

DIVISION 8 DOORS AND WINDOWS**SECTION 08111 STANDARD STEEL DOORS****PART 1 GENERAL****1.1 SECTION INCLUDES**

- A. Non-rated and thermally insulated steel doors.

1.2 RELATED SECTIONS

- A. Section 08112 - Standard Steel Frames.
- B. Section 08710 - Door Hardware.
- C. Section 09900 - Painting: Field painting of doors.

1.3 REFERENCES

- A. ANSI A117.1 - Specifications for Making Buildings and Facilities Accessible to and Usable by Physically Handicapped People.
- B. ASTM A525 - Steel Sheet, Zinc-Coated (Galvanized) by the Hot-Dip Process.
- C. ASTM A525M - Steel Sheet, Zinc-Coated (Galvanized) by the Hot-Dip Process [Metric].
- D. ASTM C236 - Test Method for Steady-State Thermal Performance of Building Assemblies by Means of a Guarded Hot-Box.
- E. ASTM E 330- Standard Test Method for Structural Performance of Exterior Window, Door by Uniform Static Air Pressure Difference.
- E. ASTM E 1886 - Standard Test Method for Performance of Exterior Windows, Curtain Walls, Doors, and Impact Protection Systems Impacted by Missiles and Exposed to Cyclic Pressure Differentials.
- F. ASTM E 1996 - Standard Specification for Performance of Exterior Windows, Curtain Walls, Doors and Impact Protective Systems Impacted by Windborne Debris in Hurricanes.
- G. DHI (Door Hardware Institute) - The Installation of Commercial Steel Doors and Steel Frames, Insulated Steel Doors in Wood Frames and Builder's Hardware.
- H. SDI-100 - Standard Steel Doors and Frames.

1.4 SUBMITTALS FOR REVIEW

- A. Section 01300 - Submittals: Procedures for submittals.
- B. Product Data: Indicate door configurations, location of cut-outs for hardware reinforcement.

- C. Shop Drawings: Indicate door elevations, internal reinforcement, closure method, and finishes.

1.5 QUALITY ASSURANCE

- A. Conform to requirements of SDI-100 and ANSI A117.1.
- B. Manufacturer: Company specializing in manufacturing the Products specified in this section with minimum three years experience.

1.6 DELIVERY, STORAGE, AND PROTECTION

- A. Section 01600 - Material and Equipment: Transport, handle, store, and protect products.
- B. Accept doors on site in manufacturer's packaging. Inspect for damage.
- C. Break seal on site to permit ventilation.

1.7 PROJECT CONDITIONS

- A. Section 01039 - Coordination and Meetings.
- B. Coordinate frame installation with size, location, and installation of service utilities.
- C. Coordinate the work with door opening construction, door frame, and door hardware installation.
- E. Comply with building code hurricane requirement. If required by local Building Official provide certificate of compliance.

PART 2 PRODUCTS

2.1 DOOR MANUFACTURERS

- A. Ceco Door Products
- B. Republic
- C. Steelcraft
- D. Section 01600 - Material and Equipment: Product options and substitutions. Substitutions: Permitted.

2.2 DOORS

- A. Exterior Doors (insulated): SDI-100 Grade III, Model 2, and hurricane ASTM / 330 / E 1886 / E 1996.
- B. Interior Doors (Non-rated): SDI-100 Grade II, Model 2.

2.3 DOOR CONSTRUCTION

- A. Face: Steel sheet in accordance with SDI-100.

- B. End Closure: Channel, 0.047 inches thick, flush.
- C. Core: Polyurethane.
- D. Thermal Insulated Door: Total insulation R value of 10, measured in accordance with ASTM C236.

2.4 ACCESSORIES

- A. Primer: Zinc chromate type.

2.5 FABRICATION

- A. Fabricate doors with hardware reinforcement welded in place.
- B. Configure exterior doors with special profile to receive recessed weatherstripping.

