

- c. Items must be handled with due care and attention to prevent damage.
- d. Damage must be reported in writing to AeroDoor with adequate photos.

6. Submittals

- a. Drawings show detailed construction of the framing including bottom rail, top guide rails, structural door framing, wheels, top guide rollers, weather seal and any extras.
- b. All structural drawings and calculations will be signed and sealed by a registered PE in North America. Charges may apply for certain US states.
- c. Engineering calculations for choice of top guide rail must be provided.
- d. Provide mill certifications for structural steel.
- e. Drawings shall denote weld identifications, connection hardware and any electrical door opener and panel locations.
- f. Wiring schematics shall include field wiring, location of junction boxes and physical locations of devices.
- g. Provide a product data manual for components within any electrical door opener and control panel.
- h. Provide a owner's manual covering operation of the door, trouble shooting and general maintenance.
- i. Provide a manufacturer warranty certificate in owner's name.

7. Warranty

- a. 25-year warranty on hangar door top guide rollers, entire structural door frame, workmanship, and bottom wheel housing, and axle.
- b. 1-year warranty on bearings in the bottom wheel. They require annual grease to prolong life.
- c. 1-year warranty on weather seal.
- d. 1-year warranty on all electrical components, motor operator and control panel.
- e. Warranty excludes damage caused by acts of nature and environmental corrosion.
- f. Warranty excludes damage caused by neglect or misuse.
- g. Warranty document online <https://hangardoors.aero/aerodoor-warranty>
- h. 3rd party features such as a tail door will be warranted by respected manufacturer.

8. Bottom rail, levelling angle and anchor bolts

- a. Levelling angles and double nut anchor bolts provided and shall be every 5ft on center.
- b. Rail shall be mounted on levelling angles and tack welded to ensure level installation.
- c. Rail provided shall be ASCE type and per the size requirements of the door.

9. Structural door frame

- a. Main members both vertical and horizontal shall be continuous sections of new hot rolled structural steel, equal to or exceeding ASTM-A-36/A992 and comply with AISC specifications.
- b. Bolts will be high strength, ASTM A325X – Black.
- c. Angles and plates: ASTM A36.
- d. Welds will be ground smooth and buffed.
- e. Cold formed C-shapes shall be used only for girts and interior bracing and not as structural framing members. These will be spaced horizontally every 5ft on center.
- f. All framing members shall be true to dimension and square without warping or being more than 1/8" in twenty feet.
- g. Diagonal bracing shall be provided so the completed door leaf will be adequately braced to withstand design loads.
- h. For any door member, the deflection due to design wind load shall not exceed the members length divided by 120.

10. Top guide rail, also known as top track

- a. Top guide rails provided will be a hot rolled I beam shape and shall conform to ASTM specification A992 Grade 50 or better. Size, weight, and length shall be as required for door design, wind loads and building requirements.
- b. The bottom flange shall act as a retainer in conjunction with the doors top guide rollers to prevent the doors from disengagement.
- c. Top guide rails shall be mounted to the building structure by welding or bolting.
- d. End of travel bumpers provided at the end of door travel.
- e. Supports for the top track every 10ft on center by others.
- f. Top track supports should be spaced no wider than 10' across the opening. Additionally, top track supports need to be located at each jamb column and within 1/4" plus or minus of elevation.

11. Top guide rollers ([learn more](#))

- Telescoping type: Designed to move up and down within the specified live loading deflection of the roof, within the vicinity of the door opening.
- Provide a minimum of 2 rollers per door leaf.
- Include both horizontal and vertical steel rollers built into a frame which is connected in such a manner as to transmit the specified wind loads from the door to the building structure and to prevent disengagement of the door from the top guide rail.
- Wheels must include bronze bushings impregnated with lubrication for lifetime, maintenance free operation. No other type accepted.
- 25-year warranty on hangar door top guide rollers

