

# STEEL SECTIONAL DOORS

# STRONG, VISUALLY APPEALING DOORS FOR MODERATE COMMERCIAL APPLICATIONS

The Wayne Dalton 2411 steel sectional door, available in a variety of sizes, is an excellent value. Featuring nominal 24-gauge ribbed steel sections, the 2411 is available with a number of lite and insulation options.



- NOMINAL 24-GAUGE STEEL CONSTRUCTION
- STANDARD SIZES UP TO 20' 2" WIDE & 16' 1" HIGH
- VALUE PRICED CHOICE
- DESIGNED FOR MODERATE COMMERCIAL APPLICATIONS

# SECTIONAL DOOR SYSTEMS MODEL 2411

The Wayne Dalton 2411 Steel Sectional Door is designed to provide commercial strength at a very competitive price. The embossed exterior skin features a stucco finish to enhance the building's appearance, while "C"-shaped vertical stiles on the door's interior provide added strength and allow quick, secure hinge attachment. End stiles wrap around the exterior of each section to protect the section face from wear caused by the door jambs.

#### **Materials & Construction**

Wayne Dalton's 2411 features nominal 24-gauge ribbed steel sections with 20 gauge vertical stiles attached to the interior. These 20-gauge stiles are securely attached with No. 8 screws and adhesive and have prelocated, extruded holes for hinge attachment. The exterior ribbing consists of two deep and four shallow ribs in each section, making it ideal for moderate use. The bottom section features a vinyl bulb-shaped astragal, held by a roll-formed, hot-dipped galvanized steel retainer.

Additional options include top header seal, joint seals and jamb seals. Optional insulation, consisting of I %16" expanded polystyrene and covered embossed pre-painted white steel provides an R-value of up to 7.64\* and a U-value as low as 0.13. Lite options include insulated or non-insulated factory-installed vision lites or aluminum full-view sections for maximum visibility.

Contact Wayne Dalton for additional sizes and

\*Wayne Dalton uses a calculated door section R-value for your insulated doors.

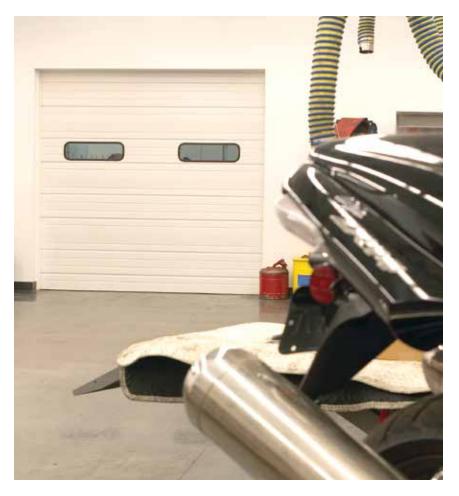
## **Color Options**







White Embossed Stucco Finish



# **Operation Options**

- Chain Hoist Operation
- Motor Operation

# **Performance Options**

- High Cycle Spring (25K, 50K, 100K)
- 3" Track Option
- Solid Shafts
- Perimeter Weatherseal
- Insulation

# **Safety Options**

- **Broken Cable Devices**
- Safety Edges
- Safety Photo Eyes

### **Special Application Options**

- Special Track Designs
- Mullions

# Window Options - Images below reflect window style only



Vision Lites allow for visibility while maintaining security



Aluminum full view sections allow for maximum natural light and visibility



STANDARD SIZES UP TO:

20' 2" WIDE & 16' 1" HIGH

NOMINAL 24-GAUGE STEEL SECTIONS

WIND LOAD OPTIONS AVAILABLE:



MEET OR EXCEED ANSI/DASMA 102-2003 IN ACCORDANCE WITH ASTM E-330-70.

#### **BEST APPLICATIONS:**

Where usage requirements are moderate.