2.6 FINISH

- A. Steel Sheet: Galvanized to ASTM A525 A60 (ASTM A525M ZF180).
- B. Primer: Baked.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Section 01039 - Coordination and Meetings: Verification of existing conditions before starting work.
- B. Verify that opening sizes and tolerances are acceptable.

3.2 INSTALLATION

- A. Install doors in accordance with SDI-100 and DHI.
- B. Coordinate installation of glass and glazing.
- C. Install door louvers, plumb and level.
- D. Coordinate installation of doors with installation of frames specified in Section 08112 and hardware specified in Section 08710.

3.3 ERECTION TOLERANCES

- A. Maximum Diagonal Distortion: 1/16 inch measured with straight edge, corner to corner.

3.4 ADJUSTING

- A. Section 01700 - Contract Closeout; 01650 - Starting of Systems: Adjusting installed work.

- B. Adjust door for smooth and balanced door movement.

END OF SECTION

SECTION 08112 STANDARD STEEL FRAMES**PART 1 GENERAL****1.1 SECTION INCLUDES**

- A. Non-rated, fire rated and thermally insulated steel frames.
- B. Interior glazed light frames.

1.2 RELATED SECTIONS

- A. Section 04100 - Mortar and Masonry Grout: Masonry grout fill of metal frames.
- B. Section 08111 - Standard Steel Doors.
- C. Section 08710 - Door Hardware: Hardware, silencers, and weatherstripping.
- D. Section 08800 - Glazing.
- F. Section 04300 - Unit Masonry System: Placement of anchors into wall construction.
- G. Section 09260 - Gypsum Board Systems: Placement of anchors into wall construction.

1.3.1 REFERENCES

- A. ASTM A525 - Steel Sheet, Zinc-Coated (Galvanized) by the Hot-Dip Process.
- B. ASTM A525 M - Steel Sheet, Zinc-Coated (Galvanized) by the Hot-Dip Process.
- C. ASTM E152 - Methods of Fire Tests of Door Assemblies. ASTM E 1886 - Standard Test Method for Performance of Exterior Windows, Curtain Walls, Doors, and Impact Protection Systems Impacted by Missiles and Exposed to Cyclic Pressure Differentials.
- D. ASTM E 330- Standard Test Method for Structural Performance of Exterior Window, Door by Uniform Static Air Pressure Difference.
- I. ASTM E 1996 - Standard Specification for Performance of Exterior Windows, Curtain Walls, Doors and Impact Protective Systems Impacted by Windborne Debris in Hurricanes.
- E. DHI - Door Hardware Institute: The Installation of Commercial Steel Doors and Steel Frames, Insulated Steel Doors in Wood Frames and Builder's Hardware.
- F. NFPA 80 - Fire Doors and Windows.
- G. SDI-100 - Standard Steel Doors and Frames.

1.4 SUBMITTALS FOR REVIEW

- A. Section 01300 - Submittals: Procedures for submittals.

- B. Product Data: Indicate frame configuration and finishes.
- C. Shop Drawings: Indicate frame elevations, reinforcement, anchor types and spacings, location of cut-outs for hardware, and finish.

1.5 QUALITY ASSURANCE

- A. Conform to requirements of SDI-100 and ANSI A117.1.
- B. Manufacturer: Company specializing in manufacturing the Products specified in this section with minimum three years experience.

1.6 REGULATORY REQUIREMENTS

- A. Fire Rated Frame Construction: Conform to ASTM E152.
- B. Installed Frame Assembly: Conform to NFPA 80 for fire rated class same as fire door.
- C. Comply with building code requirements for hurricane requirement. If required furnish certificate of compliance to local Building Official.

1.7 DELIVERY, STORAGE, AND PROTECTION

- A. Section 01600 - Material and Equipment: Transport, handle, store, and protect products.
- B. Accept frames on site in manufacturer's packaging. Inspect for damage.

1.8 PROJECT CONDITIONS

- A. Section 01039 - Coordination and Meetings.
- B. Coordinate the work with frame opening construction, door, and hardware installation.

