolt and allow free egress, but outside trim remains locked.
- Faculty toilets off corridors:
- Locking Function Descriptions

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Substitutions or Alternates not permitted unless noted below.

Item Description	Preferred Manufacturer and Catalog Series		Acceptable Alternative Manufacturers
Exit Devices	Sargent	80 Series x FW-ETL Trim Design	Corbin Russwin ED5000 Series x 900 Trim Design Yale 7000 Series x 600 Trim Design

Product notes and applications:

- Single doors: Use rim exit device.
- Pairs of doors: Use rim exit devices with keyed removable mullion.
- Cross corridor doors / Interior: Use vertical rod exit devices, less bottom rod as preferred securing device. Concealed rods on hollow metal doors, surface rods on wood doors.
- Exit device dogging: Cylinder in rail shall hold latch retracted to allow door to function as push pull. Omit on fire rated doors and when width of door is too narrow.
- Doors entering public occupied rooms off corridors: Use double cylinder exit devices on mortise and rim types. Outside trim can be locked from inside room. Exit device on inside allows free egress, but outside trim remains locked.
- Exterior doors: Pull trim preferred, free wheeling lever trim when lever is used.
- Provide exit device push bars, lever handles, and escutcheons with a silver ion based anti microbial finish.

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Substitutions or Alternates not permitted unless noted below.

Item Description	Preferred Manufacturer and Catalog Series		Acceptable Alternative Manufacturers
Removable Mullions	Sargent	L980S Series	Corbin Russwin KM Series Yale KRM100 Series

Product notes and applications:

- Types: Lockable, steel, key removable. Key is not required to reinstall the mullion.
- Provide multi wire connectors when electric or monitor strikes are used. This allows mullion removal without damaging electrical connections.
- Preferred method of securing exterior pairs of doors when using rim exit devices.
- Provide one (1) extra set of mullion fittings per mullion to mount nearby to secure mullion when out of the opening.

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Substitutions or Alternates not permitted unless noted below.

Item Description	Preferred Manufacturer and Catalog Series		Acceptable Alternative Manufacturers
Push/Pulls	Trimco	Bars1001 Series Push Plates 7191-3 Series Door Pulls 1660 Series Push/Pull Bars	<p style="text-align: center;">McKinney</p> P053 Series Push Plates OP4514 Series Door Pulls PB812 Series Push/Pull <p style="text-align: center;">Hiawatha</p>

Product notes and applications:

- Mounting methods to be concealed type wherever possible.
- Provide decorative thru bolts at free ends of push / pull bars and pulls when used with exit devices.
- Push plate size: 4” x 16” minimum, except when limited by door stile.
- Provide Push / Pulls with a silver ion based anti-microbial finish.

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Substitutions or Alternates not permitted unless noted below.

Item Description	Preferred Manufacturer and Catalog Series		Acceptable Alternative Manufacturers
Coordinators	McKinney	CSM Series Coordinator	Door Controls International 600 Series Rockwood 1600 Series Coordinator Trimco 3094 Series Coordinator

Product notes and applications:

- Provide filler bars for total opening width, closer mounting brackets, carry bars, and special preparation for top latches where applicable.

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Substitutions or Alternates not permitted unless noted below.

Item Description	Preferred Manufacturer and Catalog Series		Acceptable Alternative Manufacturers
Door Closers	Sargent	1431/351 Series	Corbin Russwin DC3000/DC6000 Series Yale 3501/4400 Series

Product notes and applications:

- Closers shall have non-ferrous covers, heavy duty forged steel arms, and separate valves for adjusting backcheck, delayed action, closing and latching cycles and adjustable spring to provide sizes 1 through 6.
- Provide non-sized closers, adjustable to meet maximum opening force requirements of ADA.
- Provide drop plates, brackets, or adapters for arms as required to suit details.
- Mount closers on room side of corridor doors and inside of exterior doors. Where possible install closers on door for optimum aesthetics.
- Provide forged heavy duty parallel arms. Non-hold open types.

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Substitutions or Alternates not permitted unless noted below.

Item Description	Preferred Manufacturer and Catalog Series		Acceptable Alternative Manufacturers
Floor Mounted Door Closers	Rixson	Heavy Duty Series Floor Closer	None

Product notes and applications:

- Consult factory catalog to determine product application.
- Floor Closers to have separate and independent adjustable valves to control closing speed, latch speed, and backcheck.
- Provide a 185 Series Quickspotter Installation Kit, by RIXSON to assist floor closer installation.
- Provide sealed closer kit for applications where water contact may occur.

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Substitutions or Alternates not permitted unless noted below.

Item Description	Preferred Manufacturer and Catalog Series		Acceptable Alternative Manufacturers
Low Energy Operators	Sargent	MP4000 Series	Norton 6900 Series

Product notes and applications:

- Provide wall-mounted actuator switches by the same manufacturer as the operator. Provide weather-resistant types at exterior applications. Locate in accordance with ANSI A117.1.
- Conform to ANSI/BHMA standard A156.19 and meet UL requirements for fire rated openings.

