



Nova Southeastern University (NSU)
Office of Facilities Management – Public Safety Department
Physical Security Division – Locksmith Operations

Policy and Procedures Date: July 1st, 2016 - Version 1.0
Subject: Nova Southeastern University-Door and Locking Hardware Standards

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1. Purpose

This is a statement of policy that identifies criteria for the design of exterior and interior openings in Nova Southeastern University (NSU) buildings and properties with the purpose of establishing minimum standards, acceptable to Nova Southeastern University. These standards are to be used as the basis of design for all NSU properties. NSU’s has had experiences with various materials, products and installations that have led to the procedures and practices noted under this Division 08. The openings protection systems/products provided under this division must be selected to provide weather tight and thermally efficient building envelope work environment for the occupants in a sustainable and reliable design.

Openings must be designed to comply with the following objectives:

1. Sustainable Design and products under the criteria to meet LEED “silver” standards as a minimum to reduce the total building energy consumption.
2. Weatherproof impact resistant exterior openings. Openings that provide Hurricane and puncture resistance with the ability to comply high velocity wind zone (HVWZ) requirements.
3. Sustainable Design, using sustainable products.
4. Ease of maintenance.
5. User Comfort.
6. Solutions with the best value considering a life cycle cost analysis to account for total project cost.
7. Provide Miami-Dade County Product Approvals (NOA) or State of Florida Product Approval data for all exterior doors and openings including louvers.

These objectives are in line with the objectives of all Divisions and should be coordinated with requirements in Division 1 Section “SUSTAINABLE DESIGN REQUIREMENTS.”

2. DIVISION 08 OPENINGS

08.00.00 General Requirements

- 08.00.00.01 Generally, select materials, products and design assemblies to withstand abuse, high frequency use, and minimal maintenance.
- 08.00.00.02 Number all door openings, lockable mechanical chase doors, roll-down doors, and roof access hatches or doors. Number in accordance with room or area number. If multiple doors for the same room, utilize decimal point system (i.e.: 201.1, 201.2, and 201.3). If remodeling an existing building, consult with owner’s representative to obtain existing room and door numbers.
- 08.00.00.03 Exterior doors must also be numbered. All room numbers and door numbers must be coordinated with owner before bid documents are issued.



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- 08.00.00.04 Provide vision panels in doors except at private offices and high security areas. Vision panels should be no more than 43 inches above the floor to be usable by persons with disabilities, in wheelchairs, and those of short stature. (This height will also allow exit devices to be mounted at approximately 40 inches above the floor.)
- 08.00.00.05 Provide wide openings for dock areas and for laboratories to accommodate moving of oversize equipment.
- 08.00.00.06 Wide openings may be accomplished by:
- a) A pair of doors both 3' wide with a SFIC 7 PIN Best Access Systems keyed removable/lockable mullion.
 - b) A pair of doors with minimum 3'-0" wide active leaf and minimum 1'-0" wide inactive leaf with manual flushbolts (Discuss required hardware with Owner's Representative).
- 08.00.00.07 Where possible, specify fire doors rated without astragals to avoid the use of coordinators.
- 08.00.00.08 Specify submissions of complete door and frame schedule showing door numbers, sizes, handing, etc. for approval.
- 08.00.11 Submittals**
- 08.00.11.01 The Design Professional must ensure that all submittals and shop drawings are coordinated with other disciplines. Submittals shall include product data, samples, sustainability data, shop drawings, certificates, design analysis, coordination drawings. ASCE-7 component and cladding wind velocity pressures calculations signed and sealed by a State of Florida Structural Engineer establishing wind pressures as per ASCE-7.
- 08.00.12 Workmanship Requirements**
- 08.00.12.01 Doors and windows are subject to vandalism and heavy usage. Safety, security and maintenance are important criteria for designing and specifying doors, windows and hardware. Refer to specific requirements included herein.
- 08.00.20 Codes and Standards**
- 08.00.21 Hollow Metal Doors, Overhead Coiling Doors, Overhead Coiling Fire Curtains, Folding Doors, Aluminum Framed Entrances and Storefronts, Glazed Aluminum Curtain Walls, Aluminum Windows, Door Hardware, Glazing, Mirrors and Fixed Louvers**
- 08.00.21.01 Florida Building Code.
- 08.00.21.02 American Society of Civil Engineers (ASCE-7) Building Component and Cladding Calculations.

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- 08.00.21.03 United Laboratories (UL) Standards
- 08.00.21.04 American Society for Testing and Materials (ASTM) Standards.
- 08.00.21.05 Standards included under each section.

08.00.30 Design Criteria

08.00.31 Hollow Metal Doors, Overhead Coiling Doors, Overhead Coiling Fire Curtains, Folding Doors, Aluminum Framed Entrances and Storefronts, Glazed Aluminum Curtain Walls, Aluminum Windows, Door Hardware, Glazing, Mirrors and Fixed Louvers

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08.10.00 Doors and Frames (General) Design Standards

- 08.10.00.01 General: This section provides guidelines for the selection of exterior and interior doors and frames.
- 08.10.00.02 General application shall be as follows, unless otherwise noted in project specific requirements:



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	Room Function	Door Type	Frame Type	Remarks
a)	Office	Solid core wood – Single	H.M. frame	Interior door
b)	Classroom - v1	Hollow Metal – Single	H.M. frame	Exterior Door
c)	Classroom - v2	Solid core wood – Single	H.M. frame	Interior Doors
d)	Lab - v1	Hollow Metal – Single	H.M. frame	Exterior or Interior Doors
e)	Lab - v2	Solid core wood – Single	H.M. frame	Interior Doors
f)	Mechanical Room - v1	Hollow Metal – Single	H.M. frame	Exterior or Interior Doors
g)	Mechanical Room - v2	Hollow Metal – Double	H.M. frame	Exterior or Interior Doors
h)	Electrical/Telecom/Data	Hollow Metal – Single	H.M. frame	Exterior or Interior Doors
i)	Main Entrances	Aluminum Framed Storefront	Aluminum storefront framing	Exterior Entrances

- 08.10.00.03 Provide door schedules for new or relocated doors affected by scope of work. Locate Door Schedule on the drawings and include the following.
- a) Door numbers.
 - b) Room numbers or space to be secured.
 - c) Width, height, and thickness of door.
 - d) Door swing indication.
 - e) Type of center mullion, if applicable.
 - f) Reference door type to door elevations.
 - g) Door material.
 - h) Frame type.
 - i) Frame material.
 - j) Reference to jamb, head, and threshold details.
 - k) Fire rating label where applicable.
 - l) Door Hardware set number as it appears in door hardware schedule.
 - m) Reference to Card access control if applicable.
 - n) Reference to electrified hardware preparation if applicable.
 - o) Reference to Power Assist Door Operator if applicable.
- 08.10.00.04 Card Reader Access – Coordinate with Nova Southeastern University for door card access selection and requirements per NSU security drawings which will include electrical requirements at specific locations.
- 08.10.00.05 All exterior doors and frames shall be designed to resist wind loads per Florida Building Code for High Velocity Hurricane Wind Zones. Coordinate all requirements of exterior door hardware with Florida Building Code Miami-Dade Product Approval (NOA.) or State of Florida Product Approvals.
- 08.10.00.06 Doors are subject to vandalism and heavy usage. The Architect shall consider the location and intended use of each door before its selection.



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- 08.10.00.07 Doors that are components of the means of egress shall comply with applicable Life Safety Codes.
- 08.10.00.08 Fire resistance ratings for exterior doors, shall meet the applicable fire separation requirements between buildings, pertaining to walls facing each other. Interior doors/frames located in fire/smoke rated assemblies shall provide the required rating to ensure the integrity of the entire assembly and an effective compartmentalization.
- 08.10.00.09 Provide required maneuvering clearances at doors to comply with accessibility requirements, and other guidelines of the ADA-Accessibility Guidelines and the Florida Accessibility Code for Building Construction Standards.
- 08.10.00.10 Doors shall swing in the direction of the path of egress (exit travel), unless they are located at spaces with a lower occupant load as permitted by code.
- 08.10.00.11 Doors opening into corridors or traffic patterns shall be recessed and not project into the corridor or traffic pattern, except at mechanical rooms, custodial closets, and other service spaces with low traffic.
- 08.10.00.12 All exterior doors shall be recessed or have a protective canopy or roof.
- 08.10.00.13 Particleboard is not allowed in wood door construction. Use wood doors in interior applications only.
- 08.10.00.14 All metal door frames in masonry walls and partitions shall be grout filled. Interior metal door frames in gypsum board partitions shall be filled with fiberglass or wool fiber insulation.
- 08.10.00.15 Sizes and Thickness: Typical size: 3'-0" wide x 7'-0" high; thickness: 1 3/4" thick, unless otherwise noted in specific application requirements. Wider doors are allowed to accommodate egress or equipment requirements.
- 08.10.00.16 Acoustical requirements: Doors requiring sound proofing over 38 STC shall be selected from manufacturer that provides door, frame and sound seals as a system.
- 08.10.00.17 Access doors shall be typically at least 18 inches by 18 inches for hand access. Coordinate with engineers for size requirements and locations.
- 08.10.00.18 Center Mullions: Interior or exterior pair of doors require fixed or removable steel center mullion, except at specific doors as required by the program, mechanical rooms and storage rooms. Permanent center mullions shall be grout filled in place and securely anchored. Removable mullions are required to be key controlled.
- 08.10.00.19 Vison Panels: Provide view panels at entrance doors according to program requirements. For security purposes, view panels shall not allow interior locking devices to be visible from the exterior.
 - a) Vison Panels at fire rated doors shall be glazed with fire rated glazing. Wire glass is not allowed.
 - b) Consult with Nova Southeastern University for the use of laminated security glazing over view vison panels at high security areas.
 - c) Vison Panels at acoustical doors shall be double glazed.

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- 08.10.00.20 Viewports: Provide viewports (peepholes), in accordance with program requirements, e.g. at computer doors, kitchen doors, etc. Consult with Nova Southeastern University (NSU).
- 08.10.00.21 The allowed width of clear glazing for continuously glazed door sidelights is not less than 8 inches and not more than 18 inches.
- 08.10.00.22 Before final design submittal, the Architect shall consult with the following:
- a) Nova Southeastern University security for the locations of card access control systems, motion detectors, and other security issues.
 - b) Nova Southeastern University - Maintenance for card access control systems and other specific hardware requirements.

08.11.13 Hollow Metal Doors and Frames
Design Standards

- 08.11.13.01 This section provides general guidelines for hollow metal doors and frames.
- 08.11.13.02 Select exterior doors and frames that have Miami-Dade Product Approval (NOA) Large Missile Impact Rating.
- 08.11.13.03 Installers must be authorized, certified, or licensed by door and frame manufacturer.
- 08.11.13.04 Coordination with door hardware is of utmost importance.