PART 2 PRODUCTS

2.1 FRAME MANUFACTURERS

- A. Ceco Door Products
- B. Republic
- C. Steelcraft
- D. Section 01600 - Materials and Equipment: Product options and substitutions. Substitutions: Permitted.

2.2 FRAMES

- A. Exterior Frames: Grade III for Door type 2, metal 0.67inch base metal thickness, ASTM E 330 / E 1886 / E 1996.

- B. Interior Frames: Grade II for Door Type 2, 0.058-inch thick material, base metal thickness.

2.3 ACCESSORIES

- A. Bituminous Coating: Fibered asphalt emulsion.
- B. Primer: Zinc chromate type.
- C. Silencers: Resilient rubber set in steel fitted into drilled hole.
- D. Weatherstripping: Specified in Section 08710.

2.4 FABRICATION

- A. Fabricate frames as welded unit for gypsum board slip on type.
- B. Mullions for Double Doors: Fixed type, of same profiles as jambs.
- C. Transom Bars for Glazed Lights: Fixed type, of same profiles as jamb and head.
- D. Fabricate frames with hardware reinforcement plates welded in place. Provide mortar guard boxes.
- E. Reinforce frames wider than 48 inches with roll formed steel channels fitted tightly into frame head, flush with top.
- F. Prepare frames for silencers. Provide three single silencers for single doors on strike side. Provide two single silencers on frame head at double doors without mullions.
- G. Configure exterior frames with special profile to receive recessed weatherstripping.
- H. Attach fire rated label to each fire rated door unit.
- I. Fabricate frames to suit masonry wall coursing with 4-inch head member.

2.5 FINISH

- A. Steel Sheet: Galvanized to ASTM A525 A60 (ASTM A525M Z180).
- B. Primer: Baked.
- C. Coat inside of frame profiles with bituminous coating to a thickness of 1/16 inch.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Section 01039 - Coordination and Meetings: Verification of existing conditions before starting work.
- B. Verify that opening sizes and tolerances are acceptable.

3.2 INSTALLATION

- A. Install frames in accordance with SDI-100 and DHI.
- B. Coordinate with masonry and gypsum board wall construction for anchor placement.
- C. Coordinate installation of frames with installation of hardware specified in Section 08710 and doors in Section 08112.

3.3 ERECTION TOLERANCES

- A. Maximum Diagonal Distortion: 1/16 inch measured with straight edges, crossed corner to corner.

END OF SECTION

SECTION 08211 FLUSH WOOD DOORS**PART 1 GENERAL****1.1 SECTION INCLUDES**

- A. Flush wood doors; flush and flush glazed configuration; fire rated and non-rated.

1.2 RELATED SECTIONS

- A. Section 06114 - Wood Blocking and Curbing: Wood Blocking.
- B. Section 08710 - Door Hardware.
- C. Section 08800 - Glazing.
- C. Section 09900 - Painting: Site finishing of doors.

1.3 REFERENCES

- A. ASTM E152 - Methods of Fire Tests of Door Assemblies.
- B. AWI - Quality Standards of the Architectural Woodwork Institute.
- C. HPMA HP - Hardwood and Decorative Plywood.
- D. NFPA 80 - Fire Doors and Windows.

1.4 SUBMITTALS FOR REVIEW

- A. Section 01300 - Submittals: Procedures for submittals.
- B. Product Data: Indicate door core materials and construction; veneer species, type and characteristics.
- C. Shop Drawings: Illustrate door opening criteria, elevations, sizes, types, swings, undercuts required, special beveling, special blocking for hardware, factory machining criteria, factory finishing criteria, identify cutouts for glazing and louvers.

1.5 QUALITY ASSURANCE

- A. Perform work in accordance with AWI Quality Standard Section 1300, Custom Grade.

1.6 REGULATORY REQUIREMENTS

- A. Fire Door and Panel Construction: Conform to ASTM E152.
- B. Installed Fire Rated Door Assembly: Conform to NFPA 80 for fire rated class as scheduled.