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Substitutions or Alternates not permitted unless noted below.

Item Description	Preferred Manufacturer and Catalog Series		Acceptable Alternative Manufacturers
Protection Plates	Trimco	K0050 Series Protection Plates KE31-1 Series Edge Guards	McKinney KP50 Series Protection Plates EG01 Series Edge Guards Hiawatha

Product notes and applications:

- Size: Kick plates 8” high, Mop plates 6” high, Armor plates 36” high.
- Width: 2” less door width (LDW) at single doors when mounted on push side. 1” LDW at pairs and when mounted on pull side.
- Material: Stainless steel 0.050” thick with countersunk holes, beveled four edges (B4E).

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Substitutions or Alternates not permitted unless noted below.

Item Description	Preferred Manufacturer and Catalog Series		Acceptable Alternative Manufacturers
Overhead Stops / Holders	Sargent	590 Series 690 Series 1540 Series	Rixson 9 Series 1 Series 3 Series

Product notes and applications:

- Install overhead stops where conditions limit the use of wall stops and floor stops would be a tripping hazard.
- Use special template closers to allow offset arms for surface applied stops.

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Substitutions or Alternates not permitted unless noted below.

Item Description	Preferred Manufacturer and Catalog Series		Acceptable Alternative Manufacturers
Wall and Floor Stops	Trimco	1270 Series Wall Stop 1200 Series Floor Stop 1254 Series Door Stop/Holder	McKinney WS03 Series Wall Stop FS01 Series Floor Stop ADH01 Series Door Stop/Holder DCI

Product notes and applications:

- All stops shall be cast. Wrought stops are not acceptable.

Door and Hardware Specification Guideline

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Substitutions or Alternates not permitted unless noted below.

Item Description	Preferred Manufacturer and Catalog Series		Acceptable Alternative Manufacturers
Thresholds and Gasketing	Zero		Pemko McKinney

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Substitutions or Alternates not permitted unless noted below.

Item Description	Preferred Manufacturer and Catalog Series	Acceptable Alternative Manufacturers
Key Cabinet	Lund	Telkee Aladin

Product notes and applications:

- Provide wall mounted key cabinet with one hook for each lock or cylinder plus an additional 50 percent expansion.
- Key cabinet shall be set up and indexed ready for owner's use.

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SPECIFICATION GUIDELINE SECTION 08710 – DOOR HARDWARE

Substitutions or Alternates not permitted unless noted below.

FINISHES AND BASE MATERIALS:

- A. **BASE METALS:** Produce door hardware units of base metal, fabricated by forming method indicated, using manufacturer's standard metal alloy, composition, temper, and hardness. Furnish metals of a quality equal to or greater than that of specified door hardware units and BHMA A156.18 for finishes.
- B. **FINISHES:** **Verify requirements for individual projects**
1. Standard: Comply with BHMA A156.18.
 2. BHMA Designations: Comply with base material and finish requirements indicated by the following:
 - a. BHMA 600 (USP): Primed for painting, over steel base metal.
 - b. BHMA 626 (US26D): Satin chromium plated over nickel, over brass or bronze base metal.
 - c. BHMA 628 (US28): Satin aluminum, clear anodized, over aluminum base metal.
 - d. BHMA 630 (US32D): Satin stainless steel, over stainless-steel base metal.
 - e. BHMA 652 (US26D): Satin chromium plated over nickel, over steel base metal.
 - f. BHMA 689 (ALUM): Aluminum painted, over any base metal.

Door and Hardware Specification Guideline

C. FINISH SCHEDULE:

<u>HARDWARE ITEM</u>	<u>FINISH AND BASE MATERIAL</u>
1. Exterior Butt Hinges:	BHMA 626 (US26D)
2. Interior Butt Hinges:	BHMA 652 (US26D)
3. Continuous Gear Hinges:	BHMA 628 (US28)
4. Pivot Sets:	BHMA 626 (US26D)
5. Flush Bolts:	BHMA 626 (US26D)
6. Locks and Latches:	BHMA 626 (US26D)
7. Cylinders:	BHMA 626 (US26D)
8. Exit Devices	BHMA 630 (US32D)
9. Removable Mullions	BHMA 600 (USP)
10. Push / Pulls:	BHMA 630 (US32D)
11. Coordinators:	BHMA 600 (USP)
12. Closers:	BHMA 689 (ALUM)
13. Automatic Operators:	BHMA 689 (ALUM)
14. Protection Plates:	BHMA 630 (US32D)
15. Overhead Stops / Holders:	BHMA 626 (US26D)
16. Wall and Floor Stops:	BHMA 626 (US26D)
17. Magnetic Holders:	BHMA 628 (US28)
18. Thresholds and Gasketing:	BHMA 628 (US28)
19. Key Cabinet:	BHMA 600 (USP)
20. Electric Strikes:	BHMA 630 (US32D)
21. Magnetic Locks:	BHMA 630 (US32D)