www.icc-es.org | (800) 423-6587 | (562) 699-0543 *A Subsidiary of the International Code Council®*

# ICC-ES Listing Report
# ESL-1581

*Issued January 2025*

*This listing is subject to renewal January 2026.*

**CSI:** DIVISION: 13 00 00—SPECIAL CONSTRUCTION
Section: 13 26 00—Fabricated Rooms
Section: 13 26 13—Storm Shelter Rooms

**Product Certification System:**

The ICC-ES product-certification system includes evaluated evidence in support of test data in accordance with the standard(s) listed below. The system also involves factory inspections, and assessment and surveillance of the listee's quality system.

**Product:** MODULAR COMMUNITY SHELTER

**Listee:** TORSHEL STORM SHELTERS

**Evaluation:** The Modular Community Storm shelter is a community tornado and hurricane shelter consisting of 1/4-inch thick (6.3 mm) ASTM A36 steel exterior wall and roof panels, 3/16-inch thick (4.8 mm) ASTM A36 steel C-channel members for interior wall and roof bracing, 1/4-inch thick (6.3 mm) ASTM A36 steel angle brackets for floor bracing, 3/16-inch thick (4.8 mm) ASTM A36 steel T-shaped corner joint bracing, and 1/4-inch thick (6.3 mm) ASTM A36 steel C-channel members for moment frames. All exterior seems and D-rings are 100 percent welded, while interior C-channels are stitch welded. Each storm shelter includes an escape hatch assembly and air vents made from 1/4-inch thick (6.3 mm) ASTM A36 steel, and a bathroom extractor fan shield and A/C ventilation from 3/16-inch (4.8 mm) ASTM A36 steel. The storm shelter's door is manually operated with a sliding wheel bracket and contains a bullet resistant window consisting of three ½-inch-thick (12.7 mm) polycarbonate plastic window panes braced by a 3/16-inch thick (4.8 mm) ASTM A36 steel channel frame and a gunport with a ½-inch thick ASTM A36 steel cover. The door's bracing members are ASTM A36 steel channel members, which support its 1/4-inch thick (6.3 mm) ASTM A36 steel panel. See Table 1 and Figure 1 for main components and details. The Modular Community Shelter was evaluated to the following standards:

- ICC 500-2020, ICC/NSSA Standard for the Design and Construction of Storm Shelters, International Code Council and National Storm Shelter Association.
- ASTM E330-14, Standard Test Method for Structural Performance of Exterior Windows, Doors, Skylights, and Curtain Walls by Uniform Static Air Pressure Difference, ASTM International.
- ASTM E1886-19, Standard Test Method for Performance of Exterior Windows, Curtain Walls, Doors, and Impact Protective Systems Impacted by Missile(s) and Exposed to Cyclic Pressure Differentials, ASTM International.

**Findings:** The modular community shelter, at the tabulated sizes indicted in Table 1, has met the test requirements detailed in Table 2 for an above-ground, tornado and hurricane shelter when tested in accordance with the recognized standards indicated above. Listed are the relevant code sections where storm shelters constructed in accordance with ICC 500 are referenced. Approval of the product's use and all other relevant code sections is the sole responsibility of the local code (building) official.

- 2021 *International Building Code®*
  Applicable Section: 202, 423, 1031.2 Exception 4, 1604.5.1 Exception, and 1604.10
- 2021 *International Residential Code®*
  Applicable Section: R310.1 Exception 1, R323

**Identification:**

1. The ICC-ES mark of conformity, electronic labeling, or the listing report number (ICC-ES ESL-1581) along with the name, registered trademark, or registered logo of the listee must be included in the product label.

2. In addition, packaging of the Modular Community Shelter carries a label indicating the manufacturer's name (Torshel Storm Shelters) and address, the product name, manufacturer's lot number, Hazard use – Tornado and Hurricane, Missile Weight and Speed, Design Wind Pressure, the phrase "ICC 500-2020", and the ICC-ES Listing Mark.

3. The report holder's contact information is the following:

   TORSHEL STORM SHELTERS
   5850 NORTH COMMERCE PLAZA
   JACKSON, MS, 39206
   (601) 500-7275
   info@torshel.com

**Installation:** The system/product must be installed in accordance with the Torshel's published installation instructions and applicable standard. Connection of the Modular Community Shelter to an existing concrete foundation or slab must meet the design and installation requirements in Section 307 of ICC 500.