1.7 DELIVERY, STORAGE, AND PROTECTION

- A. Section 01600 - Material and Equipment: Transport, handle, store, and protect products.

- B. Accept doors on site in manufacturer's packaging. Inspect for damage.

1.8 PROJECT CONDITIONS

- A. Section 01039 - Coordination and Meetings.
- B. Coordinate the work with door opening construction, doorframe and door hardware installation.

1.9 WARRANTY

- A. Section 01700 - Contract Closeout.
- B. Provide warranty to the following term: Interior solid core life of original installation.
- C. Include coverage for delimitation of veneer, warping beyond specified installation tolerances, defective materials, and telegraphing core construction.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Algoma Hardwoods, Inc.
- B. Eggers Hardwood Products Corporation.
- C. Oshkosh Architectural Door Company (Fenestra).
- D. Weyerhaeuser Company.
- F. Section 01600 - Material and Equipment: Product options and substitutions. Substitutions: Permitted.

2.2 DOOR TYPES

- A. Flush Interior Doors: 1-3/4 inches thick; solid core construction, fire rated, acoustic rated as indicated.

2.3 DOOR CONSTRUCTION

- A. Core (Solid, Non-Rated): AWI Section 1300, Type SLC-7 ME - Stave Lumber.
- B. Core (Solid, Fire Rated): AWI Section 1300, Type FD 1-1/2, FD 1, FD 3/4, FD 1/2 and FD 1/3.

2.4 FLUSH DOOR FACING

- A. Veneer Facing (transparent finish): AWI Premium quality; birch species wood plain sliced; book matched leaves; center matched faces.
- B. Facing (paint finish): AWI Premium quality; medium density overlay meeting government standard PS174; Overlay shall be readily sandable, weatherproof, and carry a Class B Fire Rating.

2.5 ADHESIVE

- A. Facing Adhesive: Type II - water-resistant.

2.6 ACCESSORIES

- A. Metal Louvers: Specified in Section 10255.
- B. Glazing Stops: Wood with metal clips for rated doors, channel shape, mitered corners; prepared for countersink style tamper proof screws.

2.7 FABRICATION

- A. Fabricate non-rated doors in accordance with AWI Quality Standards requirements.
- B. Fabricate fire rated doors in accordance with AWI Quality Standards and to UL requirements. Attach fire-rating label to door.
- C. Provide lock blocks at lock edge and top of door for closer for hardware reinforcement.
- D. Fit door edge trim to edge of stiles after applying veneer facing.
- E. Bond edge banding to cores.
- F. Factory machine doors for finish hardware in accordance with hardware requirements and dimensions. Do not machine for surface hardware. Provide solid blocking for through bolted hardware.
- G. Factory fit doors for frame opening dimensions identified on shop drawings.
- H. Cut and configure exterior door edge to receive recessed weather stripping devices.
- I. Provide edge clearances in accordance with AWI 1600.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Section 01039 - Coordination and Meetings: Verification of existing conditions before starting work.
- B. Verify that opening sizes and tolerances are acceptable.
- C. Do not install doors in frame openings that are not plumb or are out-of-tolerance for size or alignment.

3.2 INSTALLATION

- A. Install doors in accordance with manufacturer's instructions.
- B. Trim non-rated door width by cutting equally on both jamb edges.
- C. Trim door height by cutting bottom edges to a maximum of 3/4 inch. Trim fire door height at bottom edge only, in accordance with fire rating requirements.
- D. Machine cut for hardware.

- D. Coordinate installation of doors with installation of frames specified in Section 06200 and hardware specified in Section 08710.
- E. Coordinate installation of glass and glazing.
- G. Install door louvers plumb and level.

