

*This section includes Model 900 series steel overhead sectional doors manufactured by Northwest Doors, insulated or uninsulated, with manual, chain or electric operation, with or without windows.*

*This section includes performance, proprietary and descriptive type specifications; edit text to avoid conflicting requirements.*

## **Part 1          General**

### **1.1            SECTION INCLUDES**

*In this article, select the components or assemblies that are intended to be part of the content of this section and will not be included in other sections.*

- .1      [Manual] [Electric] operated, overhead sectional door.
- .2      Glazed window lites.

### **1.2            RELATED SECTIONS**

*In this article, indicate those sections that inter-rely on this section. The listing below is only partial and should be edited to include those sections specific to the project that describes subjects or products that affect this section directly.*

- .1      Section 05 50 00 - Metal Fabrications: Steel [channel] opening frame.
- .2      Section 06 10 13 - Wood Blocking and Curbing: Rough wood [blocking] [framing] for door opening.
- .3      Section 07 92 00 - Joint Sealants: Perimeter sealant and backup materials.
- .4      Section 08 71 00 - Door Hardware - General: Cylinder locks.
- .5      Section 08 80 50 – Glass and Glazing: Glass for door lights.
- .6      Division 26 - Electrical: Electrical service connection to door controller.

### **1.3            REFERENCES**

*Edit this article after editing the rest of this section. Only list reference standards below that are included within the text of this section, when edited for a project specification delete other references that do not apply.*

- .1      ANSI/DASMA 102 - 2011 – Specifications for Sectional Doors.
- .2      ASTM A22/A229M-12 - Standard Specifications for Steel Wire, Quenched and Tempered for Mechanical Springs.
- .3      ASTM A653/A653M-10 - Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
- .4      CSA-C22.1-06 - Canadian Electrical Code, Part I (20th Edition), Safety Standard for Electrical Installations.
- .5      CSA-C22.2 No. 100-04 (R2009) - Motors and Generators.

#### 1.4 SYSTEM DESCRIPTION

*Use this article carefully; restrict statements to describe the combined result of the components used to assemble the system. Do not repeat statements made in the Section Includes article.*

- .1 Panels: non-insulated or insulated steel section.
- .2 Lift Type: [Standard lift] [High lift] [Low headroom] operating style with track and hardware.
- .3 Operation: [Electric] [Chain hoist] [Manual pull].
- .4 Loads: Design and size components to withstand dead and live loads caused by pressure and suction of wind acting normal to plane of wall as measured in accordance with ANSI/DASMA 102.

#### 1.5 SUBMITTALS FOR REVIEW

*Do not request submittals if this specification section or drawings sufficiently describe the products of this section or if proprietary specifying is used. This requested review of submittals increases the possibility of unintended variations to the contract documents, thus increasing a consultant's liability. The following submittals are intended for review to determine eligibility for the project.*

- .1 Section 01 33 00: Submission procedures.
- .2 Shop Drawings: Indicate opening dimensions and required tolerances, connection details, anchorage spacing, hardware locations, installation details and [\_\_\_\_\_].
- .3 Product Data: Provide component construction, anchorage method, hardware, and [\_\_\_\_\_].

*Include the following paragraph for submission of physical samples for selection of finish, colour, texture, etc.*

- .4 Samples: Submit [two (2)] [interior] [exterior] panel finish samples, [[\_\_\_\_\_] mm ([\_\_\_\_\_] inch)] in size, illustrating colour and finish.

#### 1.6 SUBMITTALS FOR INFORMATION

*The following submittals are for information only; do not request these submittals if the information submitted will be assessed for acceptability.*

- .1 Section 01 33 00: Submission procedures.

*When manufacturer's written instructions for specific installation requirements are referenced in Part 3 Execution, include the following request for submittal of those instructions. Edit the Part 3 statements to avoid conflict with manufacturer's written instructions.*

- .2 Installation Data: Manufacturer's special installation requirements, special procedures, perimeter conditions requiring special attention, and [\_\_\_\_\_].

*Include the following ONLY if specifying for a LEED project. Specify only the technical requirements necessary to achieve the credits desired for this project.*

- .3 Sustainable Design:
  - .1 Section 01 35 18: LEED documentation procedures.

- .2 Provide required LEED documentation for Product [recycled content] [regional materials] .
- .3 Manufacturer's Certificate: Certify that Products meet or exceed [specified requirements].

