PART 1 GENERAL

1.1 Design Guidelines


2. Design entries to minimize accumulation of rain, snow and ice. Main building entries shall have at least a 20 foot deep walk off area. Walk off area may be a combination of covered canopy, entry vestibule and floor mats.

3. Provide a vestibule/airlock at all main building entrances.

4. Provide power door operators at all main entrances. See Section 08460.

5. Minimum door width is to be 3'-0" x 7"-0" at all doors.

6. High traffic doors such as revolving doors or automatic sliding doors should be considered for main building entries.

7. Avoid center mullions at groups of interior corridor doors.

8. Design of entries should consider protection from exposure to wind.

9. Bronze or grey colors are preferred at tinted glazing. Provide clear glass at door glazing.

10. Consider effect of daylighting and solar orientation on building energy use. See Division 16 for photometric and occupancy sensors.

1.2 Performance Standards

1. Wind Loading: Design system per applicable codes and per ASTM E330. Deflection limit is to be 1/200 or limit of glass, whichever is less.

2. Air Infiltration: Limit to 0.06 cfm/min/sq. ft. measured in accordance with AAMA 501.2 and ASTM E283.

3. Water Leakage: None; to be measured in accordance with AAMA 501.2.

4. System Drainage: Provide internal drainage system to weep accumulated moisture to exterior.

5. Condensation Resistance Factor (CRF): CRF value is to be a minimum of 45 in accordance with AAMA 1503.

7. Energy Efficiency Standard: Maximum U value for unit is to be 0.65. Perform a building life cycle analysis to determine if lower values are cost effective.

8. Warrantee: 5 years

9. System to be fabricated and installed by a firm with a minimum 3 years experience with the specified products. Installers are to be approved by the manufacturer.

PART 2 PRODUCTS

2.1 System Description

Storefronts:
1. Extruded aluminum 6063-T5 frames and storefront framing, nominal wall thickness .125”.

2. Thermally broken framing at storefront framing.

3. 1” insulated storefront glazing. See Section 08810. Door glazing ¼” laminated tempered glass. Comply with applicable code requirements for safety glazing.

4. Sealants: Perimeter and glazing sealants; See Section 07900.

5. Hardware: See Section 08710. Provide 12” high kickplates except at residence halls where 24” high kickplates are required.

6. Specified system shall be provided thru a single source.

Doors:
1. Door sections to be 1 ¾” tubular shapes of extruded aluminum, 603-T5 alloy with 4” styles, 4” top rail and 12” – 16” bottom rail. For residence halls use 24” bottom rail.

2. Joinery shall be 3/8” diameter cadmium plated steel tie rods bolted through the stiles. Where applicable a minimum of three rods will be installed in each door.

3. Minimum wall thickness of the face is .100”. End wall thickness at the hinge and lock stiles to be .187” minimum.

4. Meeting stiles of pairs of doors to have Schlegel No. 5045 wool pile weather-stripping. Optional finishes include special anodized colors as well as painted finishes.

5. Fluted #10 pattern to be extruded in face (typical). Smooth face is optional.

6. Glass stops to be extruded angles with minimum wall thickness of .125” and to be removable from the inside.

7. Doors to accept glass from ¼” laminated tempered glass.

8. Glazing in sidelites and transoms to be 1” tempered insulated glass.
2.2 Acceptable Manufacturers

1. Kawneer
2. Efco
3. Amarlite
4. Cross
5. Thompson

Section 08520: Aluminum Windows

PART 1 GENERAL

1.1 Design Guidelines

1. Sliding, projected or hopper type units are preferred. Use of double hung or casement windows are to be approved by WMU design team.

2. Window 36 inches wide or less are preferred for optimal hardware performance. Comply with applicable codes for egress requirements.

3. All windows are to be operable for ventilation and ease of cleaning. Work such as re-glazing, cleaning or re-screening must be able to be done from the room side.

4. Tinted glazing of bronze or grey colors is preferred.

5. Window controls are to be operable with one hand. Maximum force to operate controls shall be 5 ft-lbs.

6. Consider effect of daylighting and solar orientation on building energy use. See Division 16 for photometric and occupancy sensors.