Product Standards

- 08.11.13.05 Materials:
- a) Exterior Doors and Frames: Metallic Coated Steel Sheet, G60.
 - b) Interior Doors and Frames: Cold-rolled steel sheet, unless metallic coated steel sheet is required due to corrosive environment.
- 08.11.13.06 Door Types: Doors must be seamless fully welded construction. Contract drawings shall include all required details and profiles.
- a) Exterior Entrance and Exit Doors shall be fabricated in accordance with ANSI/SDI A250.8. Level 4 Maximum Duty, Model 2 seamless. Exterior doors other than public entrance and exit doors shall be fabricated in accordance with ANSI/SDI-A250.8, Level 3, Extra Heavy Duty, Model 2 and seamless.
 - b) Interior Doors and Frames: Cold-rolled steel sheet, unless metallic coated steel sheet is required due to corrosive environment.
 - c) Interior Doors shall be fabricated in accordance with ANSI/SDI-A250.8, Level 3 Extra Heavy Duty, Model 2, and seamless.
 - d) Provide view panels, louvers etc., in accordance with program requirements.
 - e) Face Sheet Thickness:
 - 1) Level 3 Doors: 0.053 (16 gage) thick.
 - 2) Level 4 Doors: 0.067 inch (14 gage) thick.
 - f) Door Perimeters: 16-gage steel channels to reinforce stile edges, top and bottom of doors. Same finish as door.



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- g) Door Stiffeners: Vertical 20 gage steel channels members spaced not more than 6 inch off center.
- h) Core Fill: For exterior doors provide core fill in accordance with Miami-Dade product Approvals (NOA.) or State of Florida Product Approval Interior doors core optional with manufacturer.
- i) Reinforcements and Hardware Provisions: Doors shall be mortised and shall be drilled tapped for mortised hardware per ANSI/SDI A250.6 recommendations; coordination between door hardware trade and door and frame trades must be required during shop drawing submittal phase.
- j) Door lights in metal doors: 18-gage bonderized zinc coated sheet steel channel light frames and stops.
- k) Door Louvers:
 - 1) In general, the use of inverted “Y” blade is encouraged, except where additional free airflow louvers or lightproof louvers are required. At exterior areas, consider probable water penetration
 - 2) Fire door louvers: UL listed sheet steel frame, fusible link and lever operating mechanism enclosure, and movable blades, 24” maximum dimension in height or width. Same finish as door.
- l) Astragals: For pairs of single acting doors without center mullions, provide a continuous flat steel bar, same finish as door.
- m) Screens: Where louvers are indicated on exterior doors, call for vermin screen fabricated from stainless steel with frame mounted on interior side of door.
- 08.11.13.07 Hollow Metal Frames:
 - a) Request compliance with ANSI/SDI A250.8. Drawings to include details of types and profiles.
 - b) Thicknesses Gages:
 - 1) Frames for Level 3 Steel Doors: 0.053-inch- (16 gage) thick steel sheet.
 - 2) Frames for Level 4 Steel Doors: 0.067-inch- (14 gage) thick steel sheet.
- 08.11.13.08 Fabrication: Specify that frames be full profile welded construction with mitered head and jamb members with integral stops. Corners shall have continuous welds ground flush and smooth without dishing. The Design Professional shall specify the requirements for special frames and special conditions, if any. Knock down frames are not allowed. Hollow metal side lights and borrowed lights should have same construction and be included as part of this section.
- 08.11.13.09 Reinforcement and Hardware Provisions: Same applicable standard as for doors.
- 08.11.13.10 Silencer Provisions for Interior Doors: Call or indicate for a minimum of three silencers at single door frame and for one silencer for each leaf at double door frames.
- 08.11.13.11 Grout Guards: Call for sheet metal covers welded in back of frames at hinges, locks, bolts and tapped reinforcements at hardware. At silencer locations furnish suitable removable plugs in holes to keep grout free. Provide only at grout filled frames.

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- 08.11.13.12 Factory Finishing For Steel Doors and Frames. Shop coat of manufacturer's standard rust-inhibitive metal primer, baked on.
- 08.11.13.13 Manufacturers of H.M. Doors and Frames:
Require that doors and frames be provided by same manufacturer. The following manufacturers are acceptable subject to compliance with the Criteria provided in these standards:
- a) Firedoor Corp.
 - b) Pioneer Industries.
 - c) Curries.
 - d) Ceco Door Products.
 - e) Windsor/Republic Door.
 - f) Steelcraft.
 - g) Habersham.
- Performance Standards**
- 08.11.13.14 Specify compliance with ANSI/SDIA250.8 for standard hollow metal doors and frames.
- 08.11.13.15 For exterior doors and frames specify that listed manufacturers have Miami Dade Product Approval (NOA) or State of Florida Product Approval for large missile impact rating. Indicate that weather-stripping and thresholds for exterior doors are addressed in Door Hardware section by the Design Professional.
- 08.11.13.16 Specify that Fire Rated Door Assembly units must comply with NFPA 80 and must be clearly labeled and listed by either United Laboratory, Factory Mutual or Warnock Hersey.
- 08.11.13.17 Large projects as determined by Nova Southeastern University, call for pre-installation conference at the job site.
- 08.11.13.18 Hollow metal doors and frames are generally provided with a shop primer. Factory finish is available and may be specified subject to Nova Southeastern University review and approval.
- 08.11.13.19 Submittals required from Contractor:
- a) Product Data, LEED data and Miami Dade Product Approval (NOA) or State of Florida Product Approval Large missile impact rating data.
 - b) Shop drawings indicating sizes, elevations, locations, fire labels, construction details, gages, thicknesses, finishes, reinforcement, anchors, louvers, light openings, glazing stops and hardware locations. Request that shop drawings be coordinated with Door Hardware Specification Section and Door Schedule on drawings.
 - c) Shop drawings must indicate coordination with the following trades:
 - 1) Door hardware supplier.
 - 2) Electrical work.
 - 3) Card Access System.
 - 4) Power Assist Door Handicapped operator.
 - 5) Door hardware supplier.
 - 6) Door preparation required to receive above items.

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08.14.16 Flush Wood Doors Design Standards
Design Standards

- 08.14.16.01 This section provides guidelines for the design of interior flush wood doors. This section also includes guidelines for submittals to be requested from contractor.
- 08.14.16.02 Properly address emissions and limitations of volatile organic compounds (VOCs). Adhesives and composite wood products containing urea-formaldehyde are prohibited from use.
- 08.14.16.03 Environmental Limitations:
Specifications to include requirement that wood doors not be delivered or installed until building is enclosed, wet work is complete, and HVAC system is operating and maintaining temperature and relative humidity at occupancy levels during the remainder of the construction period.
- 08.14.16.04 Source Limitations:
Specifications to include requirement to engage a qualified woodworking firm to assume undivided responsibility for production of architectural wood cabinets, wood paneling, and transparent-finished wood veneered doors that are required to have sequence-matched wood veneers.
- 08.14.16.05 Wood Species:
For transparent finish wood, select from light colored wood and wood veneers such as Maple, Ash, Red Oak, and White Oak. Veneers must be FSC US certified. Foreign species are not allowed. Deviation from this list requires Nova Southeastern University approval.
- Product Standards**
- 08.14.16.06 General:
a) Fabricate doors with adhesives and composite wood products that do not contain urea formaldehyde.
b) Specify that wood doors be produced from wood obtained from forests certified by an FSC-accredited body to comply with FSC STD-01-001, "FSC Principles and Criteria for Forest Stewardship," and FSC STD-40-004, "FSC Standard for Chain of Custody Certification."
c) Use wood doors for interior application only.
- 08.14.16.07 Solid Core Wood Doors:
a) Core: Staved lumber core.
b) Quality Standard: In addition to requirements specified, comply with AWS "Architectural Woodwork Standards "Flush Doors," and WDMA I.S.1-A, "Architectural Wood Flush Doors."
c) Construction: 5-ply construction, AWS Section 9 Premium Grade, SLC-5.
d) Performance Duty: AWS Extra Heavy Duty Level and WDMA I.S.1-A, "Architectural Wood Flush Doors" Extra Heavy Duty Performance level.

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- e) Face Veneers: Wood species; cut and sequence to be selected from listed species, subject to Nova Southeastern University approval.
- f) Vertical Meeting Edge: Rabbeted.
- g) Horizontal Meeting Edge: Rabbeted.
- 08.14.16.08 Fire Rated Wood Doors:
- a) U.L. Labeled doors with labels attached, 1-3/4 inch thick. Provide wood blocking with improved screw-holding capability approved for use in fire-rated doors as necessary to eliminate need for thru-bolting hardware.
- b) Construction: 5-ply, AWS Section 9, premium grade FD-5.
- c) Performance duty: same as specified above under non-rated doors.
- d) Core: Non-combustible mineral sections.
- e) Face Veneer: Wood species, cut and sequence to be selected from listed species, subject to Nova Southeastern University approval.
- 08.14.16.09 Require that wood doors be factory finished as follows:
- a) Transparent Finish Doors: Factory finished in accordance with requirements of AWS, Section 5; Premium System 11 catalyzed polyurethane satin sheen finish. Specify staining if required.
- b) Opaque Finish Doors: Factory finished in accordance with requirements of AWS, Section 5; Premium System 11 catalyzed polyurethane satin sheen finish. Specify color.
- 08.14.16.10 Manufacturers of Wood Doors: The following manufacturers are acceptable subject to compliance with criteria:
- a) Eggers Industries.
- b) Algoma Hardwood Inc.
- c) Buell Door Co.
- d) Marshfield Door Systems, Inc.
- e) VT Industries, Inc.
- Performance Standards**
- 08.14.16.11 Submittals required from Contractor:
- a) Product Data and samples of wood veneers with finish applied.
- b) Shop drawings for review, indicating sizes, elevations, locations, fire labels, construction details, gages, thicknesses, finishes, reinforcement, anchors, and louvers, light openings, glazing stops and hardware locations. Request that shop drawings be coordinated with door hardware specification section and drawings. Shop drawing should also show coordination with the following trades:
- 1) Door hardware supplier.
 - 2) Electrical work.
 - 3) Card Access System.
 - 4) Power Assist Door Handicapped operator.
 - 5) Door hardware supplier.
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- c) Samples for factory finished doors.
- d) Samples of veneer flitches for transparent finish doors.
- 08.14.16.12 Fire rated Door Assemblies: Units must comply with NFPA 80 and must be labeled and listed by UL, Factory Mutual or Warnock Hersey.
- 08.14.16.13 Warranty: Interior wood doors to carry lifetime warranty by door manufacturer. The warranty shall include veneer delamination and warping.