### **1.7 CLOSEOUT SUBMITTALS**

*The following submittals are for project closeout purposes; do not request these submittals if the information submitted will be assessed for acceptability.*

- .1 Section 01 78 10: Submission procedures.
- .2 Operation and Maintenance Data:
  - .1 Include electrical control adjustments and [\_\_\_\_\_].
  - .2 Include data for [transmission] [motor] [shaft and gearing] , lubrication frequency, spare part sources.

*Coordinate the following paragraph with the WARRANTY article.*

- .3 Warranty Documentation: Submit manufacturer warranty and ensure forms have been completed in Owner's name and registered with manufacturer.

*Include the following ONLY if specifying for a LEED project.*

- .4 Sustainable Design Closeout Documentation: [\_\_\_\_\_].

### **1.8 QUALITY ASSURANCE**

*This article includes statements that require quality applicable to the whole section. If it is desirable or required for a manufacturer of a product to be ISO certified, include such statement below.*

- .1 Products of This Section: Provide all Products and components specified in this section from one manufacturer.
- .2 Manufacturer Qualifications: Company specializing in manufacturing the Products specified in this section with minimum [ten (10)] years [documented] experience.
- .3 Installer Qualifications: Company specializing in performing the work of this section with minimum [five (5)] years documented experience and approved by the manufacturer.

### **1.9 REGULATORY REQUIREMENTS**

*Only include this article when required by applicable code criteria.*

- .1 Conform to applicable code for motor and motor control requirements.
- .2 Products Requiring Electrical Connection: Listed and classified by [testing firm acceptable to the authority having jurisdiction] [CSA] [UL] as suitable for the purpose specified.

### **1.10 DELIVERY, STORAGE AND HANDLING**

- .1 Door sections should be carried and handled in the upright position, on edge. Carrying flat may result in damage.

- .2 Store in manufacturer's unopened packaging until time of installation. Protect from moisture.
- .3 Store in dry weather-tight location.

### **1.11 WARRANTY**

*This article extends the warranty period beyond the one (1) year contract warranty period. Extended warranties add to construction cost and may present difficulties to the Owner by enforcing them. Specify with caution.*

- .1 Section 01 78 10: Warranties.

*The following paragraph extends the correction period beyond one year. An extended correction period adds to the construction cost and may not be enforceable.*

- .2 Correct defective Work within a [five (5)] year period after Date of Substantial Completion.

*The following paragraph requests a manufacturer warranty; the request may not be effective as the manufacturer is outside the jurisdiction of the Owner/Contractor contract. Coordinate this paragraph with the Submittals at Project Closeout article.*

- .3 Provide [one (1)] year manufacturer warranty for garage door and operating hardware.
- .4 Provide [one (1)] year manufacturer warranty for electric operating equipment.

## **Part 2 Products**

### **2.1 MANUFACTURERS**

*This article is for proprietary specifying with one or more manufacturers. Use the first and third paragraphs for specifying a single manufacturer. If specifying a product by reference to a standard only, delete this article.*

- .1 Northwest Door, Model [920] [924].
- .2 Substitutions: [Refer to Section 01 62 00] [Not permitted] .

### **2.2 MATERIALS**

*Select one of more of the following door material paragraphs as required. Thickness is identified in the next article.*

- .1 Steel: Roll formed, ASTM A653/A653M galvanized to [Z120 (G40)]; [pre-coated with silicone polyester finish] [pre-coated with [\_\_\_\_\_] finish].

*Insulation is optional on the 900 series doors; each combination of insulation type and backing provides unique insulation value. Generally, polyurethane insulation will outperform polystyrene.*

- .2 Insulation: [Polystyrene] [Polyurethane], [13 mm (1/2 inch)] thick, with [steel] [High Impact Polystyrene Sheeting] backing, white color.

*Standard glass is clear, 3 mm (1/8 inch) thick glass. Refer to the manufacturer's literature for the wide variety of glass and acrylic types and colours available.*

- .3 Glazing: [3 mm (1/8 inch)] [6 mm (1/4 inch)] [13 mm (1/2 inch)] thick, [clear] [gray] [bronze] color, [glass] [acrylic] [polycarbonate] [laminated] material.
- .4 Metal Primer Paint: [Zinc chromate] type.

