



Model STORM GRILLE®
Brick or Straight Pattern
High Stress Rolling Grilles

NOTE: For specifications, architects must choose from a variety of options. The standard choice will be shown first in plain text followed by the options shown in [brackets] (Example “Finish: Galvanized [Powder coated] [Baked enamel]”). The specifier must make the appropriate choices and delete the others (Example: “Finish: Powder coated”).

GENERAL

1.01 SUMMARY

- A. This section includes: [Manual] or [Electric] operated Windstorm Resistant Overhead Rolling Grille.
1. Design doors to withstand a windload of ± 60 psf, 1.5 safety rating (equivalent to a normal ± 90 psf rating) for doors up to 20'8" x 30'. Provide compatible analysis certified by a professional engineer for doors over 20'8" x 30'.
 2. Manufacturer must be capable of providing certified Net Vertical and Net Horizontal reaction forces imposed on door jambs.
 3. Cycle life: Design doors of standard construction for normal use of 10,000 cycles standard [up to 400,000 cycles].
- B. Related Sections: Related to this section, but not limited to, the following (based on Master Format 2004):
1. Section 01660 – Product Storage and Handling Requirements.
 2. Section 04220 – Concrete Unit Masonry.
 3. Section 05120 – Structural Steel.
 4. Section 06100 – Rough Carpentry.
 5. Section 08310 – Access Doors and Panels.
 6. Section 08710 – Door Hardware.
 7. Section 09290 – Gypsum Board.
 8. Section 09900 – Paints and Coatings.
 9. Section 26000 – Electrical.

1.02 REFERENCES

- A. ASTM A 653/A 653M – Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process
- B. ASTM A 36 – Standard Specification for Carbon Structural Steel, Hot Rolled Steel
- C. ASTM A 123 – Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products
- D. ASTM A 312 – Standard Specification for Seamless, Welded, and Heavily Cold Worked Austenitic Stainless Steel Pipes
- E. ASTM A 240 – Standard Specification for Chromium and Chromium-Nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels and for General Applications
- F. ASTM A 276 – Standard Specification for Stainless Steel Bars and Shapes



- G. ASTM A 31 – Standard Specification for Steel Rivets and Bars for Rivets, Pressure Vessels
- H. ASTM A 449 – Standard Specification for Quenched and Tempered Steel Bolts and Studs
- I. ASTM E 330 – Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights and Curtain Walls by Uniform Static Air Pressure Difference
- J. ASTM B 209 – Standard Specification for Aluminum and Aluminum-Alloy Sheet and Plate
- K. ASCE 7-02 – Standard Minimum Design Loads on Buildings and Other Structures

1.03 SUBMITTALS

- A. Submit under provisions of Section 01300.
- B. Product Data: Provide manufacturer's standard details and catalog data. Provide installation instructions.
- C. Shop Drawings: Furnish shop drawings for architect's approval. Include elevation, sections, and details indicating dimensions, materials, finishes, conditions for anchorage and support of each door.
- D. Submit manufacturer's recommended operation, troubleshooting, and maintenance instructions.

1.04 QUALITY ASSURANCE

- A. Manufacturer: Rolling doors shall be manufactured by a firm with a minimum of five years experience.
- B. Single-Source Responsibility: Manufacturer shall provide doors, tracks, motors, and accessories for each type of door. Secondary components shall come from a source acceptable to the manufacturer of the primary components.

1.05 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials in original packaging supplied by manufacturer with intact labels. Store materials away from harmful environmental conditions and construction.

1.06 WARRANTY

- A. Door Warranty: Provide one year written warranty from date of installation against deficiencies due to defects in materials or workmanship. Installer agrees to repair or replace any defects in materials or workmanship.
- B. Project Warranty: Refer to Conditions of the Contract for project warranty provisions.

PART 2 - PRODUCTS

2.01 MANUFACTURER

- A. Manufacturer: Alpine Overhead Doors, Inc.; 8 Hulse Road Suite 1S, East Setauket, NY 11733. Telephone 800-257-4634 or 631-473-9300. Fax 631-642-0800.
- B. Model: STORM GRILLE® Windstorm Resistant Rolling Grille

2.02 MATERIALS

- A. Curtain:
 - 1. Grille: Furnish Brick pattern 6" [Straight Lattice pattern 9"]
 - a) Horizontal rods: Solid 5/16" galvanized steel rods covered with tubular spacers. Continuous end links are to be designed to prevent the curtain from leaving the side guide rails.