- 08.31.00 Access Doors**
 - 08.31.00.01 Access door sizes and details shall conform to industry stock standards whenever possible. Doors and frames will be rated the same as the framing system that they are being installed on. If at all possible, all doors shall be furnished by a single manufacturer.
 - 08.31.00.02 Locking of units are required, all vendors must conform to NSU's construction core standards, utilizing SFIC 7 PIN Best Access Systems and are to be installed by the contractor.
 - 08.31.00.03 Please contact NSU for assistance in obtaining additional information or stock.
 - 08.31.00.04 NSU (Owner) will provide coordination of final master keying system standards and installation of final permanent cores.

- 08.33.23 Overhead Coiling Doors**
 - Design Standards**
 - Product Standards**
 - Performance Standards**

- 08.33.50 Overhead Coiling Fire Curtains**
 - Design Standards**
 - Product Standards**
 - Performance Standards**

- 08.35.14 Folding Doors**
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- 08.41.13 Aluminum Framed Entrances and Storefronts**
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08.41.26 All Glass Entrances and Storefronts Design Standards

- 08.41.26.01 This section provides guidelines for the selection, design, and installation of all glass entrances and storefront assemblies.
- 08.41.26.02 Use these assemblies for interior application only. Nova Southeastern University approval is required for these assemblies.
- 08.41.26.03 The Design Professional shall ensure that the assemblies include options such as hardware and fittings.
- 08.41.26.04 Show compliance with ADA/Accessibility Guidelines and the Florida Accessibility Code on all- glass entrance doors.
- 08.41.26.05 Glass fittings style and finish require approval by Nova Southeastern University. Finish requires approval
- 08.41.26.06 Selection of entrance door hardware requires approval by Nova Southeastern University. Call for stainless steel finish.
- 08.41.26.07 Depending on the application, the use of single acting doors is preferable.
- 08.41.26.08 Use tempered clear glass; minimum ½ inch thick. The glazing thickness to be determined by manufacturer of system.
- 08.41.26.09 Call for Installation to be performed by manufacturer or factory authorized/certified representative.
- 08.41.26.10 On “all glass walls,” “all glass doors,” “all glass sidelights,” alert the public that they are approaching glass a surface and not an open space by partially sandblasting, etching or other means that provides a translucent or patterned glass surface. Selected warning method requires Nova Southeastern University approval. The allowed clear glass width of continuously glazed door sidelights is not less than 8 inches and not more than 18 inches.
- 08.41.26.11 While all glass walls and all glass sidelights are permitted for Nova Southeastern University. The use of frameless glass doors, where by locking hardware and door closers are located at the bottom of "All Glass" frameless doors (i.e.: “Herculite®” brand, and others), products, systems, and accessories, shall not be permitted for use by NSU.

Product Standards

- 08.41.26.12 Approved Manufacturers:
 - a) Blumcraft of Pittsburgh.
 - b) NRG, Inc.
 - c) Oldcastle Glass, Inc.
 - d) Virginia Glass Products.
- 08.41.26.13 Approved Finishes:
 - a) Aluminum: Clear Anodic Finish, AAMA 611, AA-M12C22A41, Class I.
 - b) Stainless steel: Directional satin #4 finish. Stainless steel cladding over aluminum is acceptable, but needs approval by Nova Southeastern University.

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- c) Oldcastle Glass, Inc.
- d) Virginia Glass Products.

Performance Standards

08.41.26.14 Submittals Requirements from Contractor:

- a) Product data from manufacturer, including door hardware and fittings.
- b) Samples of the following:
 - 1) 6 inch long sample of each type of fitting of aluminum with specified finish.
 - 2) Sealant, including color to match aluminum.
 - 3) Glazing gaskets.
 - 4) Door pull/pull.
- c) Shop drawings showing materials, sizes, thickness, locations, construction details, frame reinforcing, glazing details, accessories, each type of hardware and erection details.
- d) Delegated-design submittal, signed and sealed by the qualified State of Florida professional engineer responsible for their preparation.
- d) Installer Qualifications.
- e) Copy of warranties.
- f) Mock up samples if deemed necessary for large projects.
- g) Maintenance data.

08.41.26.15 Installation:

- a) Request to separate corrodible metal surfaces from sources of corrosion or electrolytic action at points of contact with other materials.

08.41.26.16 Warranties:

- a) Request 2 year manufacturer warranty on material and labor required to replace defective work. Request a minimum ten (10) year manufacturer's warranty on concealed closers.

08.41.26.17 Field Quality Control:

- a) Request field inspection by manufacturer of system.
- b) Field Testing: Test closers for compliance with accessibility to people with disabilities.
- c) Test locking mechanism, exit devices, door swing.

08.44.13 Glazed Aluminum Curtain Walls
Design Standards

08.44.13.01 This section provides guidelines for the selection, design, and installation of aluminum entrances and storefront assemblies. It also provides guidelines for Glazed Aluminum Curtain Walls. Storefront assemblies and glazed aluminum curtain wall systems are sometimes produced by the same manufacturer however more stringent requirements are used in curtain wall designs. Refer to Miami-Dade Product Approval (NOA) or State of Florida Product Approval for maximum sizes on storefront units and curtain wall units. Consider not mixing storefront framing and curtain wall framing in a project. If project requires this condition, seek Nova Southeastern University approval before proceeding with design.



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- 08.44.13.02 Provide aluminum framed entrances, storefront systems and glazed aluminum curtain walls that comply with structural performance, air infiltration and water penetration requirements required by building code, local code and Miami-Dade product Approval (NOA) Large missile impact rating test.
- 08.44.13.03 Ensure that the assemblies include options such as hardware, door controls, and threshold heights that comply with applicable provisions in the ADA Accessibility Guidelines and the Florida Accessibility Code.
- 08.44.13.04 Select and specify systems that have passed large missile impact testing with current Miami-Dade County Product Approval (NOA) or current State of Florida Product Approval. The Design professional shall base entrance hardware on NOA approval list.
- 08.44.13.05 In general, use medium style entrance framing. Narrow style is not permitted. Wide style requires approval by Nova Southeastern University.
- 08.44.13.06 Determine if the use of thermal entrances or thermal systems is appropriate to the specific condition, and if it is required to meet the energy analysis. Nova Southeastern University approval is required.
- 08.44.13.07 The use of special doors, frames, or storefront systems, such as frameless doors, automatic sliding glass doors, etc., shall be approved by Nova Southeastern University.
- 08.44.13.08 Depending on the application, the use of swinging single acting doors is preferable.
- 08.44.13.09 Exterior Glazing-Laminated Glass or Insulated Laminated Glass; refer to Section 088000 – Glazing, depending on energy study and program requirements.
- 08.44.13.10 Air Infiltration: Per Miami-Dade County Product Approval (NOA) or State of Florida Product Approval.
- 08.44.13.11 Water Penetration: Per Miami-Dade County Product Approval (NOA) or State of Florida Product Approval.
- 08.44.13.12 Aluminum Entrance Doors:
a) Style and thickness: 3-1/2 inch medium vertical stiles; 3-1/2 inch medium top rail; 6-1/2 inch wide bottom rail; 1-3/4 inches thick, minimum.
b) Material and Construction: Extruded 6063-T5 aluminum alloy sections, minimum 0.125 inch thick; corners to be both welded and mechanically fastened. Welded corner joinery shall be specified to meet warranty requirements.
c) Edges:
1) Pair of Doors - Rounded meeting stile edges with dovetail provisions for retaining weathers tripping.
2) Single-Acting Swinging Doors - Beveled jamb edge stiles.
d) Weather stripping: Manufacturer's weather stripping for exterior application.
- 08.44.13.13 Fastenings: Fabricated from Type 316 stainless steel. Request concealed fasteners.
- 08.44.13.14 Door Hardware: Select door hardware from options included in Miami Dade County product Approval (NOA) or State of Florida Product Approval. Coordinate with Nova Southeastern University Facilities Design and Construction Department. In all cases, provide concealed closers.



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Product Standards

- 08.44.13.15 Approved Manufacturers:
- a) Kawneer, North America; an Alcoa Company.
 - b) Arch Aluminum and Glass Co., Inc.
 - c) YKK AP America Inc.
- 08.44.13.16 Approved Finishes:
- a) High Performance Organic Coatings:
 - 1) 2-coat fluoropolymer finish complying with AAMA 2605 and containing not less than 70 percent PVDF resin by weight in color coat. Provide clear top coat over color coat at aluminum entrance doors.
 - 2) Color: White or Blue to match Nova Southeastern samples. Provide uniform finish and color throughout. Finishes other than those listed will required Nova Southeastern University approval.
 - 3) Confirm that system manufacturer/finish manufacturer can provide a 20 year finish warranty.
 - 4) In some existing buildings, finish may need to match an anodized finish; consult with Nova Southeastern University before specifying finish.

Performance Standards

- 08.44.13.17 Submittals Required from General Contractor:
- a) Product Approval data from Florida Building Code or Miami-Dade County demonstrating large missile impact testing data.
 - b) Samples of the following:
 - 1) 12 inch long aluminum sample with specified finish. Provide sample with clear coating over color coating as well as sample with color coating only.
 - 2) Sealant, including color to match aluminum.
 - 3) Glazing gaskets.
 - 4) Weather stripping.
 - c) Shop drawings showing materials, sizes, thickness, locations, construction details, frame reinforcing, glazing details, accessories and erection details. Wind load and deflection calculations, signed and sealed by a Professional Structural Engineer registered in the State of Florida.
 - d) Installer Qualifications.
 - e) Copy of warranties.
 - f) LEED submittals.
 - g) Mock up samples.
- 08.44.13.18 Installation:
- a) Request to separate aluminum and other corrodible metal surfaces from sources of corrosion or electrolytic action at points of contact with other materials.
 - b) Require that doors be factory mortised, reinforced, drilled and tapped to receive required hardware.