### **2.3 PANEL CONSTRUCTION**

*Door panels for Northwest Door Model 920 is 20 ga thick, model 924 is 24 ga thick. Amend the following paragraph accordingly.*

- .1 Panels: Steel, [0.95 mm (20 ga) thick] [0.63 mm (24 ga) thick], roll formed. Fabricate horizontal meeting rails with shiplap joint acting as integral strut and weather joint.
- .2 Door Nominal Thickness: [50 mm (2 inches)] thick.

*Specify glazing in this section OR section 08 80 50, but not both. Coordinate with Related Sections in Part 1.*

- .3 Glazing: [\_\_\_\_\_] [type specified in Section [08 80 50]]. Completely enclose with rigid vinyl molding sealed with closed cell foam tape on exterior side of glass.
- .4 Glazed Lights: [Full panel width] [\_\_\_\_\_] glazed lights per panel] ; set in place with [security glazing stops] [resilient glazing channel] .

### **2.4 DOOR COMPONENTS**

*Specify 2.0 mm (12 gauge) thick and 75 mm (3 inch) wide track where required to maintain performance requirements for larger doors. Refer to manufacturer's recommendations.*

- .1 Track: Rolled galvanized steel, [1.3 mm (16 gauge)] [2.0 mm (12 gauge)] thick; [75 mm (3 inch)] [50 mm (2 inch)] wide, continuous one piece per side; galvanized steel mounting brackets [1.6 mm (14 gauge)] thick.
- .2 Hinge and Roller Assemblies: Heavy duty hinges and adjustable roller holders of [stainless steel] [galvanized steel] ; floating hardened steel bearing rollers, located at top and bottom of each panel, each side.
- .3 Lift Mechanism: Torsion spring on cross head shaft, with braided galvanized steel lifting cables. Manual operation with maximum exertion of [110 N (25 lbs)] force.
- .4 Sill Weather-stripping: Resilient vinyl strip, one piece; fitted to bottom of door panel, full length contact.
- .5 Jamb and Head Weather-stripping: Fitted with resilient weather-stripping, placed in moderate contact with door panels, type of weather-stripping as recommended by door manufacturer for particular application and mounting type/surfaces.
- .6 Panel Joint Weather-stripping: [flexible compressible seal], one piece full length.

*In the following paragraph, a locking door is usually associated with manually operated door assemblies; an electric disconnect is usually used with electric door assemblies.*

- .7 Lock: Inside side mounted, spring activated latch bar with feature to retain in locked or retracted position; [interior] [exterior] handle; lock [master keyed] [keyed differently] [keyed to Section 08 71 00] [keyed alike] .

## 2.5 ELECTRICAL CHARACTERISTICS AND COMPONENTS

*Include and edit this article for electric operation. Select one or more of the following subparagraphs appropriate to the equipment requirements.*

- .1 Electrical Characteristics:
- .1 [250 W (1/3 hp)] [375 W (1/2 hp)] , [ [\_\_\_\_\_] rated load amperes] ; manually operable in case of power failure, transit speed of [300 mm (12 inches)], per second.
  - .2 [\_\_\_\_\_] volts, [single] [three] phase, 60 Hz.
  - .3 [\_\_\_\_\_] amperes maximum [overcurrent protection] [circuit breaker size] [fuse size] . [ [\_\_\_\_\_] minimum circuit capacity] .
  - .4 [\_\_\_\_\_] percent minimum power factor at rated load.
  - .5 Refer to Section 26 05 80 - Equipment Wiring: Electrical connections.

*NEMA Type 1 is General Purpose, Type 4 is Totally Enclosed.*

- .2 Motor: [CAN/CSA C22.2 No. 100] [Refer to Section 23 05 13] [NEMA MG1, Type [\_\_\_\_\_] ] .
- .3 Wiring Terminations: Provide terminal lugs to match branch circuit conductor quantities, sizes, and materials indicated. Enclose terminal lugs in terminal box sized to NFPA 70.
- .4 Disconnect Switch: Factory mount disconnect switch [on equipment to Section 26 05 80] [in control panel] .
- .5 Electric Operator:
  - .1 [Side mounted on cross head shaft] [Centre mounted draw bar assembly] [Centre mounted on cross head shaft], adjustable safety friction clutch.
  - .2 Brake system actuated by independent voltage solenoid controlled by motor starter; enclosed gear driven limit switch; enclosed magnetic cross line reversing starter; mounting brackets and hardware.