### **General Operating Clearances**

	Headroom		Sideroom		Depth Into Room	Center Line of Springs	
Туре	2" track	3" track	2" track	3" track	2" & 3" track	2" track	3" track
Standard Lift Manual 12"R	13"-17"	NA		5½"	Opening Height +18"	Opening Height +12"	NA
Standard Lift Manual 15"R	15"-20"	16"-21"				Opening Height +13"	Opening Height +14"
Standard Lift Motor Oper. 12"R	15"-20"	NA	4½"		Opening Height +66"	Opening Height +12"	NA
Standard Lift Motor Oper. 15"R	15"-20"	18"-24"				Opening Height +13"	Opening Height +14"
High Lift Manual	High Lift +12"				On anima Hairba Life +20"	Opening Height	Opening Height
High Lift Motor Oper.			24" One Side		Opening Height – Lift +30"	+Lift +6½"	+Lift +7½"
Vertical Lift Manual	Door Height		4½"	5½"	18"	Double Door Height	
Vertical Lift Motor Oper.	+20"		24" One Side		10	+13"	
Low Headroom Manual	6"-15"	6"-15"	6"	9"	Opening Height +20" - 26"	Does Not Apply	
Low Headroom Motor Oper.	9"-17"	9"-17"	ľ		Opening Height +66"		

### Panel/Section Selection Guide

Door	Section and	Door Height and Section Selection					
Door Width	No. Panels	Max. No. Windows	Door Height	No. Sections			
Up to 9'2"	2	2	Up thru 8'1"	4			
9'3" to 12'2"	3	3	8'2" thru 10'1"	5			
12'3" to 16'2"	4	4	10'2" thru 12'1"	6			
16'3" to 19'2"	5	5	12'2" thru 14'1"	7			
19'3" to 20'2"	6	6	14'2" thru 16'1"	8			
For Larger Sizes – See Model 2415							

#### NOTES:

- For low headroom, springs must be rear mount to achieve minimum headroom listed.
   Front mount torsion headroom depends on drum size, and varies over the range listed.
   See approval drawings.
- 2. Side-room of 8" required, one side, for doors with chain hoist.
- 3. Headroom depends on drum size, and varies over the range listed. See approval drawings.

# **Track Selection Guide**



Standard Lift



High Lift (break-away is standard, straight incline is available)



Roof Pitch (standard or high lift)



Vertical Lift



Low Headroom (rear mount torsion)



Low Headroom (front mount torsion)



# CTIONAL DOOR SYSTEMS

Note to specifiers: Words in parentheses indicate frequently specified and highly recommended options.

#### PART I - GENERAL

#### 1.01 Section Includes

A. Sectional overhead doors [manual push-up] [chain hoist] [motor] [motor with chain hoist] operated with accessories and components.

#### 1.02 Related Work

A. Opening preparation, miscellaneous or structural steel work, access panels finish or field painting are in the scope of work of other trades and divisions of these specifications

- I.03 Reference Standards
  A. ANSI/DASMA 102 American National Standards Institute [A216.1] Specifications for sectional overhead doors published by Door & Access Systems Manufacturers Association International in bulletin 102-2004.
  - B. **ASTM A123** Zinc [hot-dipped galvanized] coatings on iron and steel products.
  - C. ASTM A216 Specifications for sectional
  - overhead type doors.

    D. **ASTM A229** Steel wire, oil-tempered for
  - mechanical springs.

    E. **ASTM A-653-94** Steel sheet, zinc-coated [galvanized] by the hot-dipped process, commercial quality.
  - ASTM E330 Structural performance of exterior windows, curtain walls, and doors by uniform static air pressure difference.

#### 1.04 Quality Assurance

A. Sectional overhead doors and all accessories and components required for complete and secure installations shall be manufactured as a system from one manufacturer.

### 1.05 Systems Description

A. Sectional Overhead Door: Type:

#### Model 2411

- B. Mounting: Continuous angle mounting for [steel]
- [wood] jambs [bracket mounting for wood jambs]
  C. Operation: [manual push-up] [chain hoist] [motor] notor with chain hoist]
- D. Material: Galvanized steel with polyester finish paint
- E. Insulation: Optional [polystyrene] [polyurethane]

#### 1.06 Submittals

- A. Shop Drawings: Clearly indicate the following: I. Design and installation details to withstand
  - standard wind load. 2. All details required for complete operation and installation.
  - Hardware locations.
  - 4. Type of metal and finish for door sections.
  - 5. Finish for miscellaneous components and accessories
- B. Product Data: Indicating manufacturer's product data, and installation instructions.

#### 1.07 Delivery, Handling, Storage

- A. Deliver products in manufacturer's original containers, dry, undamaged, seals and labels intact.
- B. Store and protect products in accordance with manufacturer's recommendations.