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- 1) 12 inch long aluminum sample with specified finish. Provide sample with clear coating over color coating as well as sample with color coating only.
2) Sealant, including color to match aluminum.
- 08.44.13.19 Warranties:
a) Request 20 year warranty on aluminum finish. Request a minimum five (5) year manufacturer's warranty on framing components.
- 08.44.13.20 Field Testing:
a) Request field inspection by manufacturer of system.
b) Request testing by a qualified independent testing and inspecting agency to perform field tests and inspections.
c) As a minimum request Water Spray Test on Storefronts and Glazed Curtain Wall Systems according to AAMA 501.2
- 08.51.13 Aluminum Windows Design Standards**
- 08.51.13.01 This section provides guidelines for the materials selection and design of aluminum windows for exterior and interior applications.
- 08.51.13.02 Consider using storefronts or curtain wall to fixed punched windows in order to keep same framing profile.
- 08.51.13.03 Show on drawings exterior windows that will be designated as elements of means of egress to comply with Life Safety Code NFPA 101.
- 08.51.13.04 Windows are subject to vandalism and heavy usage. Safety, security, and required maintenance are important criteria for designing and specifying windows. Safety concerns shall always have priority over security and maintenance during the selection of windows.
- 08.51.13.05 Nova Southeastern University encourages the maximum use of windows to provide natural light and, where required, ventilation into instructional/residential spaces, unless prohibited by program requirements or budget constraints.
- 08.51.13.06 Fire resistance rated exterior and interior windows shall have aluminum frames and shall meet Florida Building Code, NFPA 101 and NFPA 80 requirements.
- 08.51.13.07 Exterior windows and attachment/support system shall be designed to withstand wind loads per Florida Building Code. Windows shall comply with ANSI/AAMA 101. The window glazing shall be laminated glass or insulated laminated glass as specified in glazing portion of these guidelines and as required to comply with Florida Building Code Requirements for High Velocity Wind Zones requirements.
a) New windows or replacement of existing windows shall be designed to resist the large missile impact criteria.
b) Specify glazed window manufacturers that have passed large missile impact testing with current Miami-Dade County product Approval (NOA) or current State of Florida Product Approval.
c) As a minimum request Water Spray Test on Storefronts and Glazed Curtain Wall Systems according to AAMA 501.2

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- 08.51.13.08 Comply with applicable codes for the required amount of operable window areas and as directed by program requirements.
- 08.51.13.09 Accessibility requirements do not apply to normal window operation, but do apply to exiting through emergency rescue openings. Refer to the Florida Accessibility Code for Building Construction (FACBC) for requirements applicable to emergency rescue openings.
- 08.51.13.10 Selection of window types shall be based on design intent, wall/window conditions, sustainable design requirements, security, use, safety, and maintenance concerns. Before final design submittal, the Design Professional shall consult with Nova Southeastern University's Facilities Management and PSD-Physical Security Division.
- 08.51.13.11 Discuss Security concerns with Nova Southeastern University Facilities Management and PSD-Physical Security Division by reviewing program requirements.
- a) At exterior operable windows and interior operable windows indicate single-hung or double-hung type windows. Casement or projected type windows require Nova Southeastern University approval.
- 08.51.13.12 Interior Fixed Windows:
- a) Provide fixed aluminum windows with ¼ inch thick minimum clear tempered glass at non-fire rated areas.
- b) The use of steel windows is limited to windows requiring fire rating. Provide fire rated clear glazing; the use of wire glass is not allowed.
- c) For pass thru windows use horizontal sliding windows, except use fixed windows with speaker hole and pass thru tray at transaction windows. Call for these windows to be fabricated from aluminum with clear anodized aluminum, or stainless steel with satin finish. Where shelving is required, coordinate selection of material with Nova Southeastern University.
- 08.51.13.13 Storage rooms, telephone and data rooms, electrical rooms, mechanical equipment rooms, new restrooms/toilet rooms, janitorial/custodial rooms and other similar spaces shall be windowless.
- 08.51.13.14 Fasteners: Fabricated from Type 316 stainless steel at exterior locations, Type 304 stainless steel at interior locations.
- 08.51.13.15 Window Hardware:
- a) Hardware shall be non-removable or secured by concealed or tamperproof fasteners. Check with Nova Southeastern University for special locking requirements.
- b) Exposed fasteners, when the window is in a closed or opened position, shall be tamperproof; fasteners must be fabricated from stainless steel. Exposed fasteners and hardware shall match finish of adjoining metal.
- c) For operable windows, require automatic sill locks and automatic top sash locks.
- 08.51.13.16 The following are the window types accepted by Nova Southeastern University (NSU):
- a) For residential applications:
- 1) Single hung windows.

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- 2) Double hung windows.
- 3) Other types required Nova Southeastern University approval.
- b) For institutional applications and high rise buildings:
 - 1) Fixed windows except at areas requiring escape windows in compliance with NFPA 101 requirements.

Product Standards

- 08.51.13.17 Manufacturers: Aluminum window manufacturer shall be listed in the current AAMA Certified Products Directory and bear AAMA quality certified seal.
- 08.51.13.18 Aluminum Window to comply with AAMA/WDMA/CSA 101/IS.2/A440, Commercial Grade or Architectural Class and Florida Building Code Product Approval.
- 08.51.13.19 Approved Manufacturers:
 - a) Kawneer North America; an Alcoa Company.
 - b) YKK AP America Inc.
 - c) CGI (at residential applications).
- 08.51.13.20 Finish:
 - a) Provide uniform aluminum finish and color throughout the project. Specify 2-coat fluoropolymer finish complying with AAMA 2605 and containing not less than 70 percent PVDF resin by weight in color coat.
 - b) Color: White or Blue to match Nova Southeastern University samples. Provide uniform finish and color throughout.
 - c) Confirm that window manufacturer/finish manufacturer can provide a 20 year finish warranty.
 - d) In some existing buildings, finish may need to match an anodized finish; consult with Nova Southeastern University before specifying finish.

Performance Standards

- 08.51.13.21 Submittals Requirements from Contractor:
 - a) Product Approval data from Miami-Dade County Product Approval (NOA) or State of Florida product Approval for Large Missile Impact Tested.
 - b) Samples of the following:
 - 1) 12 inch long aluminum sample of aluminum with specified finish.
 - 2) Sealant, including color to match aluminum.
 - 3) Glazing sample, 6x6 inch if factory glazed.
 - 4) Glazing gaskets.
 - 5) Weather stripping.
 - 6) Operable hardware.
 - c) Shop drawings showing materials, sizes, thickness, locations, construction details, frame reinforcing, glazing details, operable hardware accessories and erection details. Wind load and deflection calculations, signed and sealed by a State of Florida Professional Structural Engineer.
 - d) Installer Qualifications.

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- e) Copy of warranties.
- f) LEED submittals.
- g) Mock-up samples.
- 08.51.13.22 Installer: Installation shall be by window manufacturer or window manufacturer's authorized installer.
- 08.51.13.23 Warranty:
 - a) Request from the manufacturer and installer a 5 year written warranty against defective design, materials and workmanship including glass and seal failure on insulating glass units.
 - b) Request 20 year warranty on aluminum finish.
- 08.51.13.24 Field Testing:
 - a) Request field inspection by manufacturer of windows.
 - b) Request testing by a qualified independent testing and inspecting agency to perform field tests and inspections.
 - c) Test Method: AAMA 502-02 Method B for fixed and operable windows. Verify that this testing method can be performed at a reasonable cost; discuss cost with Nova Southeastern University Staff before including requirement in specifications. If cost of AAMA 502-02 testing is prohibited, request Water Spray Test according to AAMA 501.2, modified as recommended by window manufacturer for window testing.
- 08.71.00 Door Hardware Design Standards**
- 08.71.00.01 General:
 - a) Specify submissions of complete hardware schedules.
 - b) Preferred finish for all hardware shall be 626, unless matching existing conditions. Verify with Nova Southeastern University.
 - c) Specify submission of complete hardware schedule showing door numbers, heading, index sizes, handing, product data sheets, mounting heights, finish, wiring diagrams, etc. for approval. Hardware samples to be supplied upon NSU's request.
- 08.71.00.02 Hinges:
- 08.71.00.03 Weather Stripping and Seals:
 - a) General: Provide continuous weather stripping on exterior doors. Provide smoke, light, or sound seals on interior doors where indicated or scheduled. Provide noncorrosive fasteners for exterior applications and elsewhere as indicated.
 - b) Replaceable Seal Strips: Provide only those units where resilient or flexible seal strip is easily replaceable and readily available from stocks maintained by manufacturer.
- 08.71.00.04 Exit Devices:
 - a) Provide low profile push pad type devices with opposing lever handles. Products listed in the schedule below include both mortise lock devices and rim type devices. Lever handles to match Lever handles on Locksets.

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- b) Exit Devices shall be "UL" listed for life safety. All exit devices for fire rated openings shall have "UL" labels for "Fire Exit Hardware".
 - c) All exit devices mounted on labeled wood doors shall be thru-bolted mounted on the door per the door manufacturer's requirements.
 - d) All trim shall be thru-bolted to the lock stile case.
 - e) Exit Device Dogging: Except on fire-rated doors, where closers are provided on doors equipped with exit devices, equip the units with keyed cylinder dogging device to keep the latch bolt retracted, when engaged.
- 08.71.00.05 Door Closers:
- a) Specify LCN 4000 Series closers.
 - b) Instead of using floor stops, parallel mounting preferred to provide stop function.
 - c) Attach door closers to wood and metal doors with through bolts.
- 08.71.00.06 Kick Plates and Push/Pull Plates:
- a) Use on push side of doors, especially wood doors.
 - b) Stainless steel is preferred with beveled edges.
 - c) Specify kick plates height x width of door less 2 inches, mounted flush with bottom of door.
- 08.71.00.07 Flush Bolts:
- a) H.B. Ives Co. Model 262 flush bolts preferred.
- 08.71.00.08 Cylinders:
- a) Cylinders and mortise locks shall be Best Access Systems brand 45H Series with lever 14H. All cylinders shall and are to except SFIC 7 PIN Best Access Systems cores.
 - b) Locking of units are required, all vendors must conform to NSU's construction core standards, utilizing SFIC 7 PIN Best Access Systems and are to be installed by the contractor.
 - c) NSU (Owner) will provide coordination of final master keying system standards and installation of final permanent cores.
- 08.71.00.09 Keying:
- a) NSU (Owner) will provide coordination of final master keying system standards and installation of final permanent cores.
 - b) PSD-Physical Security Division staff will determine keying requirements and will provide coordination to NSU stakeholders and end-users.
 - c) Allow NSU's representatives a minimum of 60 working days before construction document completion to develop keying coordination and related locking hardware review.
- 08.71.00.10 Related Documents:
- a) Drawings and General Provisions of the contract, including general and supplemental conditions and Division 1 Specifications, apply to the work of this section.
 - b) Refer to Nova Southeastern University Access and Key Control Policy and Procedures document.