*Select and edit one of the following two paragraphs. Select type and quantity of control stations when specifying electric motors.*

- .6 Control Station:
- .1 Standard [one (1)] [three (3)] button (open-close-stop) [momentary] [continuous pressure] type, control for each electric operator; [24] volt circuit, [recessed] [surface mounted].
  - .2 Include key operated switch located [at exterior location indicated] [inside door jamb].

*Expand the following paragraph with text description appropriate to project requirements when applicable.*

- .7 Interconnection to Security System: [\_\_\_\_\_] .

*Select and expand one or more of the following three paragraphs with text description appropriate to project requirements.*

- .8 Radio Control Antenna Detector: [\_\_\_\_\_].
- .9 [Loop Detector] [Treadle]: [\_\_\_\_\_].
- .10 Hand Held Transmitter: Digital control, resettable.
- .11 Safety Edge: At bottom of door panel, full width; [electro-mechanical] [pneumatic] sensitized type, wired to [stop] [reverse] door upon striking object; hollow [rubber] [neoprene] covered to provide weather-strip seal.

## **2.6 FINISHES**

*Select and edit only the following paragraphs that apply. Pre-coated 4-level finish is standard.*

- .1 Provide 4-level finish, including galvanized steel, bonderized phosphate, baked on epoxy basecoat, and polyester top coat, white.

## **Part 3 Execution**

### **3.1 EXAMINATION**

- .1 Section 01 70 00: Verify existing conditions before starting work.
- .2 Verify that wall openings are ready to receive work and opening dimensions and tolerances are within specified limits.
- .3 Verify that electric power is available and of the correct characteristics.

### **3.2 PREPARATION**

- .1 Prepare opening to permit correct installation of door unit to perimeter air and vapour barrier seal.
- .2 Apply primer to wood frame.

### **3.3 INSTALLATION**

*Only include the following paragraph if a manufacturer actually publishes installation instructions many do not. If the manufacturer does NOT publish such a document, ensure all install criteria important to the project, is specified below.*

- .1 Install door unit assembly to manufacturer's instructions.
- .2 Anchor assembly to wall construction and building framing without distortion or stress.
- .3 Securely brace door tracks suspended from structure. Secure tracks to structural members only.
- .4 Fit and align door assembly including hardware.
- .5 Coordinate installation of electrical service. Complete power and control wiring from disconnect to unit components.



- .6 Coordinate installation of sealants and backing materials at frame perimeter as specified in Section 07 92 00.
- .7 Install [perimeter trim] [closures].

### **3.4 ERECTION TOLERANCES**

*Do not assume that there are industry standards for tolerances. Specify tolerances below as appropriate to the nature or character of the project. Verify that such tolerances are realistic and realizable.*

- .1 Section 01 73 00: Tolerances.
- .2 Maximum Variation from Plumb: [1.5 mm (1/16 inch)].
- .3 Maximum Variation from Level: [1.5 mm (1/16 inch)].
- .4 Longitudinal or Diagonal Warp: Plus or minus [3 mm (1/8 inch)], from [3 m (10 ft)] straight edge.
- .5 Maintain dimensional tolerances and alignment with adjacent work.

### **3.5 MANUFACTURER'S FIELD SERVICES**

*This article is included to assist in field quality control of work being installed. The legal affect of this type of article is questionable and will not relieve the design professional of legal responsibility for the work described in this section. Specify with some measure of caution.*

- .1 Section 01 78 10: Prepare and start components.
- .2 Ensure the operation and adjustments to door assembly for specified operation.

### **3.6 ADJUSTING**

- .1 Adjust door assembly to smooth operation and in full contact with weather-stripping.

### **3.7 CLEANING**

*This article is intended to supplement cleaning requirements specified in Division 01 sections. Edit this article to supplement Division 01 statements.*

- .1 Section 01 74 00: Cleaning installed work.
- .2 Clean [frames] [doors] [glass].
- .3 Remove [temporary] labels and visible markings.

### **3.8 PROTECTION OF FINISHED WORK**

- .1 Section 01 78 40: Protecting installed work.
- .2 Do not permit construction traffic through overhead door openings after adjustment and cleaning.

**END OF SECTION**