12. Bottom Wheels ([learn more](#))

- a. A minimum of two wheels per door leaf shall be provided.
- b. Size and weight of the door shall determine wheel diameter.
- c. Wheels to be sized to correctly fit the ASCE bottom rail.
- d. Wheels shall be manufactured from steel plates, having a minimum tread diameter as required for the actual wheel loading. Treads must be machined concentric with the bearing seats.
- e. Wheel bearings shall be internal tapered roller type, arranged so that both horizontal and vertical loads shall be transferred to the rail through only the bearing.
- f. Bearings must be equipped with dust seals and high-pressure grease pins.
- g. Wheels shall be removeable from the housing without the need to remove the door.
- h. Wheels 18-inch or greater in diameter can be heat treated to obtain a rim hardness of 320 Brinell.
- i. 25-year warranty on bottom wheel housing, and axle.
- j. 1-year warranty on bearings in the bottom wheel. They require annual grease to prolong life.

13. Weather stripping

- a. Weather stripping shall be 1/8-inch two ply cloth inserted neoprene.
- b. Vertical seals between the door leaves shall be flap type, full height of the door.
- c. Vertical seals between door and building jambs shall be flap type, full height of the door.
- d. Vertical seals on leading edge leaves shall be bulb seal, full height of the door.
- e. Horizontal seal on sill shall be flap type, full width of the door.
- f. Telescoping top guide rollers that use a drop down soffit will include a brush that is secured to the building, extending horizontally until it creates a seal with the exterior of the door leaf. On buildings where there is no drop down soffit a floating weather seal design may be used.
- g. Brush seal shall be provided to clear debris from the ASCE rail head as the door moves.
- h. Weather seal shall be held in place by metal retaining strips with rust resistant fasteners.
- i. Any rub plates shall be by others.

14. Electrical Motor Operator ([learn more](#))

19. Interconnection of door leaves

- a. Pickup brackets will be designed and furnished to accept the operational loads imparted by the door leaf.
- b. Provide door spacing sufficient to allow overlap of pickup brackets not less than ½ inch to prevent brackets from inadvertently passing each other.
- c. Provide cushion on brackets to reduce noise and impact load on the doors.

20. Finishes

- a. Structural door framing members shall be thoroughly cleaned to a minimum of SSPC-SP-3. All loose scale, dust, or other objectionable materials, which would otherwise bond with the paint will be removed.
- b. All structural framing shall be shop primed with one coat of Sumter coatings heavy duty inhibitive primer, 100R9913 Red or 100D9914 Gray.
- c. Cold formed C shapes shall be galvanized or baked on red finish.
- d. All shop painting shall be done in dry weather, under cover and free from moisture.

21. Installation

- a. Hangar door installation will be by hangar door manufacturer.
- b. Installation shall include:
 - i. ASCE bottom rail and levelling angles.
 - ii. Top guide rails.
 - iii. Door leaves and interconnection pickup brackets.
 - iv. Complete weather seals, not partial.
 - v. Motor operators, control panels, limit switches.
 - vi. Overhead power.
 - vii. Conduit and wiring, non-explosion proof.

22. Owner Training

- a. After installation is complete, the door manufacturer shall perform a complete operating test in the presence of the owner and architect.
- b. Correct defects disclosed by the test. Retest the doors and adjust them until the entire installation is fully operational and acceptable to the owner and architect.

23. Work By Others

- a. Foundation: Anchor bolts are supplied, but installation is not included.
- b. Foundation: Excludes concrete work and finishing around our ASCE Rail.
- c. Foundation: Excludes any rail drainage or deicing system.
- d. Building: Excludes vertical and horizontal supports for carrying our doors' top guide rails (maximum spacing 10ft on center).
- e. Door: Excludes walk/access doors, windows, exit signs, lights, vents, and signage.
- f. Door: Excludes exterior sheeting, insulation, interior liner panels, perimeter trim, rub plates, studs, or flashing.
- g. Door: Excludes soffit closure plate.
- h. Powered Doors: Service power must be provided to a junction box at the end of the doors top track.
- i. Powered Doors: Excludes explosion-proof classifications.
- j. Paint: Excludes field paint, finish painting, specialist coatings, or sandblasting.
