



## SteelForm™ S-20

### 1.1 MANUFACTURERS

- A. Acceptable Manufacturer: Raynor, which is located at: 1101 East River Rd. P. O. Box 448 ; Dixon, IL 61021-0448; Toll Free Tel: 800-4-RAYNOR; Tel: 815-288-1431; Fax: 888-598-4790; Email: [request info \(thegarage@raynor.com\)](mailto:request info (thegarage@raynor.com)); Web: [www.raynor.com](http://www.raynor.com)

### 1.2 SECTIONAL RIBBED PAN DOOR

- A. SteelForm as manufactured by Raynor Garage Doors:
1. Doors:
    - a. Operation (select from list below):
      - 1) Provide doors designed for manual operation.
      - 2) Provide doors designed for hand chain operation.
      - 3) Provide doors designed for electric motor operation.
    - b. Jamb Construction (select from list below):
      - 1) Steel jambs with self-tapping fasteners.
      - 2) Wood jambs with lag screw fasteners.
      - 3) Masonry jambs with anchor bolt fasteners.
    - c. Structural Performance Requirements (specify required wind load psf):
      - 1) Wind Loads: Uniform pressure of: \_\_\_\_\_ psf.
  2. Sections:
    - a. SteelForm S-20:
      - 1) Section end stiles to be 13 gauge galvanized steel. Center stiles to be a minimum 16 gauge thickness. End stiles and center stiles to be riveted to outside face with stainless steel rivets and resistance welded to interior rail.
      - 2) Material: Steel pan construction, 2 inches (51mm) thick, roll-formed from 20 gauge commercial quality, hot-dipped galvanized (G90) steel complying with ASTM A 653. Exterior of door to have flush face and roll-formed tongue and groove joints for weathertight closure.
      - 3) Finish: Exterior skin to have two coats of paint, one primer coat and one finish coat.
        - a) Color: White polyester paint.
    - b. Insulation (optionally provided - select from list below):
      - 1) Expanded polystyrene with R-value of 7.70 with white impact-resistant textured covers.
      - 2) Expanded polystyrene with R-value of 7.70 with 26 gauge hot-dipped galvanized steel covers, stucco embossed and painted gray.
      - 3) Expanded polystyrene with R-value of 7.70 with 24 gauge hot-dipped galvanized steel covers, painted gray.
      - 4) Expanded polystyrene with R-value of 7.70 with 20 gauge hot-dipped galvanized steel covers, painted gray.
    - c. Seals: Bottom of door to have flexible U-shaped vinyl seal retained in aluminum rail. Optional blade seal on top section to prevent airflow above header

- d. Trussing: Doors designed to withstand specified wind load. Deflection of door in horizontal position to be maximum of 1/120th of door width.
- 3. Windows: Locations to comply with door elevation drawings. Select from list below)
  - a. 24 inches by 8 inches (610 mm by 203 mm) rectangular window encased in a two-piece black frame.
  - b. Full-view window consisting of aluminum stile and rail construction and color matched to door exterior with powdercoat paint.
- 4. Glazing: Windows to be provided as follows:
  - a. Glass consisting of one pane of 1/8 inch (3.2 mm) thick DSB glass.
- 5. Glazing: Windows to be provided with insulated glazing units as follows:
  - a. Glass consisting of two panes of 1/8 inch (3.2 mm) thick DSB glass.
- 6. Glazing: Full View to be provided as follows:
  - a. Impact Rated Glazing : Provide as follows:
    - a) 11/32 inch (8.37mm) Clear Impact Glass
    - b) 11/32 inch (8.7mm) Tinted Bronzer Impact Glass
    - c) 11/32 inch (8.7mm) Tinted Bronzer Impact Glass
    - d) 11/32 inch (8.7mm) Tinted Green Impact Glass
    - e) 11/32 inch (8.7mm) White Interlayer Impact Glass
  - b. Non-Impact Rated Glazing: Provide as follows:
    - a. 1/8 inch (3.2mm) Clear Glass consisting of one pane of 1/8 inch (3.2mm) DSB non-insulated glass.
    - b. 3/16 inch (4.8mm) Clear Glass consisting of one pane of 3/16 inch (4.8mm) non-insulated glass.
    - c. 1/4 inch (6.4mm) Clear Glass consisting of one pane of 1/4 inch (6.4mm) non-insulated glass.
    - d. 1/8 inch (3.2mm) Clear Tempered Glass consisting of one pane of 1/8 inch (3.2mm) non-insulated glass.
    - e. 1/4 inch (6.4mm) Clear Tempered Glass consisting of one pane of 1/4 inch (6.4mm) non-insulated glass.
    - f. 3/16 inch (4.88mm) Clear Tempered Glass consisting of one pane of 3/16 inch (4.88mm) non-insulated glass.
    - g. 1/4 inch (6.4mm) Clear Laminated Glass consisting of one pane of 1/4 inch (6.4mm) non-insulated glass.
    - h. 1/4 inch (6.4mm) Clear Wire Glass consisting of one pane of 1/4 inch (6.4mm) non-insulated glass.
    - i. 1/8 inch (3.2mm) Tinted Glass consisting of one pane of 1/8 inch (3.2mm) non-insulated glass.
    - j. 1/4 inch (6.4mm) Tinted Glass consisting of one pane of 1/4 inch (6.4mm) non-insulated glass.
    - k. 1/8 inch (3.2mm) Tinted Tempered Glass consisting of one pane of 1/8 inch (3.2mm) non-insulated glass.
    - l. 1/4 inch (6.4mm) Tinted Tempered Glass consisting of one pane of 1/4 inch (6.4mm) non-insulated glass.
    - m. 1/2 inch (12.69mm) Insulated Clear Glass consisting of two panes of 1/8 inch (3.2mm) DSB insulated glass.
    - n. 1/2 inch (12.69mm) Insulated Clear Tempered Glass consisting of two panes of 1/8 inch (3.2mm) Tempered insulated glass.
    - o. 1/2 inch (12.69mm) Insulated Low E DSB Glass consisting of two panes of 1/8 inch (3.2mm) DSB insulated glass.
    - p. 1/2 inch (12.69mm) Insulated Low E Tempered Glass consisting of two panes of 1/8 inch (3.2mm) Tempered insulated glass.
    - q. 1/8 inch (3.2mm) Clear Acrylic consisting of one pane of