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- 08.71.00.11 Description of Work:
- a) Definition: "Finish Hardware" includes items known commercially as finish hardware which are required for swing, sliding and folding doors, except special types of unique and non-matching hardware specified in the same section as the door and frame or the security hardware and electronic security equipment.
 - b) Where interior doors to areas of public use are required to have a locking device, they shall be provided with access control integrated door hardware locks compatible with the NSU's systems (offices, conference rooms, or supply closets for example).
 - c) Exterior access doors at all NSU buildings and residence halls shall have electronic access control systems (proximity card readers), integrated with the central university system via network connection, with the ability of instant remote lock down activated from the NSU's Public Safety's Security Operations Center (SOC).
 - d) The extent of the finish hardware is shown on the drawings and indicated in the enclosed schedules.
 - e) The types of finish hardware are listed; but not limited to the following:
 - 1) Hinges and pivots.
 - 2) Cylinders, Keying, and Keys.
 - 3) Locks and Latches.
 - 4) Surface and Flush bolts.
 - 5) Fire Exit Devices.
 - 6) Push and Pull Units.
 - 7) Door Closers: Concealed, Overhead, Surface, and Floor Types.
 - 8) Sliding and Bi-folding Door Hardware.
 - 9) Overhead Door Holders, Floor and Wall Stops.
 - 10) Latch Protective Plates.
 - 11) Weather-stripping, Sound Seals, and Light Seals.
 - 12) Astragals.
 - 13) Thresholds.
 - 14) Electronic Access Control Security System Equipment.
 - f) The following items are listed in other sections:
 - 1) Overhead door operating equipment.
 - 2) Hardware for fire shutters.
- 08.71.00.12 Quality Assurance:
- a) Obtain each type of hardware (hinges, locks & latches, closers, overhead holders) from a single manufacturer, although several may be indicated as offering products complying with the requirements.



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b) Supplier shall be a recognized architectural finish hardware contractor with warehousing facilities, who has been furnishing finish hardware in the projects vicinity for a period of not less than two years and who is, or who employs an experienced Architectural Hardware Consultant, who is available at reasonable times during the course of the work for consultation about the project's hardware requirements, to the architect, owner and general contractor.

c) Fire Rated Openings: Provide hardware for fire rated openings in compliance with NFPA 80 and local code requirements. Provide only hardware that has been tested and is listed by UNDERWRITER'S LABORATORY for the types and sizes of doors required and complies with the requirements of the door and frame labels. Where the emergency exit devices are required on fire rated doors, provide UL label on exit device indicating "FIRE EXIT HARDWARE". Provide door seals for smoke/draft-control doors and door assemblies in corridors and smoke barriers in compliance with Florida Building Codes, FBC 710.5.2 and FBC 715.3.3.

08.71.00.13

Submittals:

a) Product Data: Submit manufacturer's technical product data for each item of hardware in accordance with the Division-1 Section "Submittals". Include whatever information may be necessary to show compliance with the requirements, and include instructions for the installation and for the maintenance of the operating parts and finishes.

b) Hardware Schedule: Submit a final hardware schedule in the manner indicated below. Coordinate hardware with the doors, frames and related work to ensure proper size, thickness, hand, function and finish of hardware. Based on finish hardware indicated, organize the hardware schedule into sets indicating complete designations of every item of hardware required for each door or opening. Include the following information:

- 1) Type, Style, Function, Size and Finish of the item of hardware.
- 2) Name and Manufacturer of each item.
- 3) Fastenings and other pertinent information.
- 4) Location of hardware set, cross-referenced to the door number on the drawings and the hardware group in the specifications.
- 5) Explanations of all abbreviations symbol and codes on the schedule.
- 6) Door and Frame sizes and materials.
- 7) Mounting information: Location on door, degree of opening and coordination with other items.
- 8) Keying:

a) Locking of units are required, all vendors must conform to NSU's construction core standards, utilizing SFIC 7 PIN Best Access Systems and are to be installed by the contractor.



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- b) NSU (Owner) will provide coordination of final master keying system standards and installation of final permanent cores.
- 9) Wiring Diagrams for all openings using electrically operated hardware.
- 10) MDPA/NOA, ITS, FBC approval and pressure ratings.
- 11) LEED's V.30 Credits and information, End of Useful Life Recycle Program.
- c) Submit hardware schedule at the earliest possible date, as hardware schedule acceptance must precede fabrication of other work (i.e.: hollow metal frames), which are critical in the project construction schedule.
- d) Wiring Diagram: Openings using electrically operated hardware will require a detailed, color coded, wiring diagram showing all components used in the opening. The hardware supplier will provide this diagram at the time of the hardware submittals. All diagrams and installations will use the University Standard Color coding at each opening for all equipment. Factory installation instructions from the various elements will not be accepted as meeting this requirement. Diagram will include an elevation showing the location of various elements and power sources, a written description of the function of the opening and a custom diagram showing all runs and terminations for all the equipment used.
- e) Submit templates for each fabricator of doors, frames and other related work to be factory prepared for the installation of hardware. Upon request, check shop drawings of other such work to confirm that adequate provisions are made for the proper location and installation of hardware.
- f) Product Test Reports: Based on evaluation of comprehensive tests performed by manufacturer and witnessed by a qualified testing agency, indicating current products comply with requirements.

08.71.00.14

Product Handling:

- a) Tag each item or package separately with the identification related to the final hardware schedule; include basic installation instructions with each item or package.
- b) Provide a secure lock-up for the hardware delivered to the jobsite but not installed. Control handling and installation of hardware items that are not immediately replaceable, so that completion of the work will not be delayed by hardware losses, both before and after installation.
- c) Deliver individually packaged hardware items at the proper time and locations (jobsite or shop) for installation.
- d) Inventory hardware jointly with the representative of the general contractor and the hardware supplier until each is satisfied that count is correct.

Products Standards

08.71.00.15

Schedule Hardware:

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a) Requirements for the design, grade, function, finish, size and other distinctive qualities of each type of hardware are indicated in the hardware groups at the end of this section. The catalog numbers used in the hardware groups attached are from the Nova Southeastern University Standards. All material supplied shall match the University's existing materials and comply with the University's standardized replacement parts programs.

b) Any substitution request must be submitted to the architect with the catalog information, supporting data and samples, at least fourteen (14) working days prior to the bid date. Design Professional will review substitutions with the Nova Southeastern University. Approvals will be given in writing or by addendum only.

c) Supporting data must include BHMA Listing and Performance testing data, certified by an independent third party, showing required life cycle and other performance tests successfully completed. All submittals for substitution must show superior life cycle and vandal resistance to existing materials to be considered. Any product that does not fit the existing templates of current University materials and existing openings will not be considered for substitution.

08.71.00.16 Finishes:

a) General: Match finish of every hardware unit at each door opening except as noted or as otherwise indicated in the attached hardware groups. In general, match all items to the manufacturer's standard finish for the latch or lockset (or push and pull units) for the color and texture. Door hardware shall be Brushed Stainless Steel, US32D, 630 or Brushed Chrome US26D, 626/652 as noted in the schedule attached. Contractors will coordinate finish of hardware to be applied to aluminum doors with the storefront contractor.

b) At locations where tactile warnings are needed to meet the requirements of ADA, ANSI 117 or state and local codes; knobs, levers or crossbars will be "knurled" at the factory before finishing is applied to the base metal. Liquid abrasive or other field applied substances are not allowed.

08.71.00.17 Hinges:

a) All hinges will be manufactured to the standard template (ANSI 156.1) and supplied with Phillips head flat machine or wood screws as appropriate. Finish screw head to match exposed surface of hinges.

b) Except as otherwise indicated; provide hinge pins as Follows:

- 1) Steel Hinges: Steel hinge pins.
- 2) Non-ferrous hinges: Stainless Steel hinge pins.
- 3) Exterior and locking out-swinging doors: Non-removable pins.
- 4) Interior doors: Non-rising pins.
- 5) Tips: Flush button and plugs, finished to match the leaf except where HT (hospital tip) is indicated.



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- c) Number of Hinges: Provide the number of hinges indicated but not less than 3 hinges for each door leaf up to 90" in height and one additional hinge for each 30" of height. One Center Pivot will be supplied on all door leaves. Door leaves up to 86" in height. Additional Center pivot will be provided for each 30" of height. Doors that are oversized will be supplied with additional hinges or pivots as indicated in the schedule attached.
- d) Hinges will be a minimum of 4-1/2" in height and .134 thick. Width of hinge shall be sufficient to provide clearance for trim, applied door panels, frame moldings and door thickness.
- e) Life of Building Warranty for all hinges. Full replacement will be made for failure of mechanical operation or finish.
- 08.71.00.18 Cylinders, Cores, and Keying:
- a) The hardware manufacturer will meet with the Nova Southeastern University to finalize keying requirements and to obtain keying instructions in writing.
- b) The following will be provided by the hardware manufacturer:
- 1) 10 - Construction core keys.
 - 2) 5 - Construction core control keys.
 - 3) 3 - Change keys for each core.
 - 4) 10 - GGM's, GM's, M's, SM's, SSM's, and SSSM's keys used for system.
 - 5) 5 - Control keys used for system.
- c) All keys shall be stamped "DUPLICATION PROHIBITED".
- d) All cores will be marked on the face symbol (e.g. HPAAA-1, HPACA-27) for visual identification and key control when in door or when removed from lockset.
- e) All keys will be stamped with an individual "unique" serial number for future identification, designated by NSU (Owner).
- b) Locking of units are required, all vendors must conform to NSU's construction core standards, utilizing SFIC 7 PIN Best Access Systems and are to be installed by the contractor.
- c) NSU (Owner) will provide coordination of final master keying system standards and installation of final permanent cores.
- b) All cylinders shall be SFIC 7 PIN Best Access Systems. NSU (Owner) will indicate which system is in use at building or department under construction. Design Professional shall coordinate with NSU (Owner) to indicate which system is in use at building or department under construction.
- e) All construction cores will be supplied and installed by contractor for locking of units as required for and during temporary security of construction area and will be coordinated with NSU (Owner).
- f) Contractor will have access to construction cores/keying, but shall not have access to permanent final cores and keys at any time.
- 08.71.00.19 Key Control System:

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- a) Provide a key control system, including envelopes, tags, labels, receipt forms, 3-way visible card index, temporary markers and standard metal cabinet with a capacity of 150% of the number of cylinders required for this project.
- b) Models and Functions:
 - 1) HPC KEKAB Series.
 - a) KEKAB-720
 - 2) Coordinate with NSU (Owner) for models to be adjusted depending on the size of project.
- c) Representative of the manufacturer will deliver the permanent cores & keys in envelopes, all marked with plan number for openings. When needed manufacture representative will provide owner with assistance in setting up key cabinet, installing the building keys, all tagged, entered in the index and marked with the corresponding door numbers, in the cabinet. When needed manufacture representative will accompany building owner during turnover of the building; while construction cores are removed and each individual key is tested on the door indicated.