#### 1.08 Warranty

A. Standard manufacturer's TEN YEAR warranty against cracking, splitting or deterioration due to rust-through.

#### PART II - PRODUCTS

#### 2.01 Manufacturer

A. Wayne Dalton or approved equal **Model 2411** insulated sectional overhead doors of steel construction complete as specified in this section and as manufactured by **Wayne Dalton**, Mt. Hope, Ohio.

#### 2.02 Materials

- A. Door Sections: Shall be of roll formed steel type with "c" shaped 20 ga. [intermediate and end stiles construction] and calculated materials "R"- value of 7.64 [optional] in accordance with industry guidelines.
  - Exterior Skin: Structural quality, hot-dipped galvanized steel, with embossed stucco finish nominal 24 ga. with baked-on polyester primer and [white] [brown] polyester finish coats with non-repeating random stucco texture and 2 deep and 4 shallow pinstripes.

    2. Insulation: Cavity shall be filled with laid-in-place
  - [polyurethane] [expanded polystyrene] and covered with [vinyl] [embossed steel] held in place with polymer clips
- B. Track: Track design shall be [standard lift] [high lift] [vertical lift] [low headroom]. Vertical mounting angles shall be hot-dipped galvanized. Track size shall be [2"] [3"]. Vertical track shall be graduated to provide wedge type weathertight closing with continuous angle mounting for [steel] [wood] jambs, and shall be fully adjustable to seal door at jambs [bracket mount for wood]. Horizontal track shall be reinforced with continuous angle of adequate length and gauge to minimize deflection.

**Note:** Horizontal track applies to standard lift, high lift, low headroom and follow-the-roof designs only.

- C. Hardware: Hinge and Roller Assembly:
  - 1. Hinges and brackets shall be made from hotdipped, galvanized steel.
  - Track rollers shall be case-hardened inner steel races with 10-ball [2"] [3"] rollers.
  - 3. All factory authorized attachments shall be made at locations indicated.

#### D. Counterbalance:

- 1. Springs shall be torsion type, low-stress, helical wound, oil-tempered spring wire to provide minimum [10,000 standard] [25,000] [50,000] [100,000] cycles of use, on continuous steel [solid].
- 2. Spring fittings and drums made of die cast, high strength aluminum.
- Pre-formed galvanized steel aircraft cable shall provide a minimum of a 5:1 safety factor.

#### 2.03 Operation

A. Operation shall be [manual push-up] [chain hoist] [motor] [motor with chain hoist].

#### Note: Manufacturer does not recommend chain hoist or jackshaft operation with the following track systems:

- 12" or 15" radius standard lift with roof pitch < 2:12
- · 32" radius standard lift with no roof pitch, unless vertical track is extended 5"
- Low headroom track
- High lift < 24" with no roof pitch

Special chain hoist assemblies (using a trolley rail) are available for the above track systems

#### Locks

Locks shall engage the right-hand vertical track and utilize [an interior side lock] [standard size rim cylinder1.

### Weatherstripping

 Doors shall be equipped with vinyl bulb shaped astragal as standard on the bottom section. Optional joint, top. head and jamb seal are available.

#### Glazing 2.06

A. Optional.

#### 2.07 Wind Load

A. Wind load – per DASMA 102-2003 and as required by local codes.

#### PART III - EXECUTION

#### 3.01 Installation

- A. General:
  - I. Install doors in accordance with manufacturer's instructions and standards. Installation shall be by an authorized Wayne Dalton representative.
  - 2. Verify that existing conditions are ready to receive sectional overhead door work.
  - 3. Beginning of sectional overhead door work means acceptance of existing conditions.
- B. Install door complete with necessary hardware, jamb and head mold strips, anchors, inserts, hangers, and equipment supports in accordance with final shop drawings, manufacturer's instructions, and as specified herein.
- C. Fit, align and adjust sectional overhead door assemblies
- level and plumb for smooth operation.

  D. Upon completion of final installation, lubricate, test and adjust doors to operate easily, free from warp, twist or distortion and fitting for entire perimeter

**Note:** Architect may consider providing a schedule when more than one sectional overhead door or opening type is required.

3.02 Materials (See note above.)

Specifications and technical information also available at www.arcat.com, SpecWizard™, and Sweets.com®.

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