- 1/8 inch (3.2mm) Acrylic glazing.
    - r. 1/8 inch (3.2mm) Clear Lexan consisting of one pane of 1/8 inch (3.2mm) Lexan glazing.
    - s. 1/4 inch (6.4mm) Clear Acrylic consisting of one pane of 1/4 inch (6.4mm) Acrylic glazing.
    - t. 1/4 inch (6.4mm) Clear Lexan consisting of one pane of 1/4 inch (6.4mm) Lexan glazing
- 7. Mounting: Sections mounted in door opening using (select from list below):
  - a. Between-Jamb Bracket Mounting: sections mounted between door jambs, seal against exterior perimeter seal installed along vertical and top horizontal edges of jambs.
  - b. Lap Jamb Angle Mounting: section overlap door jambs by 1 inch (25 mm) on each side of door opening.
- 8. Track:
  - a. Material: Hot-dipped galvanized steel (ASTM A 653), fully adjustable for adequate sealing of door to jamb or weatherseal.
  - b. Configuration Type (select from list below):
    - 1) Configuration Type: Normal Headroom.
    - 2) Configuration Type: Low Headroom.
    - 3) Configuration Type: Vertical Lift.
    - 4) Configuration Type: Lift-Clearance.
    - 5) Configuration Type: Incline.
    - 6) Configuration Type: Contour.
  - c. Track Size (select from list below):
    - 1) Size: 2 inches (51 mm).
    - 2) Size: 3 inches (76 mm).
  - d. Mounting (select from list below):
    - 1) Bracket-Mount using adjustable track brackets for use on 2-inch track with wood jambs.
    - 2) Floor-to-Header Angle-Mount consisting of continuous angle extending from the floor up to the door header for use with steel, wood, or masonry jambs. Continuous angle size not less than 2-5/16 inches by 4 inches by 3/32 inch (59 by 102 by 2.5 mm) on 2-inch track and 3-1/2 inches by 5 inches by 1/8 inches (89 by 127 by 3.2 mm) on 3-inch track.
    - 3) Floor-to-Shaft Angle-Mount consisting of continuous angle extending from the floor, past header, completely up to door shaft for use with steel, wood, or masonry jambs. Continuous angle size not less than 2-5/16 inches by 4 inches by 3/32 inch (59 by 102 by 2.5 mm) on 2-inch track and 3-1/2 inches by 5 inches by 1/8 inches (89 by 127 by 3.2 mm) on 3-inch track.
  - e. Finish (select from list below):
    - 1) Galvanized.
    - 2) White Powdercoat.
- 9. Counterbalance:
  - a. Counterbalance System: Provided with aircraft-type, galvanized steel lifting cables with minimum safety factor of 5. Torsion Springs consisting of heavy-duty oil-tempered wire torsion springs on a continuous ball-bearing cross-header shaft. Specify cycle life below (up to 200,000)
    - 1) Spring Cycle Requirements: Standard 10,000 cycles.
    - 2) Spring Cycle Requirements: High cycle: \_\_\_\_\_ cycles.
- 10. Hardware (specify rollers below):
  - a. Hinges and Brackets: Fabricated from galvanized steel.
  - b. Track Rollers: 2 inches (50.8 mm) diameter consistent with track size, with hardened steel ball bearings.

- c. Track Rollers: 3 inches (76.2 mm) diameter consistent with track size, with hardened steel ball bearings.
  - d. Perimeter Seal (optionally provided): Provide complete weather stripping system to reduce air infiltration. Weather stripping shall be replaceable.
    - 1) For bracket mounted doors provide climate seal or vinyl seal with aluminum retainer.
    - 2) For angle mounted doors provide angle clip-on seal.
  - e. Furnish door system with locks (optionally provided): Exterior lock with five-pin tumbler cylinder, night latch and steel bar engaging track.
  - f. Furnish door system with locks (optionally provided): Interior lock with dead bolt provided with hole to receive padlock provided by Owner.
11. SteelForm Limited Warranty: Raynor warrants the door sections against defects in material and workmanship, and deterioration due to rust-through for ten years from date of delivery to the original purchaser. Window components are warranted against defects in material and workmanship for one year from date of delivery to the original purchaser. Raynor warrants all hardware and spring components against defects in material and workmanship for one year (or cycle life of the springs) from date of delivery to the original purchaser. Additional Limited Warranty requirements in accordance with manufacturer's full standard limited warranty documentation.