08.71.00.20

Locksets and Latches:

- a) Provide standard wrought box strike for each latch or lock; with a curved lip, extended to protect the frame without interfering with the opening. On pairs of doors, adjust LTC dimensions to clear the astragals.
- b) Provide a 3/4" minimum throw latch-bolt when used on pairs of doors. Provide the manufacturer's standard latch-bolt on all other units.
- c) Provide a knurled lever on the public side of all openings to mechanical and electrical rooms, stairwells or other areas that are a danger to persons with limited visual ability. Refer to ANSI 117 and current ADA standards for requirements.
- d) Locksets will have a written 7-year warranty issued by the manufacturer.
- e) Models and Functions:
 - 1) BAS - 93K Series 14 or 15 (grade-1) cylindrical lever design.
 - 2) BAS - 45H Series 14H (grade-1) mortise lever design.

08.71.00.21

Fire Exit Devices:

- a) Except on fire rated openings, wherever closers are used with exit devices; equip units with a Cylinder operated dogging device to hold the push bar depressed and the latch-bolt in a retracted position.
- b) All exit devices, delayed egress units, and electronically controlled exit operators are to be by one manufacturer. Electronically operated units to be applied to fire rated openings cannot be modified in the field or shop after the manufacturer has applied label.
- c) All exit devices on exterior openings will have a deadlocking latch-bolt feature, preventing manipulation of the latch-bolt when the door is closed.
- d) Exit Devices will have at least 10-year written warranty issued by the manufacturer.
- e) All exit devices will have a stainless steel push bar cover. Chassis and base plate will be extra heavy-duty extruded aluminum.

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f) Contractor will provide factory prepared spacers to allow exit devices to clear applied moldings, window trims and decorative appliqué on doors. Spacers will be from the exit device manufacturer and finished to match devices.

g) Models and Functions:

- 1) Coordinate HM 08100 sections. Allegion products have limited M/D Hurricane Approvals with doors other than those made by Steelcraft.
- 2) Von DUPRIN 98-XP (Lever operated applications shall have matching 17 series)
- 3) THE FOLLOWING ARE FOR ALUMINUM & GLASS DOORS ONLY.
 - a) Von Duprin 33 series.
 - b) DOR-O-MATIC 1490 series

08.71.00.22

Door Closers:

- a) Unless otherwise specified, comply with the manufacturer's recommendations for the size of the closers and door control devices, depending on the size of the door, exposure to the weather and the anticipated frequency of use.
- b) The opening force required to operate a door must be in compliance with the current ADA guidelines for the interior and exterior openings.
- c) Use the regular arm, parallel arm or top jamb mounted position to locate the closer for the maximum degree of efficiency and to place the closer out of sight wherever possible.
- d) Closers will be located on the interior side of the opening where possible.
- e) Closers will have a written 25-year warranty issued by the manufacturer.

f) Models and Functions:

- 1) LCN - 4040XP
- 2) EDA 3077
- 3) CUSH 3077CNS
- 4) CUSH-H 3049SC

08.71.00.23

Electronic Hardware and Equipment:

- a) All electronically controlled or operated hardware will be by one manufacturer. Every component will have been tested and certified by UL and will bear a label showing its approval, rating and parameters.
 - 1) All power supplies will be listed as UL Class 2 Access Control, Fire, Burglary, and Releasing Devices.
 - 2) Electronically operated units to be applied to fire rated openings cannot be modified in the field or shop after the manufacturer has applied label.

08.71.00.24

Door Trim and Accessories:

- a) All kickplates will be 8" high and 2" less than the door width, with all exposed edges beveled.
 - 1) Mop plates will be 4" high and 1" less than the door width, with all exposed edges beveled.



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2) Armor Plates and Edge Guards will be 34” high.

3) All kick plates, mop plates, edge guards and armor plates will be stainless steel, minimum .051 or thicker. All screw holes will be countersunk.

b) Push and Pull Units - Models and Functions.

c) Wall and Floor Stops - Models and Functions.

d) Flushbolts and Coordinators - Models and Functions.

e) Overhead Stops and Holders - Models and Functions.

f) Weather-strip and Thresholds - Provide weather-strip and thresholds at all exterior openings.

*Note: Changes in materials (e.g. stainless steel) may change the equivalent manufacturer’s model number. Contractor is to use material shown in schedule and change model number as required to obtain same style in specified material.

g) Sound Seals: Openings requiring Sound Transmission Rating shall meet the specified rating under the standards ASTM E1408 and E1425 “Operable Values”. Provide seals and acoustic performance test at site. Complete openings, certified by door and frame manufacturer as meeting the above standards will be accepted in lieu of site testing individual openings. This does not relieve contractor of testing procedures required under other sections of this contract.

Performance Standards

08.71.00.25

Installation:

a) Mount hardware units at the height indicated in the "Recommended Locations for Builder's Hardware for Standard Steel Doors and Frames" by the Door and Hardware Institute; except as specifically indicated or required to comply with the governing regulations or as otherwise directed by the architect.

b) Install each hardware item in compliance with the manufacturer's recommendations and instructions. Whenever cutting or fitting is required to install hardware on or into surfaces which are later to be painted, or finished another way; coordinate removal, storage and the installation of hardware with the finishing work specified in Division 9 sections. Do not install surface mounted hardware until finishes have been completed on the substrate.

c) Drill and counter sink units that are not factory prepared for anchorage fasteners. Space anchors and fasteners in accordance with industry standards for each application.

d) Set thresholds for exterior openings in full bed of butyl rubber or polyisobutylene mastic sealant.

e) Adjust and clean each operating item of hardware and each door to ensure the proper operation or function of each unit. Replace units that cannot be adjusted to operate freely and smoothly as intended for the application made.



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f) Provide PSD-Physical Security Division with instructions for repair and maintenance of all door hardware used in the building. Training is to take place on the owner's site (project or PSD-Physical Security Division offices). Supplier will provide all tools, parts, samples and mock-ups for a complete education on all components of the door hardware.

g) Door hardware supplier will provide all documents, wiring diagrams and product information required for coordination with the security equipment, fire alarm, and other trades involved in the installation of door operating systems. Door hardware supplier will have available, during normal business hours, an experienced hardware consultant to attend coordination meetings and provide input to assure a smoothly operating door system.

08.71.00.26

Continued Service and Warranty:

- a) PSD-Physical Security Division will inspect the hardware and installation when Contractor receives building TCO.
- b) Each opening will be examined for problems with materials and installation.
- c) A written punch list report of the PSD-Physical Security Division findings will be submitted for Architect and Contractor review for follow up with vendors for correction.
- d) Architect and Contractor will advise when punch list has been completed and ready for re-inspection by the PSD-Physical Security Division.
- e) PSD-Physical Security Division will re-inspect the hardware and installation until punch list is satisfied and will issue final approval in coordination with Facilities Management to Architect and Contractor before turnover/occupancy of the building.
- f) Approximately six months after the acceptance of the building, the Contractor, installers, and representatives of the door, lock, exit device, closer, and access control related manufacturers or integrator will return to the project.
 - 1) At that time they will re-adjust every item of hardware to restore proper function of doors and hardware.
 - 2) They will consult with the PSD-Physical Security Division personnel in recommended changes to the maintenance procedures and will replace items that have failed under the warranty period.
 - 3) A written report will be submitted to the PSD-Physical Security Division describing current or predictable problems (of a substantial nature) in the performance of the hardware.
 - 4) PSD-Physical Security Division will re-inspect the hardware and installation until punch list is satisfied and will issue final approval in coordination with Facilities Management to Architect and Contractor before turnover/occupancy of the building.

08.71.00.27

Hardware Group Sets:



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- 08.71.00.28 General guidelines for Hardware Schedules:
- a) This project may contain doors that are oversized, non-standard thickness and have applied trims. See the plans and schedules for the hinge widths and clearance requirements. Doors with glass-lites and moldings will require spacers to allow fire exit device and locking hardware installation.
 - b) Reinforce hollow metal or specialty doors to provide a minimum 12GA. steel for drilling and tapping to install hardware. Install hardwood blocking in wood doors to hold wood screws where hardware is installed.
 - c) Contractor shall furnish a detailed, color coded, wiring diagram showing all components used in openings where electrified hardware is specified.
 - d) The door and hardware supplier installer will provide this diagram at the time of the hardware submittals.
 - e) Exterior and interior openings using electronic access control will have a key over-ride.
 - f) For modification to an existing building:
 - 1) Contractor is required to make an examination of the site before ordering materials.
 - 2) It is the intention of this specification to match the existing building equipment. Conflicts should be reported to the architect before proceeding with work.
- 08.71.00.29 g) NSU-PSD Locksmith Operations Hardware Schedule Standards:
- 08.71.00.30 Mechanical Access Control (MAC):
- 08.71.00.31 Hardware Set 01 – Office – Cylindrical Lever
- 3 - Hinges - FBB 179 4 ½ x 4 ½
 - 1 - Lock - 9K37AB14CS3626
 - 1 - Wall Bumper - WS407CVX
 - 3 - Silencers - SR64
- 08.71.00.32 Hardware Set 02 – Classroom – Cylindrical Lever
- 3 - Hinges - FBB 179 4 ½ x 4 ½
 - 1 - Lock - 9K37R14CS3626
 - 1 - Door Closer - 4040XP
 - 1 - Kick Plate - 8400 x 10 x 34
 - 1 - Wall Bumper - WS407CVX
 - 3 - Silencers - SR64



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- 08.71.00.33 Hardware Set 03 – Intruder – Cylindrical Lever
3 - Hinges - FBB 179 4 ½ x 4 ½
1 - Lock - 9K37IN14CS3626
1 - Door Closer - 4040XP
1 - Kick Plate - 8400 x 10 x 34
1 - Wall Bumper - WS407CVX
3 - Silencers - SR64
- 08.71.00.34 Hardware Set 04 – Storeroom – Cylindrical Lever
3 - Hinges - FBB 179 4 ½ x 4 ½
1 - Lock - 9K37D14CS3626
1 - Door Closer - 4040XP
1 - Kick Plate - 8400 x 10 x 34
1 - Wall Bumper - WS407CVX
3 - Silencers - SR64
- 08.71.00.35 Hardware Set 05 – Privacy – Cylindrical Lever
3 - Hinges - FBB 179 4 ½ x 4 ½
1 - Lock - 9K37OL14CS3626
1 - Door Closer - 4040XP
1 - Wall Bumper - WS407CVX
3 - Silencers - SR64
- 08.71.00.36 Hardware Set 06 – Passage – Cylindrical Lever
3 - Hinges - FBB179 4 ½ x 4 ½
1 - Lock - 9K370N14CS3626
1 - Wall Bumper - WS407CVX
3 - Silencers - SR64
- 08.71.00.37 Hardware Set 07 – Dormitory – Cylindrical Lever
3 - Hinges - FBB179 4 ½ x 4 ½
1 - Lock - 9K37T14CS3626
1 - Door Closer - 4040XP
1 - Wall Bumper - WS407CVX
3 - Silencers - SR64