3.3 INSTALLATION TOLERANCES

- A. Maximum Diagonal Distortion (Warp): 1/8 inch measured with straight edge or taut string, corner to corner, over an imaginary 36 x 84 inches surface area.
- B. Maximum Vertical Distortion (Bow): 1/8 inch measured with straight edge or taut string, top to bottom, over an imaginary 36 x 84 inches surface area.
- C. Maximum Width Distortion (Cup): 1/8 inch measured with straight edge or taut string, edge to edge, over an imaginary 36 x 84 inches surface area.

3.4 ADJUSTING

- A. Section 01700 - Contract Closeout: Adjusting installed work.
- C. Adjust door for smooth and balanced door movement.
- D. Adjust closer for full closure.

END OF SECTION

SECTION 08331 COILING COUNTER DOORS**PART 1 GENERAL****1.1 SECTION INCLUDES**

- A. Overhead coiling steel factory finished counter door.
- B. Operating hardware for manual operation.

1.2 SYSTEM DESCRIPTION

- A. Manual push up unit.
- B. Coiling Door surface mounted.

1.3 SUBMITTALS FOR REVIEW

- A. Section 01300 - Submittals: Procedures for submittals.
- B. Product Data: Provide general construction, component connections and details.
- C. Shop Drawings: Indicate pertinent dimensioning, anchorage methods, hardware locations, and installation details.

PART 2 PRODUCTS**2.1 MANUFACTURERS**

- A. Manufacturer: The Cookson Company, Phoenix, Arizona.
- B. Model: Series CD 8.

2.2 MATERIALS

- A. The door curtain shall be constructed of interconnected .050 extruded aluminum No. 8 (1-5/16" high by 3/8" deep) slats as designated by The Cookson Company. The curtain shall receive a 204-R1 clear anodized finish.
- B. The bottom bar shall be constructed of tubular extruded aluminum measuring 1-5/16" deep by 2-1/4" high with a double vinyl astragal on the bottom edge. The bottom bar shall receive a 204-R1 clear anodized finish.
- C. The guides shall be constructed of extruded aluminum and measures 1-3/4" square. Each side of the channel portion capturing the curtain shall contain wool pile weatherstripping. The guides shall receive a 204-R1 clear anodized finish.
- D. The brackets shall be constructed of 3/16" thick die cast aluminum.
- E. The barrel shall be steel tubing of not less than 4" in diameter. Oil tempered torsion springs shall be capable of correctly counter balancing the weight of the curtain. The barrel shall be designed to limit the maximum deflection to .03" per foot of opening width. The barrel shall receive one (1) coat of bronze rust-inhibiting prime paint.

- F. The hood shall be fabricated from .040 aluminum and shall be formed to fit the square brackets. The hood shall receive a 204-R1 clear anodized finish.

2.3 OPERATION

- A. Push-up operated doors shall open and close with a maximum of 30 pounds of effort utilizing finger lifts in the bottom bar.

2.4 LOCKING MECHANISMS

- A. The push-up doors shall be secured by means of a concealed sliding bolt deadlock in the bottom bar operated by a thumbturn.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Section 01039 - Coordination and Meetings: Verification of existing conditions before starting work.
- B. Verify that opening sizes, tolerances and conditions are acceptable.

3.2 INSTALLATION

- A. Install door unit assembly in accordance with manufacturer's instructions.
- B. Use anchorage devices to securely fasten assembly to wall construction and building framing without distortion or stress.
- C. Securely and rigidly brace components suspended from structure. Secure guides to structural members only.
- D. Fit and align assembly including hardware; level and plumb, to provide smooth operation.
- E. Coordinate installation of sealants and backing materials at frame perimeter as specified in Section 07900.
- F. Install perimeter trim and closures.

3.3 ERECTION TOLERANCES

- A. Section 01400 - Quality Control: Tolerances.
- B. Maintain dimensional tolerances and alignment with adjacent work.
- C. Maximum Variation from Plumb: 1/16 inch.
- D. Maximum Variation from Level: 1/16 inch.
- E. Longitudinal or Diagonal Warp: Plus or minus 1/8 inch per 10-ft straight edge.