- i) Vertical spacing: Aluminum [Stainless Steel] vertical links, 2” on center.
 - b) Rod Material:
 - i) ASTM A 641/A 641M Galvanized Carbon Steel Wire
Finish: Galvanized
 - c) Tubular Spacer Material:
 - i) Aluminum
Finish: Mill Finish [Clear anodized] [Bronze anodized] [Black anodized]
– OR –
 - ii) ASTM 240 Stainless steel 300 series
Finish: [Mill finish #2B] [#4 satin finish]
 - d) Vertical Spacing Material:
 - i) Aluminum
Finish: Mill Finish [Clear anodized] [Bronze anodized] [Black anodized]
– OR –
 - ii) ASTM 240 Stainless steel 300 series
Finish: [Mill finish #2B] [#4 satin finish]
 - e) [Lexan panels]: Clear, polycarbonate material for protection against theft, odors, smoke, and debris. For 12” straight pattern only.
2. Bottom Bar: (Size dependent on dimensions per manufacturer’s standard)
- a) 2 x 3 ½ inch extruded aluminum tubular section.
 - i) Finish: Mill Finish [Clear anodized] [Bronze anodized] [Black anodized]
 - b) [Aluminum “T” Bar]
 - i) Finish: Mill Finish [Clear anodized] [Bronze anodized] [Black anodized]
 - c) [Double Angle Bottom Bar]:
 - i) ASTM 240 Stainless steel 300 series
Finish: [Mill finish #2B] [#4 satin finish]
- B. Guides:
1. Guides shall be designed using structural steel angles with a minimum thickness of 3/16”, minimum 1 ¼” slotted connections, and removable bellmouth curtain stops to allow for curtain maintenance without removal of guides. Bellmouth stops shall be flush with guide groove.
 - a) Angles:
 - i) 20’8” wide: Wall angle 3 ½ x 3 ½ x 7/16”, inside angle 2 ½ x 2 ½ x 3/8”, outside angle 4 x 3 x ¼”.
 - ii) 12’ wide: Wall angle 2 ½ x 3 ½ x ¼”, inside angle 2 x 2 ½ x ¼”, outside angle 3 x 3 3/16” min
 - b) Bolting:



- i) 20'8" wide: Minimum 5/8" bolts at no more than 9" o.c.
- ii) 12' wide: Minimum 1/2" bolts at no more than 15" o.c.
- c) Material:
 - i) ASTM A 36 Carbon Structural Steel
Finish: Gray shop prime coat [ASTM A 123 Galvanized] [baked enamel paint] [powder coated].
– OR –
 - ii) ASTM 276 Stainless Steel 300 Series
Finish: [Mill finish #2B] [#4 finish satin]
- d) [Weather Stripping]: Vinyl weather seals.

C. Door Support Brackets and Mounting Plates:

1. Steel plate not less than 1/4" thick. Provide ball bearings at rotating support points. Bolt plates to wall mounting angles with minimum 1/2" fasteners. Plate supports counterbalance assembly and forms end enclosures.
 - a) Material:
 - i) ASTM A 36 Carbon Steel:
Finish: Gray shop prime coat [ASTM A 123 Galvanized] [Baked enamel paint] [Powder coated].
– OR –
 - ii) ASTM 240 Stainless Steel 300 Series
Finish: [Mill Finish #2B]
 - b) [Stop Lock Bearing]: To prevent door from free falling in the event drive operation fails.

D. Counterbalance Assembly: Torsion

1. Counterbalance assembly: Steel pipe barrel of a size capable of carrying a curtain load with a maximum deflection of 0.03" per foot of door width. Heat-treated helical torsion springs encased in a steel pipe and designed to include an overload factor of 25% to ensure minimum effort to operate. Sealed and prelubricated high speed ball bearing at rotating support points. Torsion spring charge wheel for applying spring torque and for future adjustments.
 - a) Material:
 - i) ASTM A 36 Carbon Structural Steel
Finish: Gray shop prime coat [A 123 Hot-Dip Galvanized]
– OR –
 - ii) A 312 Stainless Steel 300 Series
Finish: Mill finish
 - b) Life Cycle: High Cycle springs designed to satisfy 10m through 400m life cycles. Consult engineering if height exceeds width for any cycle above 20m. (Cycle defined as one time opening and closing of door)



