**SECTION 08710**

**DOOR HARDWARE**

**(CONTINUOUS GEARED DOOR HINGES)**

**PART 1 GENERAL**

* 1. SUMMARY

1. Section Includes: Continuous Geared Door Hinges.

 B. Related Sections:

 1. Division 6 Section(s): Wood Frames.

2. Division 8 Section(s): Steel Doors, Wood Doors, Sound Control Doors, Aluminum

 Storefront Doors, FRP or Fiberglass Doors.

 3. Division 10 Section(s): Compartments and Cubicles, Partitions.

Specifier Note: Article below may be omitted when specifying manufacturer’s proprietary products and recommended installation. Retain Reference Article when specifying products and installation by an industry reference standard. If retained, list standard(s) referenced in this section. This article does not require compliance with standard. It is a listing of all references used in this section.

1.02 REFERENCES

 A. ASTM International:

 1. ASTM E2074 Standard Test Method for Fire Tests of Door Assemblies, Including

 Positive Pressure Testing of Side-Hinged and Pivoted Swinging Door Assemblies.

 B. American National Standards Institute/Builders Hardware Manufacturers Association

 (ANSI/BHMA):

 1. ANSI/BHMA A156.18 Materials and Finishes.

 2. ANSI/BHMA A156.26 Standards for Continuous Hinges.

 C. American National Standards Institute/Steel Door Institute (ANSI/SDI):

 1. ANSI A250.8/SDI-100 Recommended Specifications for Standard Steel Doors and

 Frames.

D. Underwriters Laboratories, Inc. (UL):

 1. UL 10B Fire Tests of Door Assemblies.

 2. UL 10C Fire Tests of Door Assemblies.

 3. UL 752 Bullet Resistant Equipment.

 E. International Code Council (ICC):

 1. UBC 7-2 Fire Test of Door Assemblies (Positive Pressure).

 2. International Building Code (IBC) Code 2000 (Positive Pressure).

 3. ICC/ANSI A117.1 Accessible and Usable Buildings and Facilities.

F. National Fire Protection Association (NFPA):

 1. NFPA 1 Fire Prevention Code.

1.03 SYSTEM DESCRIPTION

 A. Design Requirements: Provide continuous geared door hinges which have been manufactured,

 fabricated and installed to meet the following design criteria:

 1. Continuous geared configuration, designed to distribute loads uniformly.

 2. Identical operation in each leaf, designed to reduce door opening effort.

 3. UL labeled for 3-hour fire classification.

 4. UL Labeled for 1-1/2-hour fire classification

 5. Durability tested to ANSI/BHMA A156.26 Grade 1

1.04 SUBMITTALS

 A. General: Submit listed submittals in accordance with Conditions of the Contract and Division

 1 Submittal Procedures Section.

 B. Product Data: Submit manufacturer’s product data and installation instructions.

 C. Shop Drawings: Provide drawings indicating required component locations, installation

 instructions, anchorage, fastening and similar information with hardware schedule and finish.

 D. Samples: Submit one each of manufacturer’s standard selection samples.

 E. Quality Assurance/Control Submittals: Submit the following:

 1. Test Reports: Upon request submit test fire and durability test reports from recognized

 testing laboratory.

 2. Certificates: Submit manufacturer’s certificate that products meet or exceed specified

 requirements.

 F. Closeout Submittals: Submit the following:

 1. Warranty documents specified by manufacturer

1.05 QUALITY ASSURANCE

 A. Installer Qualifications: Utilize an installer having demonstrated experience on projects of

 similar size and complexity.

1. Certifications: [Specify requirement for certifications.].
2. Field Samples: [Specify requirement for field samples.].
3. Mock-Ups: [Specify requirements for mock-up.].

1.06 DELIVERY, STORAGE & HANDLING

 A. General: Comply with Division

 1. Product Requirement Section.

 B. Delivery: Deliver materials in manufacturer’s original, unopened, undamaged containers

 with identification labels intact.

 C. Storage and Protection: Store materials protected from exposure to harmful environmental

 conditions and at temperature and humidity conditions recommended by the manufacturer.

1.07 WARRANTY

 A. Project Warranty: Refer to Conditions of the Contract for project warranty provisions.

 B. Manufacturer’s Warranty: Submit, for Owner’s acceptance, manufacturer’s standard warranty

 document executed by authorized company official. Manufacturer’s warranty is in addition to,

 and not a limitation of, other rights Owner may have under contract documents.

 C. Warranty Period: Hinges shall carry manufacturer's lifetime warranty, beginning with date of

 substantial completion. Hinges must be stamped with manufacturer’s name for warranty

 purposes.

**PART 2 PRODUCTS**

2.01 CONTINUOUS ALUMINUM GEARED DOOR HINGES

 A. Manufacturer: Select Products Limited

1. Contact: 3258 Stadium Park Way Kalamazoo MI 49009; Telephone: (800) 423-1174; Email customerservice@select-hinges.com; Website www.select-hinges.com

 B. Continuous Hinges

1. Acceptable manufacturers

1. Select Hinges
2. PBB

2. Characteristics

1. Material Extruded Tempered aluminum
2. Material Standard: 6063-T6Alloy
3. Finish ANSI/BHMA A156.618): anodized finish, or factory painted finish as scheduled. See Hardware Schedule.
4. Type/Model number. See Hardware Schedule.
5. All hinges are to be manufactured to template. Uncut hinges shall be non-handed and shall be a pin less assembly of three interlocking extrusions applied to the full height of the door and frame without mortising.
6. Vertical door loads shall be carried on chemically lubricated PBT resin thrust bearings. The door and frame leaves shall be continually geared together for the entire hinge length and secured with a full cover channel. Hinge to operate to a full 180o.
7. Hinges to be milled, anodized, and assembled in matching pairs.
8. Fasteners supplied shall be 410 stainless steel, plated and hardened. Concealed hinge fasteners finish/color to match hinge finish.
9. Hinges to be anodized after machining of fasteners holes and bearing slots.
10. Continuous hinge shall be certified to exceed 25 million (25,000,000) full load cycles by a recognized independent testing laboratory.
11. Fire Label Certification: Comply with NFPA 1, UBC 7-2, BS 476, UL 10B, UL 10C. 90-minute rating and 3-hour rating.
12. Testing Standard: Tested according to ANSI/BHMA A156.26
13. Continuous hinge must be stamped with manufacturer’s name for identity of manufacturer and warranty.

 3. Electrically Modified Hinge Preps

* + - 1. No cuts through the entire width of a hinge leaf or gear cap. The hinge leaf’s and cap must remain in one continuous piece.
			2. The panel must be accessible and removable without removing the door from the hinge.
			3. Panel must be removable independent of wire.
			4. Wire type AWG22, strand 168/44, 600 max volts. Wire to be very flexibly copper stranded conductor, insulated with a special flexible PVC formulation to minimize kinking and allow for ultra-low bending torque.

2.2 Product Substitutions

A. Substitutions: No substitutions permitted.

**Part 3 Execution**

 3.01 Manufacturer’s instructions

 A. Comply with the instructions and recommendations of the continuous geared door

 hinge manufacturer.

 B. Space fasteners and anchors according to manufacturer’s product instructions.

 3.02 Adjusting

 A. Perform adjustments required to ensure that continuous geared door hinges function in

 compliance with manufacturer’s performance criteria prior to acceptance by Owner.

**End of Section**