3.4 ADJUSTING

- A. Section 01700 - Contract Closeout: Adjusting installed work.

- B. Adjust door, hardware and operating assemblies for smooth and noiseless operation.

3.5 CLEANING

- A. Section 01700 - Contract Closeout: Cleaning installed work.
- B. Clean door and components.
- C. Remove labels and visible markings.

END OF SECTION



SECTION 08530 ALUMINUM PASS THROUGH SERVICE WINDOWS**PART 1 GENERAL****1.01 WORK INCLUDED**

- A. Furnish and install aluminum pass through windows complete with hardware and related components as shown on drawings and specified in this section.

1.02 RELATED WORK

- A. Section 06114 Wood Blocking and Curbing.

1.03 SUBMITTALS

- A. Section 01300 - Submittals: Procedures for submittals.
- B. Product Data: Provide component dimensions, describe components within assembly, anchorage and fasteners, glass and infill, door hardware, and internal drainage details.
- C. Design Data: Provide framing member structural and physical characteristics, dimensional limitations.
- D. Shop Drawings: Indicate system dimensions, framed opening requirements and tolerances, affected related Work.

1.04 DELIVERY, STORAGE, AND PROTECTION

- A. Section 01600 - Material and Equipment: Transport, handle, store, and protect products.
- B. Protect factory finished aluminum surfaces with wrapping or strippable coating. Do not use adhesive papers or sprayed coatings that bond when exposed to sunlight or weather.

1.05 WARRANTY

- A. Section 01700 - Contract Closeout.
- B. Correct defective Work within a five-year period after Date of Substantial Completion.
- C. Provide five year manufacturer warranty.
- D. Warranty: Include coverage for degradation of color finish.

PART 2 PRODUCTS**2.01 MANUFACTURERS / MODLEL.**

- A. Quikserv (1-800-388-8307) (www.quiksev.com): Model SC-4030-B or approved equal.

2.02 PRODUCT DESCRIPTION

- A. Self -closing horizontal sliders meeting heath code requirements.

- B. Stainless steel base with top hung ball bearing gliding sliders.
- C. Glass: 5/8" laminated safety glass.
- D. Finish color: bronze.

PART 3 EXECUTION

3.01 INSPECTION

- A. Job Conditions: Verify that openings are dimensionally within allowable tolerances, plumb, level, clean, provide a solid anchoring surface and are in accordance with approved shop drawings.

3.02 INSTALLATION

- A. Use only skilled tradesmen with work done in accordance with approved shop drawings and specifications. Plumb and align window faces in a single plane for each wall plane and erect windows and materials square and true. Adequately anchor to maintain positions permanently when subjected to normal thermal movement, specified building movement, and specified wind loads.
- B. Adjust windows for proper operation after installation.
- C. Furnish and apply sealants to provide a weathertight installation at all joints and intersections and at opening perimeters. Wipe off excess material and leave all exposed surfaces and joints clean and smooth.

3.03 ADJUSTING AND CLEANING

- A. After completion of window installation, windows shall be inspected, adjusted, put into working order and left clean, free of labels, dirt, etc. Protection from this point shall be the responsibility of the general contractor.

END OF SECTION

SECTION 08710 FINISH HARDWARE**PART 1 GENERAL****1.01 SECTION INCLUDES**

- A. All items known commercially as Finish or Door Hardware.
- B. Thresholds and Weatherstripping/Door Seals.

1.02 RELATED SECTIONS

- A. Steel Doors and Frames 08100.
- B. Wood and Plastic Doors 08200.
- C. Entrances and Storefronts 08400.

1.03 REFERENCES

- A. BHMA (Builders Hardware Manufacturers Association) A156 series.
- B. DHI (Door and Hardware Institute) A115 series.
- C. SDI - 107 - 84 - Hardware on Steel Doors. (Reinforcement - Application)
- D. SDI - 109 - 88 - Hardware for Standard Steel Doors & Frames.
- E. NFPA - 80 - Fire Doors and Windows.
- F. NFPA - 101 - Life Safety Code.
- G. ADA - Americans with Disabilities Act.