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- 08.71.00.38 Hardware Set 08 – Institutional – Cylindrical Lever
3 - Hinges - FBB179 4 ½ x 4 ½
1 - Lock - 9K37W14CS3626
1 - Door Closer - 4040XP
1 - Wall Bumper - WS407CVX
3 - Silencers - SR64
- 08.71.00.39 Hardware Set 09 – Classroom – Mortise
3 - Hinges - FBB179 4 ½ x 4 ½
1 - Lock - 45H7R15H626RHRB
1 - Door Closer - 4040XP
1 - Wall Bumper - WS407CVX
3 - Silencers - SR64
- 08.71.00.40 Hardware Set 10 – Dormitory – Mortise
3 - Hinges - FBB179 4 ½ x 4 ½
1 - Lock - 45H7T15H626LH
1 - Door Closer - 4040XP
1 - Wall Bumper - WS407CVX
3 - Silencers - SR64
- 08.71.00.41 Hardware Set 11 – Storeroom – Mortise
3 - Hinges - FBB179 4 ½ x 4 ½
1 - Lock - 45H7D15H626RH
1 - Door Closer - 4040XP
1 - Wall Bumper - WS407CVX
3 - Silencers - SR64
- 08.71.00.42 Hardware Set 12 – Single – Exit Device
3 - Hinges - FBB179 4 ½ x 4 ½
1 - Exit Device - 98L-F x 996L (#17) x 299F x 3-0 x SNB
1 - Rim Cylinder - 12E-7-2-S2-RP
1 - Door Closer - 4040XP
1 - Kick Plate - 8400 x B4E x 10 x 34
1 - Wall Bumper - WS407CVX
3 - Silencers - SR64



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- 08.71.00.43 Hardware Set 13 – Double with Mullion – Exit Devices
6 - Hinges - FBB179 4 ½ x 4 ½
1 - Exit Device - 98L-F x 996L (#17) x 299F x 3-0 x SNB
1 - Exit Device - 98EO-F x 299F x 3-0 x SNB
1 - Rim Cylinder - 12E-7-2-S2-RP
1 - Mortise Cylinder - 1E-7-4-C118-RP3
1 - Mullion - 9854 x 8-3 x KR54-F x 154 x MT54
2 - Door Closer - 4040XP
2 - Kick Plate - 400 x B4E x 10 x 34
2 - Wall Bumper - WS407CVX
2 - Silencers - SR64
- 08.71.00.44 h) NSU-PSD Locksmith Operations Hardware Schedule Standards:
08.71.00.45 Electronic Access Control (EAC):
08.71.00.46 Hardware Set 14 – Double with Delayed Egress with Mullion – Exit Devices
4 - Hinges - FBB179 4 ½ x 4 ½ NRP
2 - Electrified Hinge - CE-56 FBB179 4 ½ x 4 ½
1 - Exit Device - CX-9827L x 996L (#17) x 299 x LBR x RG-27 x 3-0 x SNB
1 - Exit Device - CX-9827EO x 299 x LBR x RG-27 x 3-0 x SNB
2 - Mortise Cylinder - 1E-7-4-C118-RP3
1 - Mullion - 9854 x 8-3 x KR54-F x 154 x MT54
2 - Door Closer - 4040XP
2 - Kick Plate - 8400 x B4E x 10 x 34
2 - Wall Bumper - WS407CVX
1 - Power Supply - PS914 900-2R
2 - Silencers - SR64
- 08.71.00.47 Hardware Set 15 – IDH-MAX – Cylindrical Lever
2 - Hinges - FBB 179 NRP 4 ½ x 4 ½
1 - Electrified Hinge - CE 56 FBB 179 4 ½ x 4 ½
1 - Lock - 9KM37DDEU14PHS3626H26B
1 - Door Closer - 4040XP
1 - Wall Stop - WS407CVX
3 - Silencer - SR64



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- 08.71.00.48 Hardware Set 16 – IDH-MAX – Cylindrical Lever – Life Safety Path of Egress
2 - Hinges - FBB 179 NRP 4 ½ x 4 ½
1 - Electrified Hinge - CE 56 FBB 179 4 ½ x 4 ½
1 - Lock - 9KM37DDEL14PHS3626H26B (Fail Safe)
1 - Door Closer - 4040XP
1 - Wall Stop - WS407CVX
3 - Silencer - SR64
- 08.71.00.49 Hardware Set 17 – IDH-MAX – Mortise – Residential Halls
2 - Hinges - FBB 179 NRP 4 ½ x 4 ½
1 - Electrified Hinge - CE 56 FBB 179 4 ½ x 4 ½
1 - Lock - 45HM7DEU14PH626RHRBH26B
1 - Door Closer - 4040XP
1 - Wall Stop - WS407CVX
3 - Silencer - SR64
- 08.71.00.50 Hardware Set 18 – IDH-MAX – Mortise – Life Safety Path of Egress
2 - Hinges - FBB 179 NRP 4 ½ x 4 ½
1 - Electrified Hinge - CE 56 FBB 179 4 ½ x 4 ½
1 - Lock - 45HM7DEL14PH626RHRBH26B (Fail Safe)
1 - Door Closer - 4040XP
1 - Wall Stop - WS407CVX
3 - Silencer - SR64
- 08.71.00.51 Hardware Set 19 – Exterior and Suite – Fail Secure – Exit Device
2 - Hinges - FBB179 4 ½ x 4 ½
1 - Electrified Hinge - CE-56 FBB179 4 ½ x 4 ½
1 - Exit Device - RX-98L-F x E996L (FSE-24VDC) (#17) x 299F x 3-0 x SNB
1 - Rim Cylinder - 12E-7-2-S2-RP
1 - Door Closer - 4040XP
1 - Kick Plate - 8400 x B4E x 10 x 34
1 - Wall Bumper - WS407CVX
3 - Silencers - SR64



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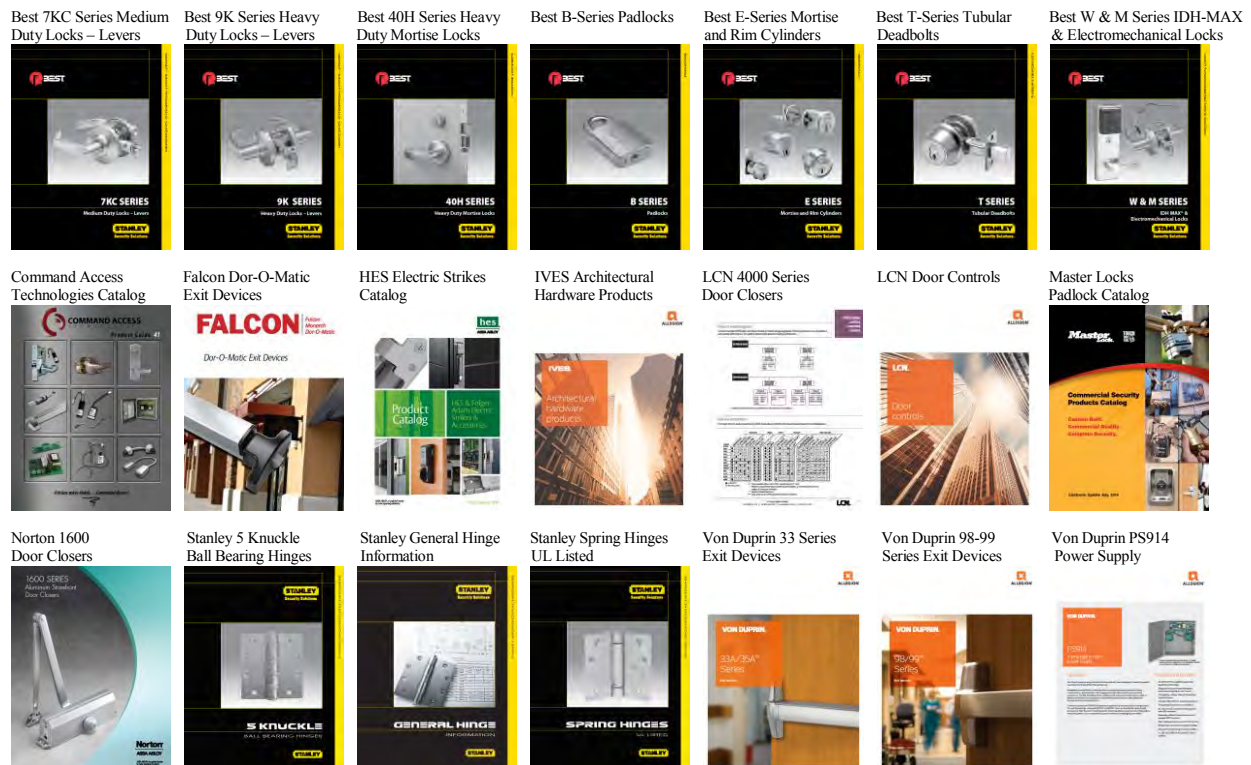
- 08.71.00.52 Hardware Set 20 – Fail Safe – Single – Exit Device – Life Safety Path of Egress
2 - Hinges - FBB179 4 ½ x 4 ½
1 - Electrified Hinge - CE-56 FBB179 4 ½ x 4 ½
1 - Exit Device - RX-98L-F x E996L (FS-24VDC) (#17) x 299F x 3-0 x SNB
1 - Rim Cylinder - 12E-7-2-S2-RP
1 - Door Closer - 4040XP
1 - Kick Plate - 8400 x B4E x 10 x 34
1 - Wall Bumper - WS407CVX
3 - Silencers - SR64
- 08.71.00.53 Hardware Set 21 – Fail Secure – Double – Exit Device
6 - Hinges - FBB179 4 ½ x 4 ½
2 - Electrified Hinge - CE-56 FBB179 4 ½ x 4 ½
1 - Exit Device - RX-9827L-F x E996L (FSE-24VDC)(#17)x499FxLBRx3-0x8-0
1 - Exit Device - RX-9827EO-F x 449F x LBR x 3-0 x 8-0
1 - Rim Cylinder - 12E-7-2-S2-RP
2 - Door Closer - 4040XP
2 - Kick Plate - 8400 x B4E x 10 x 34
1 - Astragal - 137NA (SET) 96”
2 - Wall Bumper - WS407CVX
2 - Silencers - SR64
- 08.71.00.54 Hardware Set 22 – Fail Safe – Double – Exit Device – Life Safety Path of Egress
6 - Hinges - FBB179 4 ½ x 4 ½
2 - Electrified Hinge – CE-56 FBB179 4 ½ x 4 ½
1 - Exit Device - RX-9827L-F x E996L (FS-24VDC)(#17)x499FxLBRx3-0x8-0
1 - Exit Device - RX-9827EO-F x 449F x LBR x 3-0 x 8-0
1 - Rim Cylinder - 12E-7-2-S2-RP
2 - Door Closer - 4040XP
2 - Kick Plate - 8400 x B4E x 10 x 34
1 - Astragal - 137NA (SET) 96”
2 - Wall Bumper - WS407CVX
2 - Silencers - SR64
- 08.71.00.55 i) NSU-PSD Locksmith Operations Hardware Schedule Standards:



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08.71.00.56 Manufactures Cut-Sheets Attachment Index:



08.71.13 Automatic Door Operators

- 08.71.13.01 Prohibited: Touch-and-go operation.
- 08.71.13.02 Automatic door openers shall be low energy, swing type, electro-hydraulic or electro-mechanical units. The openers also shall have power open/spring close operation with hydraulic control features, enclosed in an aluminum cover. The unit manufacturer shall provide actuators. Openers shall be field adjustable.
- 08.71.13.03 Systems shall be hard-wired.
- 08.71.13.04 Acceptable Manufacturers:
 - a) Stanley
 - b) Besam
 - c) LCN
 - d) Gyro-tech
- 08.71.13.05 For safe maintenance, provide a means to disconnect electrical service to the power door operator directly adjacent to the power door operator.