**Conditions of listing:**

1. Complete plans and calculations, as applicable, verifying compliance with this listing must be submitted to the code official for each project at the time of permit application. The drawings must be prepared and sealed by a registered design professional, when required by the statues of the jurisdiction in which the project is to be constructed.

2. The Modular Community Shelter is manufactured under a quality control program with inspections by ICC-ES.

**TABLE 1 – TORSHEL MODULAR COMMUNITY SHELTER COMPONENTS**

| STORM SHELTER DIMENSIONS | DOOR PANELS | WALL AND ROOF PANELS | VENT COVERS, WINDOWS |
|---|---|---|---|
| 10 ft wide x 16 ft. long x 8 ft. high | DOOR<br>One – 37 1/2-in wide x 80¼-in tall x ¼ in thick<br>HATCH<br>One – 20-in wide x 42-in tall by ¼-in thick | WALL<br>Four 60-in wide x 96 tall x ¼-in thick (end panels)<br>Four 96-in wide x 96-in tall x ¼-in thick (side panels)<br>ROOF<br>Four 60-in wide x 96 long x ¼-in thick | One – A/C vent covers – 12½-in wide x 6¾-in tall x 4½-in deep (bottom) x 2-in deep (top) x ¼-in thick<br>Four – Air vent covers – 22¼-in wide x 8-in tall x 2-in deep x ¼-in thick<br>Five – Bullet-resistant windows – 22¼-in wide x 8-in tall x 1¾-in thick (1– door and 4–side walls)<br>One – Gunport Cover – 6 3/8-in wide x 4 1/2-in tall x ¼-in thick |
| 10 ft wide x 24 ft long x 8 ft high | DOOR<br>One – 37 1/2-in wide x 80¼-in tall x ¼ in thick<br>HATCH<br>One – 20-in wide x 42-in tall by ¼-in thick | WALL<br>Four 60-in wide x 96 tall x ¼-in thick (end panels)<br>Six 96-in wide x 96-in tall x ¼-in thick (side panels)<br>ROOF<br>Six 60-in wide x 96 long x ¼-in thick | One – A/C vent covers – 12 ½-in wide x 6 ¾-in tall x 4 ½-in deep (bottom) x 2-in deep (top) x ¼-in thick<br>Six – Air vent covers – 22¼-in wide x 8-in tall x 2-in deep x ¼-in thick<br>Seven – Bullet-resistant windows – 22¼-in wide x 8-in tall x 1¾-in thick (1– door and 6–side walls)<br>One – Gunport Cover – 6 3/8-in wide x 4 1/2-in tall x ¼-in thick |