1.04 SUBMITTALS

- A. Procedures of Division 1, Section 01330 - Submittal procedures apply to this section.
- B. Product Data - Submit two (2) copies of manufacturer's catalog sheets describing each item of hardware to be supplied.
- C. Schedules - Submit six (6) copies of hardware schedules for Architect's approval. Schedules are to include quantity, type, location finish and manufacturer of each item of hardware for each opening. Schedule may be horizontal or vertical format. No material is to be ordered until the submittal is approved. After approval, no substitutions will be allowed without the written approval of the Architect.
- D. Samples - If requested by the Architect, submit a sample of each hardware item in the design and finish to be used on the project. Samples may be used on the project provided they are undamaged during the submittal process.
- E. Templates - Furnish template information to the General Contractor for use by other trades in fabricating related materials.

- F. Project Closeout - On completion of the project, furnish one (1) copy of the "as furnished" hardware schedule along with one (1) copy each of the keying schedule, manufacturers maintenance instructions and any special tools which maybe required to maintain or adjust the hardware. In addition, furnish copies of all manufacturers' warranties for the owner's records.

1.05 QUALITY ASSURANCE

- A. The hardware supplier shall have been engaged in this business for a period of not less than five (5) years and shall have in its employ a full time, certified Architectural Hardware Consultant (AHC) or person of equivalent experience. This person shall be available to the Architect at reasonable times for consultation regarding the project. This supplier shall be a direct, factory authorized distributor for the manufacturer of the materials being furnished.
- B. The hardware manufacturer shall be a recognized firm regularly engaged in the manufacture and sale of finish hardware items.
- C. If required, the hardware supplier shall furnish certification and documentation that his materials meet all physical and environmental requirements of the project.
- D. As near as possible obtain each type of hardware (hinges, locks, closers, etc) from a single manufacturer.
- E. Provide hardware for fire rated openings that complies with the requirements of NFPA 80 and authorities having jurisdiction. Provide only items of door hardware that have been tested and listed by UL, FM, Warnock-Hersey or other testing organization acceptable to the authorities having jurisdiction.
- F. All hardware shall meet the requirements set forth in the Americans with Disabilities Act (ADA) and state and local handicapped codes.

1.06 DELIVERY, STORAGE AND PROTECTION

- A. Section 01600 pertaining to transportation, handling and storage of project materials applies to this section.
- B. Package each item individually. Label and clearly identify each package with item nomenclature and door opening. Correlate all markings and opening numbers to match the hardware schedule.
- C. The General Contractor is to provide a secure, locked storage area for all items delivered to the job site.
- E. The General Contractor shall inventory all items delivered to the job site within forty-eight hours and advise the supplier immediately of any shortages.

1.07 PROJECT CONDITIONS

- A. The General Contractor will coordinate the work between this supplier and other related sections such as hollow metal and wood door suppliers to insure proper manufacture and fabrication of doors to receive the approved hardware.

1.08 WARRANTY

- A. All hardware items are to be warranted for a period of one (1) year from date of substantial project completion. Door closers are to be warranted for five (5) years.
- B. Warranty is to cover failure due to manufacturing defects or material failure only. It shall not cover abuse, vandalism, improper installation or maintenance. Defective materials are to be replaced at no cost to the owner.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Products specified for this project are taken from the catalogs of the manufacturers listed. Certain manufacturers and products are considered proprietary to this project and no substitutions will be allowed or considered. On items where more than one manufacturer is acceptable, the manufacturer and item listed first will be considered the standard. Products by the other listed manufacturers are acceptable provided they are the same in appearance, materials, fabrication and finish.
- B. Listed below are products and manufacturers selected for this project. Specific information such as lock functions, closer types and mounting and kickplate sizes are shown in the hardware sets at the end of the section.

