SECTION 08 33 00
AIR LEAKAGE RATED SERVICE DOORS

PART 1 GENERAL

1.01 GENERAL REQUIREMENTS

A. Provide all materials, labor, equipment and services necessary to furnish, deliver and install all work under this section as shown on the contract documents, specified herein, and as specified by the job conditions.

1.02 DESCRIPTION

A. Related work specified elsewhere:

1. Metal Fabrication.	Section 05 50 00
2. Rough Carpentry.	Section 06 10 00
3. Access Panels & Doors:	Section 08 31 00
4. Painting:	Section 09 91 00
5. Electrical:	Division 26

1.03 SUBMITTALS

A. Procedures: Furnish submittals in accordance with the general requirements specified.

B. Shop Drawing: Furnish shop drawings for architect's approval. Include elevations, sections, and details indicating dimensions, materials, finishes, conditions for anchorage and support of each air leakage rated service door.

C. Certifications:
1. Submit manufacturer’s testing listing report and certification from a third party independent nationally recognized testing laboratory such as Underwriters Laboratories or Intertek verifying product compliance in accordance with the required infiltration and exfiltration air leakage ratings.
2. Provide assemblies that have been tested, certified and labeled by a third party independent nationally recognized testing laboratory such as Underwriters Laboratories or Intertek for a minimum air leakage rating of less than 1.00 cfm/ft^2 for both infiltration and exfiltration.

D. Product Literature: Submit manufacturer's technical literature describing the product to be used under this section.

E. Maintenance and Operating Manuals: Furnish complete manuals describing the materials, devices and procedures to be followed in operating and maintaining all air leakage rated service doors under this section. Include manufacturer's brochures and parts lists describing the actual materials used in the product.

1.04 QUALITY ASSURANCE

A. Air Leakage Rated Assemblies: Provide all doors with the air leakage rating required to comply with governing regulations which are inspected, tested, listed and labeled by a third party independent nationally recognized testing laboratory such as Underwriters Laboratories or Intertek. Provide units tested in accordance with both the infiltration and exfiltration air leakage requirements of ANSI/DASMA 105-17, DASMA 112 and ASTM E283-19. Provide testing laboratory label permanently affixed to each door assembly, in an area clearly visible for confirmation of compliance.

B. Regulatory Requirements: Comply with applicable requirements of the laws, codes, ordinances and regulations of federal, state and municipal authorities having jurisdiction.

C. Manufacturer Requirements: Air leakage rated service door manufacturer shall have been in the business of and have experience in manufacturing the type of product covered under this specification

section as well as giving credible service for a minimum of five (5) years. Provide list of at least ten (10) completed projects which include the products covered under this section.

1.05 DELIVERY, STORAGE AND HANDLING

A. General: Deliver and store materials in manufacturer's original packaging, labeled to show name, brand and type. Store materials in a protected dry location off the ground in accordance with manufacturer's instructions.

1.06 WARRANTY

A. Air Leakage Rated Service Door Warranty: Provide Two (2) Year Warranty, effective as of the date of shipment, signed by the manufacturer and installer agreeing to repair or replace work which has failed as a result of defects in materials or workmanship. Upon notification within the warranty period, such defects shall be repaired at no cost to the owner.

PART 2 PRODUCTS

2.01 AIR LEAKAGE RATED SERVICE DOORS

A. Manufacturer: Air leakage rated service doors shall be the AirShield™ model AL3014-M-A as manufactured by McKEON.

2.02 MATERIALS

A. Curtain: Shall be assembled of 14 gauge extruded aluminum interlocking slats. Slats shall have a combination of endlocks and windlocks locking each end of all alternate slats to act as a wearing surface, maintain slat alignment and retain the curtain in the guides under wind pressure. Roll formed slats with snap-in back panels are not acceptable.
   1. Slats: Shall be of a cross section not less than 3” wide by 1-1/8” deep.
   2. Insulated Option: The void of the curtain slats shall be filled with foamed-in-place polyurethane insulation.