For **SI**: 1 ft = 0.305 m, 1 in = 25.4 m**m**

| STORM SHELTER DIMENSIONS | DOOR PANELS | WALL AND ROOF PANELS | VENT COVERS, WINDOWS |
|---|---|---|---|
| 10 ft wide x 32 ft long x 8 ft high | DOOR<br>One – 37 1/2-in wide x 80¼-in tall x ¼ in thick<br>HATCH<br>One – 20-in wide x 42-in tall by ¼-in thick | WALL<br>Four 60-in wide x 96 tall x ¼-in thick (end panels)<br>Eight 96-in wide x 96-in tall x ¼-in thick (side panels)<br>ROOF<br>Eight 60-in wide x 96 long x ¼-in thick | One – A/C vent covers – 12 ½-in wide x 6 ¾-in tall x 4 ½-in deep (bottom) x 2-in deep (top) x ¼-in thick<br>Eight – Air vent covers – 22¼-in wide x 8-in tall x 2-in deep x ¼-in thick<br>Nine – Bullet-resistant windows – 22¼-in wide x 8-in tall x 1¾-in thick (1– door and 8–side walls)<br>One – Gunport Cover – 6 3/8-in wide x 4 1/2-in tall x ¼-in thick |
| 10 ft wide x 40 ft long x 8 ft high | DOOR<br>One – 37 1/2-in wide x 80¼-in tall x ¼ in thick<br>HATCH<br>One – 20-in wide x 42-in tall by ¼-in thick | WALL<br>Four 60-in wide x 96 tall x ¼-in thick (end panels)<br>Ten 96-in wide x 96-in tall x ¼-in thick (side panels)<br>ROOF<br>Ten 60-in wide x 96 long x ¼-in thick | One – A/C vent covers – 12 ½-in wide x 6 ¾-in tall x 4 ½-in deep (bottom) x 2-in deep (top) x ¼-in thick<br>Ten – Air vent covers – 22¼-in wide x 8-in tall x 2-in deep x ¼-in thick<br>Eleven – Bullet-resistant windows – 22¼-in wide x 8-in tall x 1¾-in thick (1– door and 10–side walls)<br>One – Gunport Cover – 6 3/8-in wide x 4 1/2-in tall x ¼-in thick |
| 10 ft wide x 48 ft long x 8 ft high | DOOR<br>One – 37 1/2-in wide x 80¼-in tall x ¼ in thick<br>HATCH<br>One – 20-in wide x 42-in tall by ¼-in thick | WALL<br>Four 60-in wide x 96 tall x ¼-in thick (end panels)<br>Twelve 96-in wide x 96-in tall x ¼-in thick (side panels)<br>ROOF<br>Twelve 60-in wide x 96 long x ¼-in thick | One – A/C vent covers – 12 ½-in wide x 6 ¾-in tall x 4 ½-in deep (bottom) x 2-in deep (top) x ¼-in thick<br>Twelve– Air vent covers – 22¼-in wide x 8-in tall x 2-in deep x ¼-in thick<br>Thirteen – Bullet-resistant windows – 22¼-in wide x 8-in tall x 1¾-in thick (1– door and 12–side walls)<br>One – Gunport Cover – 6 3/8-in wide x 4 1/2-in tall x ¼-in thick |
| 10 ft wide x 56 ft long x 8 ft high | DOOR<br>Two – 37 1/2-in wide x 80¼-in tall x ¼ in thick<br>HATCH<br>Two – 20-in wide x 42-in tall by ¼-in thick | WALL<br>Four 60-in wide x 96 tall x ¼-in thick (end panels)<br>Fourteen 96-in wide x 96-in tall x ¼-in thick (side panels)<br>ROOF<br>Fourteen 60-in wide x 96 long x ¼-in thick | One – A/C vent covers – 12 ½-in wide x 6 ¾-in tall x 4 ½-in deep (bottom) x 2-in deep (top) x ¼-in thick<br>One – Bathroom vent cover – 10-in wide x 8-in tall x 5-in deep x ¼-in thick<br>Fourteen – Air vent covers – 22¼-in wide x 8-in tall x 2-in deep x ¼-in thick<br>Sixteen – Bullet-resistant windows – 22¼-in wide x 8-in tall x 1¾-in thick (2–doors and 14–side walls)<br>Two – Gunport Covers – 6 3/8-in wide x 4 1/2-in tall x ¼-in thick |

For **SI**: 1 ft = 0.305 m, 1 in = 25.4 m**m**

| STORM SHELTER DIMENSIONS | DOOR PANELS | WALL AND ROOF PANELS | VENT COVERS, WINDOWS |
|---|---|---|---|
| 10 ft wide x 104 ft long x 8 ft high | DOOR<br>Two – 37 1/2-in wide x 80¼-in tall x ¼ in thick<br>HATCH<br>Two – 20-in wide x 42-in tall by ¼-in thick | WALL<br>Four 60-in wide x 96 tall x ¼-in thick (end panels)<br>Twenty-Six 96-in wide x 96-in tall x ¼-in thick (side panels)<br>ROOF<br>Twenty-Six 60-in wide x 96 long x ¼-in thick | One – A/C vent covers – 12 ½-in wide x 6 ¾-in tall x 4 ½-in deep (bottom) x 2-in deep (top) x ¼-in thick<br>One – Bathroom vent cover – 10-in wide x 8-in tall x 5-in deep x ¼-in thick<br>Twenty-Six – Air vent covers – 22¼-in wide x 8-in tall x 2-in deep x ¼-in thick<br>Twenty-Eight – Bullet-resistant windows – 22¼-in wide x 8-in tall x 1¾-in thick (2–doors and 26–side walls)<br>Two – Gunport Covers – 6 3/8-in wide x 4 1/2-in tall x ¼-in thick |
| Connector between two modular community shelters | N/A | WALL<br>Two 48-in wide x 88-in tall x ¼-in thick<br>ROOF<br>Two 27¼-in wide x 48-in long x ¼-in thick | Two – A/C vent covers – 12 ½-in wide x 6 ¾-in tall x 4 ½-in deep (bottom) x 2-in deep (top) x ¼-in thick<br>Two – Bullet-resistant windows – 22¼-in wide x 8-in tall x 1¾-in thick |

