ALL-RITE
DOCK & DOOR SYSTEMS INC.

For all the "*Rite*" Loading Dock Solutions

FMR-250, with 100,000 cycles springs
Architectural Specifications

1. GENERAL

.01 SECTION INCLUDES:

.01. Steel channel door frames and reinforcing steel. Section 05500.

.02. Electrical power supply. Division 16, Electrical.

.02 DESIGN CRITERIA

.01. Rolling door curtain and assembly, in the down position, to withstand windloads of 88 mph (20 psf).

.02. Rolling door to have SBR (styrene butadiene rubber) curtain continuous side lock and guide system to provide near airtight seal. Breakaway feature to reset from the floor without the use of special tools or ladders.

.03. Rolling door SBR curtain for service temperature range of -40°F to +180°F (-40°C to +85°C).

.04. Rolling door opening to be no larger than 400 ft^2, with a maximum width or height of 20'.

.05. Guides shall be designed to automatically reset from the floor after an impact without the use of special tools or ladders.

.03. SAMPLES

.01. Submit samples in accordance with Section 01340 (Division 1 - General Requirements) - shop drawings, product data, samples and mock-ups.

.04. 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 the hardware arrangement for each type of door, required clearances, electrical characteristics including voltages, size of motors, auxiliary controls and wiring diagrams.

.03 Indicate assembly details and fabrication dimensions, required clearances and electrical connections.

All-Rite Dock & Door Systems Inc., 52 Van Kirk Drive, Brampton, ON CANADA L7A 1B1 Tel 905-840-4848 Fax 905-840-4149
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.05. MAINTENANCE

.01. Provide operation and maintenance data for FMR door and hardware for incorporation into manual specified in Section 01730 (Division 1 - General Requirements) - Operation and Maintenance Manual.

.06. QUALITY ASSURANCE

.01. Door to be installed by factory authorized technicians.

2. PRODUCTS

.01. MATERIALS

.01. The acceptable material for the roll-up door is to be the model FMR-200 by All-Rite Dock & Door Systems Inc. or approved equal. All approved equals must be submitted for approval ten (10) days prior to the closing date of tender and must be approved in writing by addenda. Contact All-Rite Dock & Door Systems Inc. at (905) 840-4848 or fax (905) 840-4149.

.02. CURTAIN

.01. Two (2) layers of Styrene Butadiene Rubber (SBR) each .8 mm (1/8") thick, 70 durometer; sandwiched with 1-ply, 50 kg (110 lbs) polyester cord center. The total curtain thickness shall be 6 mm (¼").

.02. Curtain to be manufactured with two side locks and woven anti-wear strips on all surfaces that come in contact with the guide, providing normal resiliency and flexibility at temperatures ranging from -40°F to +180°F (-40°C to +85°C).

.03. Color: Black.

.03. GUIDES

.01. Guide assemblies shall be constructed of steel members to form a slot of sufficient depth to allow the thicker edges of the rubber curtain side locks to move freely in the guides at all times. Steel members are to be of sufficient thickness and rigidity, 6 mm (¼") thick minimum to maintain the side locks within the guides at curtain pressures of up to .096 Kpa (20 lbs per square foot), while enabling the side locks to break away during impacts that generate pressures beyond 0.96 Kpa (20 lbs per square foot). Guides shall automatically reset after the curtain has become disengaged when impacted.

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.04. 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 double steel angle bolted together and shall have a breakaway center hinge section to reduce risk of damage during accidental impacts and provide ease of straightening, allowing for simple re-assembly from the floor without special tools. Bottom bar without centre hinge is not acceptable.

.05. 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 (3/32"/foot) of opening width. Both the drive barrel shafts are to be constructed of 32 mm (1¼") steel shafts.

.02. Door shall be manufactured with 100,000 cycles counterbalance spring assembly.

.03. 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 (1¼") steel shafts at either end.

.04. The end brackets are constructed of 6mm (¼") hot-rolled steel plate c/w sealed, heavy-duty, self-aligning bearings with case iron housings to support both the spring and idler barrels. Bearings shall be load-rated at 2641 kg (5820 lbs) dynamic and 1571 kg (3460 lbs) static.

.05. End brackets shall be braced together at the top and bottom with spreader bars, sized of 2½" x 2½" x 3/16" steel angle or larger (front spreaders could be 3½" x 2½" x ¼"); and 1½" x ¼" flatbar diagonal bracing.

.06. AIR WAVE EDGE

.01. Equip door with Air Wave edge to stop and reverse door with a 1.5 sec. time delay to the manufacturer's standard. A protective low temperature vinyl loop 1/8" thick shall fully surround the full length of the reversing edge.

.07. ACCESSORIES

.01. Mounting brackets: primed steel, size and gauge to suit conditions.

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.08. CONSTRUCTION

.01. Doors: Constructed of steel and SBR rubber/woven curtain.

.02. Structural elements: assembled by welding or by mechanical fasteners.

.03. Aluminium elements: isolate with bituminous coating in order to avoid direct contact with elements of a different metal.

.09. ELECTRICAL OPERATION

.01. Electric door operators shall be CSA/UL approved, heavy-duty gearhead c/w prewired, number coded control cabinet as required, to manufacturer's standard. Panel enclosure to NEMA-4 rating.

.02. Motor to be a Eurodrive T.E.F.C., short shaft, high-starting torque, flange & foot mount, hoist-type, operating through a parallel helical gear reducer mechanism with a minimum efficiency rate of 85%. The gear reducer is mounted on a heavy-duty base of 5/16" steel.

.03 Motor and sprocketing to be of capacity to open door at maximum speeds of up to 24" per second on a single speed motor, depending on door size to manufacturer's standard.

.04. Operator shall be equipped with rotary screw-type limit switches, mounted in a NEMA 4 control box on the operator, to control the open and close door positions as well as an electro-mechanical disk brake system with a nominal force between 280 and 370 PSI to stop and hold door in any position to manufacturer's standards.

.05. Operator shall be equipped with built-in manual emergency chain hoist. Built-in electrical interlock shall prevent door motor operation during use of manual chain hoist.

.06. The control panel enclosure shall be NEMA-4 standard. Drive system shall be controlled by relay logic equipped with the following: automatic closing timer, emergency stop and open/close push-button on control cabinet with a cycle counter.

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3. EXECUTION

.01. INSTALLATION

.01. Install doors in accordance with manufacturer's printed instructions.

.02. Install electrical motors, controller units, push-button stations, relays and other electrical equipment required for door operations.

.03. Installation includes electric wiring from power supply located near door.

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