



MODEL “HSR-007”
Direct Drive
Rolling Steel

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PART 1 - GENERAL

1.1 SECTION INCLUDES:

- .01 Steel channel door frames and reinforcing steel. Section 05500.
- .02 Electrical power supply. Division 16, Electrical.

1.2 DESIGN CRITERIA

- .01 Rolling door to include roll formed steel or aluminum slat design with anodized, painted or galvanized finish
- .02 Double walled extrusions can be insulated to a thermal coefficient of 2.5 W/(m²*K)

1.3 SAMPLES

- .01 Submit shop drawing in accordance with Section 01340 [Division 1 - General Requirements] - Shop Drawings, Product Data, Samples and Mock-Ups.

1.4 SHOP DRAWINGS

- .01 Submit shop drawing in accordance with Section 01340 [Division 1 - General Requirements] - Shop Drawings, Product Data, Samples and Mock-Ups.
- .02 Indicate each type of door arrangement of hardware, required clearances, electrical characteristics including voltages, size of motors, auxiliary controls and wiring diagrams.
- .03 Indicate assembly details and dimensions of fabrication, required clearances and electrical connections.

PART 1 – GENERAL

1.5 MAINTENANCE DATA

- .01 Provide operation and maintenance data for the Model "HSR-007" door and hardware for incorporation into manual specified in Section 01730 [Division 1 - General Requirements] - Operation and Maintenance Manual.

- .02 Maintenance data shall include:
 - a complete description of operation in order of task
 - wiring diagrams showing all electrical connections
 - a list of parts requiring replacement
 - a parts list with illustrations and identifications
 - identification numbers for each door

1.6 QUALITY ASSURANCE

- .01 Installer with Factory-Approved qualifications.

PART 2 - PRODUCTS

2.1 PRODUCTS

- .01 The acceptable roller shutter door is to be the Model "HSR-007" springless design as manufactured by TNR Industrial Doors.

- .02 Substitutions will not be accepted.

2.2 CURTAIN

HIGH SPEED INSULATED

- .01 Anodized aluminum slats 1.25mm (0.05") and hardened PVC components make up the curtain. Each slat is 100mm (4") H x 23mm (1") THK and with an insulated core of fire-resistant expanded polyurethane foam. The combination of Aluminum and PVC creates a curtain with excellent acoustic and thermal properties. The combination of these slats provide noise reduction of up to 30 dB and offer a thermal transmission coefficient of 2.5 W/(m²*K).

PART 2 - PRODUCTS

2.2 CURTAIN (con't)

- .02 Double glazed vision panels with 80mm (3") W x 55mm (2") H windows spaced at 150mm (6") intervals can be installed to a maximum of 6 panels high.
- .03 Grey polycarbonate ventilation grills 100mm (4") W x 55mm (2") H windows spaced at 150mm (6") intervals can be installed to a maximum of 6 panels high.

*NOTE: A maximum of 6 perforated panels can be installed per curtain to maintain curtain integrity. Vision and ventilation panels can be combined in one curtain.

[OR]

FAST ROLLING STEEL INSULATED

- .01 Foil covered aluminum slats 1.00mm (0.04") make up the curtain. Each slat is 100mm (4") H x 23mm (1") THK and with an insulated core of fire-resistant expanded polyurethane foam. The plastic film comes [standard in textured silver][custom colour] to create a curtain with excellent acoustic and thermal properties and also permits faster operating speeds and long lasting curtain aesthetics. The combination of these slats provide noise reduction of up to 30 dB and offer a thermal transmission coefficient of 2.5 W/(m²*K).

[OR]

- .01 Foil covered galvanized steel slats 1.00mm (0.04") make up the curtain. Each slat is 100mm (4") H x 23mm (1") THK and with an insulated core of fire-resistant expanded polyurethane foam. The plastic film comes [standard in textured silver][custom colour] to create a curtain with excellent acoustic and thermal properties and also permits faster operating speeds and long lasting curtain aesthetics. The combination of these slats provide noise reduction of up to 30 dB and offer a thermal transmission coefficient of 2.5 W/(m²*K).

PART 2 - PRODUCTS

2.2 CURTAIN (con't)

- .02 Interlocking sections with high strength nylon or malleable steel wind locks secured with rivets. Wind lock material and number as required based on system description and manufacturer's recommendation.
- .03 Double glazed vision panels with 80mm (3") W x 55mm (2") H windows spaced at 150mm (6") intervals can be installed to a maximum of 6 panels high.
- .04 Grey polycarbonate ventilation grills 100mm (4") W x 55mm (2") H windows spaced at 150mm (6") intervals can be installed to a maximum of 6 panels high.

*NOTE: A maximum of 6 perforated slats can be installed per curtain to maintain curtain integrity. Vision and ventilation panels can be combined in one curtain.