1.2 Performance Standards

1. Minimum quality standard is to be AAMA HC-50 or better.

2. Maximum U value for units to be be 0.65. Perform a building life cycle analysis to determine if lower values are cost effective.

PART 2 PRODUCTS

2.3 System Description

7. Extruded aluminum windows, minimum 0.125 wall thickness, thermally broken framing.

2. Units with 1” insulated glazing.

3. Hardware: Cam locks are preferred on units.
4. Sealants: Perimeter and glazing sealants; See Section 07900.
5. Screens: Aluminum or fiberglass cloth.
6. Finishes: Anodized or electrostatically painted finishes.

2.1 Acceptable Manufacturers

1. Kawneer
2. Efco
3. Traco

Section 08710
Door hardware

Part 1 general

1.1 Submittals

A. Product data: required
B. Shop drawings: required

1.2 Quality assurance

A. Regulatory requirement: state of michigan, barrier-free design law.

Part 2 products

2.1 Manufacturers/products

A. Door hardware: as scheduled:

1. Quality level: heavy duty commercial type
2. Locksets: corbin with levers
3. Cylinders: best 7-pin core, interchangeable
4. Hinges: markar fm3500 continuous hinges
5. Closers, lcn 4040, norton uni 7700, overhead, exposed
6. Exit devices: corbin russwin ed5200s deadbolt device
7. Finishes: satin chrome, satin stainless, brushed aluminum
8. Keying: master keyed. Include construction keying, control keying, coordinate with public safety
9. Kickplates: 1/8" aluminum, both sides, sized for door width, color to match door
10. Holders: ives, kick-down type
11. Thresholds: hager
12. Push plates: h. B. Ives
13. Pull bars: h. B. Ives
14. Bolts: glynn-johnson
15. Bumpers and stops: glynn-johnson
16. Overhead stops: glynn johnson
17. Automatic drop seals: national guard products
18. Sound stripping: national guard products
19. Flush pulls: national guard products
20. Edge pulls: h. B. Ives

B. Automatic door equipment: horton automatic handicap door assist 7100 series, push plate and button control device

C. Door security systems and hardware: see sections 16 and 17

Part 3 execution

A. Office doors but hinges, lockset, closer, stop and silencers

B. Toilet doors but hinges, privacy set, stop and silencers

C. Rated doors – interior but hinges, lockset, closer stop and smoke seals

A. End of section

Section 08920: Glazed Aluminum Curtain Walls
DRAFT

PART 1 GENERAL

1.1 Design Guidelines

1. Bronze or grey colors are preferred at tinted glazing.

2. Framing Finishes: Anodized or electrostatically painted finishes.

3. Provide expansion joints in system as required.

4. Install system per manufacturer’s recommendations.
5. Consider effect of daylighting and solar orientation on building energy use. See Division 16 for photometric and occupancy sensors.

1.2 **Performance Standards**

6. Wind Loading: Design system per applicable codes and per ASTM E330. Deflection limit is to be 1/200 or limit of glass, whichever is less.

7. Air infiltration: Limit to 0.06 cfm/min/sq. ft. measured in accordance with AAMA 501.2 and ASTM E283.

8. Water Leakage: None; to be measured in accordance with AAMA 501.2.

9. System Drainage: Provide internal drainage system to weep accumulated moisture to exterior.

10. Condensation Resistance Factor (CRF): CRF value is to be a minimum of 45 in accordance with AAMA 1503.

11. Energy Efficiency Standard: Maximum U value for unit is to be 0.65. Perform a building life cycle analysis to determine if lower values are cost effective.

10. Warrantee: 5 years

11. System to be fabricated and installed by a firm with a minimum 3 years experience with the specified products. Installers are to be approved by the manufacturer.

**PART 2 PRODUC TS**

2.4 **System Description**

8. Extruded aluminum, thermally broken curtain wall framing.

9. 1” insulated glazing. See Section 08810. Comply with applicable code requirements for safety glazing.

10. Sealants: Perimeter and glazing sealants; See Section 07900.

4. Specified system shall be provided thru a single source.

2.5 **Acceptable Manufacturers**

6. Kawneer
7. Efco
8. Amarlite