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**08.80.00 Glazing
Design Standards**

- 08.80.00.01 General:
This section provides guidelines for the selection of glazing for exterior and interior applications.
- 08.80.00.02 For exterior glazing specify glazing in framed systems that have Florida Building Code Product Approval or Miami Dade NOA Large Missile Impact testing. Select laminated glass or insulated laminated glass as required by energy considerations.
- 08.80.00.03 For exterior glazing specify glazing in framed systems that have Florida Building Code Product Approval or Miami Dade NOA Large Missile Impact testing. Select laminated glass or insulated laminated glass as required by energy considerations.
- 08.80.00.04 Energy consideration for Exterior Glass: Select exterior glazing of tint or/and coating that reduces energy consumption and as require to meet solar heat gain coefficient/shading coefficient and U-factor included in engineering analysis requirements.
- 08.80.00.05 Coordination of Drawings: Include on drawings a “Glass Legend” coordinated with opening elevations. The drawings shall include dimensions of each framing system and glass opening. Do not attempt to indicate actual glass sizes or glass thickness.
- 08.80.00.06 Show direction of coated side of one-way glass. Coordinate with lighting design.
Coordinate Glass Legend with glazing specifications.
- 08.80.00.07 The use of film/coating in exposed glass is not permitted.
- 08.80.00.08 Glass colors shall be selected from Nova Southeastern University approved color palette.
- 08.80.00.09 Glazing: Specify applicable ASTM references.
- 08.80.00.10 Glass colors to be selected from Nova Southeastern University approved color palette and based on values provided by mechanical engineer as well as sustainable design requirements.
- 08.80.00.11 Indicate minimum glass thickness. Request that Contractor assume design responsibility by delegating glass design, including thickness, to a qualified professional engineer using wind pressures indicated on drawings and as required by Florida Building Code.
- 08.80.00.12 Indicate in specifications the required “U” Value; shading Coefficient (SC); visible light transmittance; solar energy transmittance; and relative heat gain of exterior glazing unit.
- 08.80.00.13 Select the appropriate type of glass for the application. In general, use tempered glass for standard interior glazing; use laminated glass for exterior application, for security glazing and where acoustics are a concern. Specify edge condition on exposed glass.
- 08.80.00.14 Fire Rated Glazing: Select fire rated glazing that provides required fire protection rating and that meets safety glazing requirement. The use of wired glass is not allowed.
- 08.80.00.15 Setting Materials:
a) Setting materials required need to be coordinated with glazing manufacturer and framing manufacturer.

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- b) Laminated glass requires sealing of edges, especially on butt glazed installation to prevent migration of sealant into lamination. Request from manufacturer his recommendation and specified recommended product.
- c) For Butt Glazed Interior Partitions, specify top and bottom channels. Finish and mounting to be determined, subject to approval by Nova Southeastern University.
- 08.80.00.16 Add statement in specs requiring that all components of the glazing system be compatible.
- Product Standards**
- 08.80.00.17 Approved Manufacturers/Fabricators for Exterior Glazing: Subject to compliance with these guidelines, applicable code requirements and Code Product approval:
- a) Viracon
 - b) PPG
 - c) Old Castle
 - d) Cardinal Glass
- Performance Standards**
- 08.80.00.18 Request the following submittals from the contractor for review and approval:
- a) Product Data: Material specifications, maintenance recommendations and printed installation recommendations. Refer to manufacturer's recommendations for setting blocks, spacers, method of securing glass to framing and edge clearances.
 - b) Manufacturer's Certificates:
 - 1) Certification that all glazing (exterior and interior) complies with testing requirements in 16 CFR 1201 for Category II material. Glazing must carry safety glazing label.
 - 2) Certification that fire rated glazing is listed and labeled by a testing agency acceptable to authorities having jurisdiction, for fire-protection ratings indicated, based on testing according to NFPA 252 for door assemblies and NFPA 257 for window assemblies and complies with testing requirements in 16 CFR 1201 for Category II materials.
 - c) Glazing samples: 6 inch square, of each type and color of glass required and 12 inch long samples of glazing accessories.
 - d) Color Charts: for glazing gaskets and glazing sealants for color selection by Architect-Engineer.
- 08.80.00.19 Quality Assurance:
- a) Request that glass be permanently mark with certification label showing manufacturer's name, type of glass, thickness and safety glazing standard which glass complies with. Label shall indicate manufacturer's name, type of glass, thickness, and safety glazing standard with which glass complies.
- 08.80.00.20 Warranty Requirements:
- a) Specify a 10-year manufacturer's warranty for coated-glass products.
 - b) Specify a 5-year manufacturer's warranty for laminated glass.
 - c) Specify a 10-year manufacturer's warranty for insulating glass products.

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- d) Make sure specified glazing manufacturers offer warranties specified above.
- e) Ask the manufacturer's representative for a copy of the applicable warranty for each product.

08.83.00 Mirrors

Design Standards

- 08.80.00.01 This section provides guidelines for the materials selection of unframed mirrors.
- 08.80.00.02 Use film-backed glass mirrors qualifying as safety glazing.
- 08.80.00.03 Use top and bottom channels to hold mirrors in place.

Product Standards

- 08.80.00.04 Glass mirror standard: ASTM C1503/C1036, Quality Q1.
- 08.80.00.05 Require application of film backing as required complying with safety glazing product per testing requirements in 16 CFR 1201 for Category II materials.
- 08.80.00.06 Mirror glazing thickness: ¼ inch.
- 08.80.00.07 Specify edge treatment.
- 08.80.00.08 Require that edge sealer be applied to exposed edges of glass.
- 08.80.00.09 Require mechanical supports fabricated from clear anodized aluminum or stainless steel satin finish similar to J angles.

Performance Standards

- 08.80.00.10 Request the following submittals from the contractor for review and approval:
 - a) Product Data: Material specifications, edge sealer, mechanical supports and fasteners, maintenance recommendations and printed installation recommendations.
 - b) Shop Drawings: To include mirror elevations, edge details, mirror hardware, and attachments to other work.
 - c) Samples of the following:
 - 1) Mirrors: Showing edge treatment on two adjoining edges.
 - 2) Mirror mechanical supports/trim.
 - d) Maintenance Data.
 - e) Installer qualifications.
- 08.80.00.11 Warranty: Five years manufacturer's warranty from date of substantial completion against defects including black spots, clouding of the silver film, discoloration.

08.91.19 Wall Louvers

Design Standards

- 08.91.19.01 This section provides guidelines for the materials selection and design of exterior aluminum wall louvers.
- 08.91.19.02 Show on drawings louver sizes and profiles.
- 08.91.19.03 Generally, indicate horizontal drainable blade louvers.

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- 08.91.19.04 Meet with mechanical and electrical engineers to determine louver performance rating requirement including but not limited to: Free area; point of beginning water penetration, air performance.
- 08.91.19.05 Specify Wind-Driven-Rain-Resistant Louver that provides required/specified wind-driven rain performance, as determined by testing according to AMCA 500-L.
- 08.91.19.06 Wall Louvers and attachment/support system shall be designed to withstand wind loads per Florida Building Code High Velocity Wind Zones (HVWZ) requirements.
- 08.91.19.07 Louvers on project need to be obtained from single source from a single manufacturer.
- Product Standards**
- 08.91.19.08 Select Louvers from manufacturers that have Miami Dade County Product Approval (NOA) or State of Florida Product Approval with large missile impact testing.
- 08.91.19.09 Require compliance with recommendations in SMACNA's "Architectural Sheet Metal Manual" for fabrication, construction details, and installation procedures should be required.
- 08.91.19.10 Require that louvers carry AMCA Certified Ratings Seal.
- 08.91.19.11 Require that fasteners be fabricated from Type 316 stainless steel.
- 08.91.19.12 Require aluminum or stainless steel bird screens with removable frame.
- 08.91.19.13 Louver finish: Factory applied, 2-coat fluoropolymer finish complying with AAMA 2605 and containing not less than 70 percent PVDF resin by weight in color coat.
- 08.91.19.14 Color: As approved by Nova Southeastern University.
- 08.91.19.15 Confirm if louver manufacturer/finish manufacturer can provide a 20 year finish warranty.
- Performance Standards**
- 08.91.19.16 Request the following submittals from the contractor for review and approval:
- a) Product Data: Material specifications, fasteners, maintenance recommendations and printed installation recommendations.
 - b) Shop Drawings: To include plans, elevations, sections, details, and attachments to other work; frame profiles and blade profiles.
 - c) Delegated Design, including comprehensive engineering analysis by a qualified professional engineer, using structural performance requirements and design criteria indicated.
 - d) Samples of finishes and fastening devices.
- 08.91.19.17 Warranty: Require 20 year finish warranty if available from manufacturer.

END OF DIVISION 08

3. Definitions

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4. References

5. Approvals and Revisions

Approved July 1st, 2016, by Vice President for Facilities Management, Jessica Brumley.

Approved July 1st, 2016, by Director of Public Safety, James Ewing.

Approved July 1st, 2016, by Assoc. Director of Public Safety - Physical Security Division, Jimmy Ricci.

Policy complied by PSD-Physical Security Division – Locksmith Operations 2016 Team Members:

Melissa M. Crawford – Lead Locksmith III

Harold J. Miller – Locksmith II

David A. VanderLaan – Locksmith II

Travis A. Searle – Locksmith II

Jaime Jaramillo – Locksmith II

Jimmy R. Ricci – Associate Director of Public Safety - Physical Security Division-Locksmith Operations

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Future Revisions