[OR]

FAST ROLLING STEEL NON-INSULATED

- .01 Galvanized steel slats 1.00mm (0.04") make up the curtain. Each slat is 100mm (4") H. The plastic film comes [standard in textured silver][custom colour] to create a curtain with excellent acoustic properties, faster operating speeds and long lasting curtain aesthetics.
- .02 Interlocking sections with high strength nylon or malleable steel wind locks secured with rivets. Wind lock material and number as required based on system description and manufacturer's recommendation. Provide wind locks as required to meet specified wind load.
- .03 Perforated slats shall have holes no larger than 4mm (5/32") diameter to provide a minimum of 26% air passage through the curtain.

PART 2 - PRODUCTS

2.3 GUIDES

- .01 The guide system is constructed from a single piece roll formed galvanized structure 3.0mm (12GA) thick. A full length, hardened PVC strip on the front and back of each guide provides excellent wear characteristics and no maintenance to the guide system.
- .02 Guide channel is provided for installation directly onto concrete or steel door framing. Additional customization of door frame is not required. Predrilled holes at 600mm (24") provide easy attachment to the door frame.

2.4 BOTTOM RAIL

- .01 Bottom bar shall extend the full width of the curtain, sufficient to maintain the bottom edge of the curtain parallel to the door threshold at all times. The bottom bar shall be constructed of a one piece aluminum extrusion.

2.5 ROLL-UP DOOR SYSTEM

- .01 The curtain is to be rolled on a barrel of sufficient size to carry the door load with a deflection of not more than 2.5 mm/m (.03" per foot) of opening width. Drive shaft in the barrel is to be constructed of C1018 Cold Rolled steel shafts and may vary depending on the opening width of the door
- .02 Door shall be designed to operate safely without the use of a counterbalance system (springless design). A door system with counterbalance springs will not be accepted.
- .03 End brackets are constructed of hot-rolled plated steel with sealed heavy-duty, self-aligning bearings with cast iron housings to support the drive barrel. Drive shaft bearing shall be load-rated at 2960 kg (7000 lbs.) dynamic and 1830 kg (4050 lbs.) static.

2.6 REVERSING EDGE

- .01 Door to be equipped with reversing sensing edge to stop and reverse door to manufacturer's standard.

2.7 CONSTRUCTION

- .01 Doors: constructed of [steel], [and aluminum], [and PVC].
- .02 Structural elements: assembled by mechanical fasteners or by welding.

2.8 OPERATION OF DOOR

- .01 Doors shall be equipped for operation by:
 - a) electric operator
 - b) manual chain hoist

2.9 MANUAL OPERATION

- .01 Emergency manual chain hoist shall be provided to allow manual door operation.
- .02 Chain hoist shall be of sufficient capacity to operate a door at a maximum pull requirement of 9 to 14 kg (20 to 30 lbs.). The static load on the hand chain to hold the door in any position must not exceed 5 kg (11 lbs.).

2.10 ELECTRICAL OPERATION

- .01 Electric door operators shall be CSA/UL approved, high RPM, heavy-duty worm gear type c/w pre-wired, number coded control cabinet as required, to manufacturer's standard. Panel enclosure to NEMA-4 rating.
- .02 Motor to be NEMA 4, high-starting torque, direct drive, hoist-type, operating through a worm gear reducer mechanism. Sprockets and chains will not be accepted.
- .03 Motor to be of capacity to open door at maximum speeds of up to [1.7 m/s (48 ips)][0.45 m/s (12 ips)], depending on door size to manufacturer's standard, rated for X-HP power, "X" Voltage, "X"-phase, "X" Hz.
- .04 Operator shall be equipped with rotary digital encoder limits to control the open and close door positions as well as an electro mechanical brake system to stop and hold door in any position to manufacturer's standards.

2.10 ELECTRICAL OPERATION

- .05 Operator shall be equipped with built-in manual emergency chain hoist. Built-in electrical interlock shall prevent motor operation during use of manual chain hoist.
- .06 Operators equipped with an on-board Frequency Inverter may be used in suitable applications where deemed acceptable by the manufacturer.
- .07 Control Panel:
Panel enclosure shall be NEMA-4 and wiring shall be completed by manufacturer and shall be UL listed. Drive system shall be controlled by an integrated circuit board that includes the controls for the operator for soft start and soft stop door operation. Control panel shall have fused primary power, adjustable closing timer, three (3) push buttons for open, close and stop functions, push/pull mushroom button E-stop and a cycle counter.

PART 3 - EXECUTION

3.1 INSTALLATION

- .01 Install doors in accordance with manufacturer's printed instructions.
- .02 Install electrical motors, controller units, push-button stations and other electrical equipment required for door operation.
- .03 All electrical wiring including power supply, control and interface located near the door to be installed by an electrical contractor (to be put into electrical contractor's specification).
- .04 Upon completion of the door and electrical installation, the door installer must make necessary adjustments to the door to ensure smooth operation.
- .05 The door installer must ensure that the door is mounted on the proper side of the wall opening as shown in the shop drawing and that any necessary heaters in the operator or control panel are properly connected to ensure proper functioning of the system.