B. Bottom Bar: Shall consist of two (2) angles, each not less than 2" x 2" x 1/8" steel formed to fit slats.

C. Guides: Each guide assembly shall be fabricated of a minimum 3" x 3" steel support angle, a 2" x 3" steel inner guide angle and a 3" x 4" steel outer guide angle. Provide neoprene weather seals and internal guide brush seals extending the full height of both guides on the exterior and interior sides of the door curtain.

D. Mounting Brackets: Fabricated of hot rolled 3/16” steel plate minimum, brackets shall be provided to house ends of the counterbalance barrel assembly.

E. Hood: Shall be provided to entirely enclose curtain and counterbalance barrel assembly. Hood shall be fabricated of 22 gauge G90 galvanized steel and designed to match brackets. Top and bottom shall be bent and reinforced for stiffness. Provide internal brush seals at exterior and interior sides of the door curtain as required.

F. Counterbalance Assembly: Air leakage rated service door shall be counterbalanced by means of adjustable steel helical torsion springs attached to shaft enclosed in pipe with required mounting blocks or rings for attachment of curtain. Grease sealed bearings or self-lubricating graphite bearings shall be attached to the spring barrel which shall be fabricated of hot formed structural quality carbon steel seamless pipe.

G. Electric Motor Operator: Air leakage rated service door shall be provided with a compact power unit designed and built by the coiling insulated service door manufacturer. Operator shall be equipped with an adjustable screw-type limit switch to break the circuit at termination of travel. High efficiency gearing running in an oil bath, shall be furnished together with a magnetic operated brake, completely housed to protect against damage, dust and moisture. An efficient overload protection device, which will break the power circuit and protect against damage to the motor windings shall be integral with the unit. Operator is to be housed in a NEMA type 1 enclosure.
   1. Motor: Shall be intermediate duty, thermally protected, ball bearing type with a class A or better insulation. Horsepower of motor is to be 1/3hp minimum or of manufacturer's recommended size, which ever is greater.
   2. Starter: Shall be size "0" magnetic reversing starter, across the line type with mechanical and electrical interlocks, with 10 amp continuous rating and 24 volt control circuit.
   3. Reducer: Spiral gear type, 70% efficiency minimum.
   4. Brake: Magnetically activated, integral within the operator's housing.
   5. Control Station: Provide surface mount push button control station marked open, close and stop.

H. Obstruction Sensing Device: The air leakage rated service door shall be designed with an obstruction sensing safety edge. In the event that the safety edge meets an obstruction during the normal closing operation, the air leakage rated service door shall stop, reverse and return to the open position.

I. Finish: After completion of fabrication, clean all metal surfaces to remove dirt and chemically treat to provide for paint adhesion. All steel components shall receive a coat of prime paint finish and all exposed aluminum shall be of a clear anodized finish.

PART 3 EXECUTION

3.01 EXAMINATION

A. Examine surfaces and field conditions to which this work is to be performed and notify architect if conditions of surfaces exist which are detrimental to proper installation and timely completion of work.

B. Verify all dimensions taken at job site affecting the work. Notify the architect in any instance where dimensions vary.

C. Coordinate and schedule work under this section with work of other sections so as not to delay job progress.

3.02 INSTALLATION

A. Perform installation using only factory approved and certified representatives of the air leakage rated service door manufacturer.

B. Install air leakage rated service door assemblies at locations shown in perfect alignment and elevation, plumb, level, straight and true.

C. Adjust air leakage rated service door installation to provide uniform clearances and smooth non-binding operation.

D. Install wiring in accordance with applicable local codes and the National Electrical Code Standard. Materials shall be UL listed.

3.03 PROTECTION AND CLEANING

A. Protect installed work using adequate and suitable means during and after installation until accepted by owner.

B. Remove, repair or replace materials which have been damaged in any way.

C. Clean surfaces of grime and dirt using acceptable and recommended means and methods.