

SECTION 08 33 00
DYNAMIC WIND LOAD RATED WIDE SPAN OPENING PROTECTIVES

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 coiling acoustically rated service door.
- C. Certifications:
 - 1. Provide certification from an accredited testing laboratory of product compliance to an operational design wind load of 110 mph.
 - 2. Provide certification from an accredited testing laboratory of product compliance that the assembly remains fully operational without any permanent deformation after being subjected to the specified operational design wind load.
- 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 tornado and hurricane resistant coiling doors under this section. Include manufacturer's brochures and parts lists describing the actual materials used in the product.

1.04 QUALITY ASSURANCE

- A. Regulatory Requirements: Comply with applicable laws, codes, ordinances and regulations of federal, state and municipal authorities having jurisdiction.
- B. Manufacturer Requirements: Manufacturer shall have been in the business of and have experience in manufacturing wide span opening protective door assemblies as well as providing dependable credible service for a minimum of ten (10) years.

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.

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1.06 WARRANTY

- A. Tornado and Hurricane Resistant Coiling Door Warranty: Provide Two (2) Year Warranty 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 DYNAMIC WIND LOAD RATED WIDE SPAN OPENING PROTECTIVES

- A. Manufacturer: Dynamic wind load rated wide span opening protectives shall be the model Dynamic 110-IS-PC as manufactured by McKEON. Door assembly shall be certified by an accredited testing laboratory, approved for use in applications requiring an operational design wind load of 110-mph.

2.02 MATERIALS

- A. Curtain: Shall be assembled of interlocking G90 galvanized steel slats. Curtain shall be formed of slat profile sections of gauge as required to sustain the minimum required design wind pressure as well as remain operable under the 110-mph design wind load.
 - 1. Slats shall be filled with polyurethane foamed in place thermal insulation with the front and back panel slats having a positive interlock, snap-in back panel slats are not acceptable. Provide assembly with a minimum 9.3 R value.
 - 2. Slat cross section shall not be less than 3" wide by 1-1/2" deep.
- B. Bottom Bar: Shall consist of a double structural steel angle assembly formed to fit and engage the curtain assembly.
- C. Guides Each guide assembly shall be fabricated of structural steel support angles and guide retaining angles of a sufficient depth to retain the guides while allowing the curtain to operate freely under the specified operational design wind load. Provide neoprene weather seals extending the full height of both guides.
- D. Mounting Brackets: Fabricated of hot rolled 3/16" minimum steel plates, brackets shall be provided to house ends of the counterbalance barrel assembly.
- E. Hood: Shall be provided to entirely enclose coiled curtain and counterbalance barrel assembly. Hood shall be fabricated 22 gauge galvanized steel, designed and formed to match brackets. Top and bottom shall be bent and reinforced to provide for proper stiffness. Provide internal neoprene air baffle to minimize air infiltration at the head.
- F. Counterbalance Assembly: Coiling 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: Coiling door shall be provided with a compact power unit designed and built by the coiling 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.

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1. Motor: Shall be intermediate duty, thermally protected, ball bearing type with a class A or better insulation. Horsepower of motor is to be 1/2 HP 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 Safety Edge: The coiling 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 coiling 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 powder coat adhesion. Provide powder coat finish of color as selected by architect from manufacturer's standard RAL powder coat selection chart.

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 coiling door manufacturer.
- B. Install coiling door assemblies at locations shown in perfect alignment and elevation, plumb, level, straight and true.
- C. Adjust coiling acoustically 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.