1. Hinges

<u>MFG'R</u>	<u>ITEM</u>	<u>FINISH</u>
a. Hager	BB1199/BB1191/BB1168/BB1279/1279	US32D/US26D
b. McKinney	T4A3386/TA2314/T4A3786/TA2714/T2714	US32D/US26D
c. Stanley	FBB199/FBB191/FBB168/FBB179/F179	US32D/US26D

2. Locks and Cylinders

<u>MFG'R</u>	<u>ITEM</u>	<u>FINISH</u>
a. Best Access Controls	83K/93K SERIES, 4A/14D DESIGN 1E72/1E74	US32D/US26D US32D/US26D

3. Exit Devices

<u>MFG'R</u>	<u>ITEM</u>	<u>FINISH</u>
a. Von Duprin	98/98L- F SERIES, 696/994L(17) DESIGN	US32D
b. Sargent	8800/12-8800 SERIES, FLL/ETP DESIGN	US32D

4. Closers

<u>MFG'R</u>	<u>ITEM</u>	<u>FINISH</u>
a. LCN	4041 SERIES	ALUM
b. Sargent	281 SERIES	EN

5. Bolts

<u>MFG'R</u>	<u>ITEM</u>	<u>FINISH</u>
a. Hager	294D/282D/279D/280X	US26D
b. Trimco	3825/3917/3920/3910	US26D

c. Rockwood 1942/555/630/1880 US26D

6. Push/Pull/Kickplates

<u>MFG'R</u>	<u>ITEM</u>	<u>FINISH</u>
a. Hager	30S/31G/190S	US32D
b. Trimco	1001-3/1014-3B/K0050	US32D
c. Rockwood	70C/70C X 126/K1050	US32D

7. Overhead Stops and Holders

<u>MFG'R</u>	<u>ITEM</u>	<u>FINISH</u>
a. Glynn-Johnson	450/900 SERIES	US26D/US32D
b. ABH	4400/9000 SERIES	US26D/US32D
c. Rixson	10-000/9-000 SERIES	US26D/US32D

8. Stops and Miscellaneous Items

<u>MFG'R</u>	<u>ITEM</u>	<u>FINISH</u>
a. Hager	269F/232W/236W/241F	US2C/US32D/US26D
b. Trimco	1209/W1274CS/W1274CCS/W1210	US2C/US32D/US26D
c. Rockwood	462/406/409/440	US2C/US32D/US26D

9. Thresholds and Weatherstripping

<u>MFG'R</u>	<u>ITEM</u>	<u>FINISH</u>
a. Pemko	SEE SCHEDULED ITEMS	ALUM/DKBN/WHITE
b. National Guard	EQUAL TO SCHEDULED ITEM	ALUM/DKBN/WHITE
c. Reese	EQUAL TO SCHEDULED ITEM	ALUM/DKBN/WHITE

- C. Substitutions - Substitutions from the listed manufacturers and products without prior approval of the architect are not permitted. Suppliers desiring to bid products not listed must make written application to the Architect no less than seven (7) working days prior to the bid date. Applications must be accompanied by manufacturer's complete literature and/or samples to allow the Architect to make an informed decision. Verbal requests will not be considered. Approval of alternate manufacturers products will be by addendum at least two (2) days prior to bid date to insure an equitable competitive situation for all bidders.

2.02 MATERIALS AND FABRICATION

- A. Base Metals: Produce hardware units of basic metal and forming method indicated using manufacturer's standard metal alloy, composition, temper, and hardness, but in no case of lesser (commercially recognized) quality than specified for applicable hardware units for finish designations indicated.
- B. Fasteners: Provide hardware manufactured to conform to published templates, generally prepared for machine screw installation. Do not provide hardware that has been prepared for self-tapping sheet metal screws, except as specifically indicated.
- C. Furnish screws for installation with each hardware item. Provide Phillips flat-head screws except as otherwise indicated. Finish exposed (exposed under any condition) screws to match hardware finish