For **SI**: 1 ft = 0.305 m, 1 in = 25.4 m**m**

**TABLE 2 – ICC 500 REQUIREMENTS**

| ICC 500 SECTION(S) | TEST METHOD | REQUIREMENT | RESULTS |
|---|---|---|---|
| 305.1, 305.2, Table 305.1.1, 306.1, and 803 | Impact test requirements – ASTM E1886 | All storm shelter components (wall and roof panels and doors shall meet wind-borne debris and impact test requirements at the 250-mph design wind speed | Pass |
| 304 and 805 | Static and Cyclic Pressure requirements – ASTM E330 | All storm shelter components (wall and roof panels and doors) shall be static pressure tested to 1.2 times the design wind pressure or greater | Pass<br>Design Wind Pressure Load = +168 psf / -156 psf<br>Test Static Pressure Load = +201.6 psf / -187.2 psf |

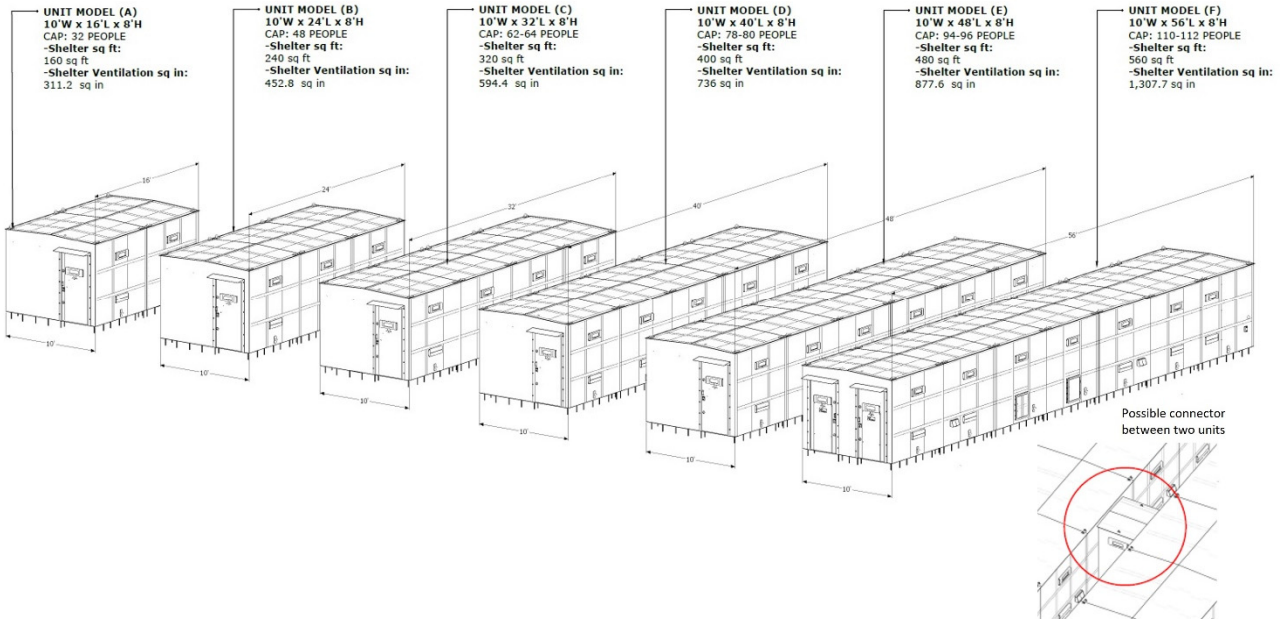


**FIGURE 1-MODULAR COMMUNITY SHELTER MODELS**