E. Hood:

1. 24 gauge steel [.040" aluminum]. Formed to fit the contour of the end brackets with reinforced top and bottom edges. Provide support bracing for doors wider than 20 feet at every 10 feet to prevent excessive sag.
2. Shape: Hexagon [square] [round]
3. Material:
 - a) Galvanized Steel as per ASTM A 653/ A 653 M
Finish: [Baked enamel paint] [Powder coated]
– OR –
 - b) ASTM 240 Stainless Steel 300 Series:
Finish: [Mill finish #2B] [#4 satin finish]
– OR –
 - c) Aluminum
Finish: Mill Finish [Clear anodized] [Bronze anodized] [Black anodized]
4. [Fascia]: Galvanized [Stainless Steel] [Aluminum] provided where areas behind door hood are open. Materials and finish same as hood.

F. Locking:

1. Provide padlockable slide locks for latching and locking door on coil side bottom bar at each jamb extending into slots in guides. (Electric Interlocks recommended with motorized doors only)
2. Manual chain hoist: Provide padlockable chain keeper on guide.

2.03 OPERATION:

A. Opening/Closing: Manual push-up [Manual hand chain] [Manual hand crank] [Motor Operator].

C. [Manual hand chain]:

1. Provide chain hoist operator with endless steel chain, chain pocket wheel and guard, geared reduction unit, and chain keeper secured to guide.

D. [Manual hand crank]:

1. Provide crank hoist operator including crank gear box, steel crank drive shaft and geared reduction unit. Fabricate gear box to completely enclose operating mechanism and be oil-tight.

D. [Motor Operators]:

2. Choose ONE:
 - a) Medium-Duty, Alpine® Model Redi-Hoist™ driven by efficient V-belt primary drive with chain/sprocket secondary. Maximum ½ hp. For use on doors up to 10' x 10'.
– OR –
 - b) Industrial-Duty, Alpine® Model Redi-Lift™ driven by heavy-duty V-belt with chain/sprocket secondary reduction. Optional auxiliary chain hoist. Maximum 1 hp. For use on doors up to 12' x 12'.



– OR –

- c) Heavy Industrial-Duty, Alpine® Model Redi-Master™ driven by heavy-duty worm gear in oil bath reduction. Standard auxiliary chain hoist. Standard ½ hp (maximum 3 hp)

– OR –

- d) Redi-Tube® Tubular Motor with Built-In Manual Handcrank Overdrive. Auxiliary chain hoist not available. For use on doors up to 10' x 8'.

– OR –

- e) Redi-Midget® Gear Reduced Jackshaft Door Operator.

- 2. [Sensing Edges] (For double angle bottom bar): For motorized doors, sensing edges allow door to go up in case of obstruction. [Pneumatic Edge] [Electric Edge] [Wireless Edge].

- a) Colors: Gray [Yellow] [Black] [White] [Yellow with black stripes]

- 3. [Emergency Egress]: Offers protection from problems that may arise from a power outage during a fire or blackout. This device, which is activated by pulling a lever, will release door motor resistance and lift the door 3 feet from the ground permitting egress. Ideal for malls. (For use with Redi-Hoist®, Redi-Lift®, and Redi-Midget® motors).

2.04 Mounting: (Select One)

- 1. Interior face mounted on prepared opening.
- 2. Interior mounted between jambs and under lintel in a prepared opening.
- 3. Exterior face mounted on prepared opening.

PART 3 - EXECUTION

3.01 EXAMINATION

- A. Verify that dimensions are correct and project conditions are in accordance with manufacturer's installation instructions; do not proceed with installation until unacceptable conditions have been corrected.

3.02 INSTALLATION

- A. Install units in accordance with manufacturer's instructions.
- B. Ensure that units are installed plumb and true, free of warp or twist, and within tolerances specified by manufacturer for smooth operation.

3.03 FIELD TESTING

- A. Test doors for regular operation.

3.04 DEMONSTRATION

- A. Instruct the Owner's personnel in correct operation and maintenance of units.

3.05 ADJUST AND CLEAN

- A. Clean units in accordance with manufacturer's instructions.
- B. Restore slight blemishes in finishes in accordance with manufacturer's instructions to match original finish. Remove and provide new units where repairs are not acceptable to the Architect.