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## MODEL “HDM” Manual Operation

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PART 1 - General

- 1.1 SECTION INCLUDES:
- .01 Steel channel door frames and reinforcing steel. Section 05500.
- 1.2 DESIGN CRITERIA
- .01 Rolling door to have NEWGEN® Guide and Curtain Lok™ system to provide a near airtight seal and knock-away feature for easy reassembly upon impact.
- .02 After accidental impact, door must be capable of reset from ground level without the use of ladders, tools or lift equipment.
- .03 Rolling door SBR curtain for service temperature range of -40°F to +180°F (-40°C to +85°C).
- .04 Counterbalance springs to be outboard 50,000 cycle.
- 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 and required clearances.
- .03 Indicate assembly details and dimensions of fabrication and required clearances.
- 1.5 MAINTENANCE DATA
- .01 Provide operation and maintenance data for the Model "HDM" 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
  - a list of parts requiring replacement
  - a parts list with illustrations and identifications
  - identification numbers for each door

PART 1 – General

1.6 QUALITY ASSURANCE

- .01 Installer with Factory-Approved qualifications.

PART 2 - PRODUCTS

2.1 PRODUCTS

- .01 The acceptable rubber roll-up door is to be the Model "HDM" as manufactured by TNR Industrial Doors.

- .02 Substitutions will not be acceptable.

2.2 CURTAIN

- .01 Two (2) layers of Styrene Butadiene Rubber (SBR) each .8 mm (1/8") thick, 70 durometer; sandwiched with 1-ply, 50kg (110 lbs.) polyester cord centre. Material provides normal resiliency and flexibility at temperatures ranging from -40° F to +180°F (-40°C to +85°C).

- .02 Complete with molded NEWGEN® Curtain Loks™ that are mechanically attached to the vertical edges of the curtain material. This retention system maintains and holds the curtain in guides under extreme windload conditions. Continuous glued SBR windlock or molded-in place Teflon windlock designs will not be accepted.

- .03 Standard Color: Black  
Also available in blue or gray EPDM, Black nitrile, flame-retardant self-extinguishing black MSHA rated.

2.3 GUIDES

- .01 Side curtain retention: NEWGEN® Guides shall be one-piece extruded aluminum to form a slot of sufficient depth to allow the NEWGEN® Curtain Lok™ to move freely in the guides at all times. Aluminum members are to be of sufficient thickness and rigidity to maintain the NEWGEN® Curtain Lok™ within the guides during normal operation while enabling the NEWGEN® Curtain Lok™ to release during impacts.

- .02 Steel guides (bolted or spring-loaded) will not be accepted.

- .03 Side frame: Mounting steel angle is provided for installation directly onto concrete or steel door framing. Additional customization of door frame is not required.

PART 2 - PRODUCTS

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 two steel angles bolted together and shall have a knock-away section to reduce risk of damage during accidental impacts. A 1/8" thick EPDM rubber loop shall be attached to the knock-away bottom bar and act as a weather seal. The rubber loop must be replaceable without removing the bottom bar from the curtain.
- .02 Knock-away bottom bar to be reset without the need to open side frames. Single angle design will not be accepted.

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 and is to be evenly balance by 50,000 cycle oil-tempered, helical outboard torsion springs. Both the drive barrel shafts are to be constructed of minimum 38mm (1 1/2") C1018 Cold Rolled steel shafts.
- .02 The Idler Barrel shall be constructed of 102mm (4") O.D. round H.S.S. structural tubing with a minimum wall thickness of 3.4mm (.134") and supported by 32mm (1 1/4") C1018 Cold Rolled steel shafts at either end. Idler must be guide mounted not end bracket mounted for proper tracking of curtain into NEWGEN® Guides.
- .03 End brackets are constructed of 6mm (1/4") hot-rolled steel plate c/w sealed heavy-duty, self-aligning bearings with cast iron housings to support the drive barrel. Bearings shall be load-rated at 2540 kg (5600 lbs.) dynamic and 1524 kg (3360 lbs.) static.
- .04 Welded Truss shall brace endplates together at the top and bottom with C3 x 4.1 channel and 2" x 1/4" flatbar diagonal bracing.

2.6 ACCESSORIES

- .01 Various accessories are available i.e.: guide guards, hoods.

2.7 CONSTRUCTION

- .01 Doors: constructed of steel, aluminum and SBR rubber/woven curtain.
- .02 Structural elements: assembled by welding or by mechanical fasteners.

2.8 OPERATION OF DOOR

.01 Doors shall be equipped for operation by a manual chain hoist.

2.9 MANUAL OPERATION

.01 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.).

PART 3 - EXECUTION

3.1 INSTALLATION

.01 Install doors in accordance with manufacturer's 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.