This Addendum Supersedes Instructions Given In The Cavco Manufactured Home Installation Manual
Addendum to the Cavco Manufactured Home Installation Manual
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**Version 1.7** SU-A.0.2
1 How to use this Addendum

This addendum addresses areas that are not covered in the main manual, including specific designs and special materials.

The main installation manual covers most of the common requirements you will encounter when installing a Cavco home. However, there are times when additional information is required when specific designs and special materials are used. This manual is designed to meet these requirements. Whenever a discrepancy exists between this addendum and the main manual, the information in this manual takes precedence.
2 Exteriors

Factory Installed Stucco Exterior

Units that have stucco applied at the plant should be closed off with a 1x wood member that has stucco applied over it. As an alternate, the stucco can be left off of the end of the unit or the mating line and the approved manufacturer’s installation manual shall be sent to provide the proper installation requirements.

Factory Installed Vinyl Siding

Please follow the vinyl siding manufacturer’s installation manual for proper close up of units that have factory installed vinyl siding.

Factory Installed Log & Cedar Siding

Please follow the log siding or cedar siding manufacturer’s installation manual for proper close up of units that have factory installed log or cedar siding.

Note: After the set is complete, the set up crew shall check that all centerline close offs have been effectively sealed against air infiltration and possible leaks.
On-Site Completion of Fire Resistive Construction System

All Cavco homes to be installed in an area designated as a California Fire Hazard Severity Zone have been built with an exterior fire resistant construction system per Chapter 7A of the California Building Code (CBC) as adopted by CCR Title 25, Chapter 3, Subchapter 2.

Any maintenance, repair or alteration must be in accordance with Title 25, §4216 of the California CCR’s, this includes gutters, porches, dormers, decks, stairs, etc.

**ROOF**
The roof must be completed with the materials provided by Cavco.

**EXTERIOR SHEATHING**
All of the exterior sheathing/siding for close-up must be completed using the material provided by Cavco. On-site stucco finish shall be applied per the requirements of the Cavco AC letter and Chapter 7A.

**WINDOWS / SLIDING GLASS DOORS / DOORS**
All windows, sliding glass doors, solid exterior doors and doors with windows installed on the home comply with Chapter 7A of the CBC.

**SKIRTING**
All underfloor areas, including porches, must be completely enclosed from exterior walls to grade with approved non-combustible or ignition resistant material, i.e. CMU perimeter wall. (not provided by Cavco)

It is acceptable to leave the porch skirting 4” above grade to allow for drainage of the porch area if the 4” gap is covered with non-combustible ½” wire mesh or equivalent method to prevent the intrusion of blowing embers into the underfloor area. It is the customer's responsibility to provide adequate drainage for the area under the porch.

The porch area does not have to be enclosed if the porch joists are made of heavy timbers (4x6 or greater), non-combustible materials or exterior fire retardant treated wood.

**NOTE:** All of the materials provided for close-up by Cavco Industries comply with Chapter 7A of the CBC, any unauthorized substitution of materials may place the home out of compliance with Chapter 7A of the CBC and void the warranty.
3 Roofing

Mule-Hide EPDM Roofing

By Kingstree Building Products

On-Site installation instructions for completing the mate line of homes with Mule-Hide EPDM roofing membrane installed at the factory.

**Joining of multiple modular units using laminated cover tape.**

Mule-Hide EPDM Cured Laminated Cover Tape “Mate Line” is manufactured with cured EPDM membrane. Cured EPDM Cover Tape may be used to flash seams, gravel stops, vents, and to repair sheet membrane.

1. Install backer rod or insulation between the units.

2. Clean the “Mate Line” roof area with EPDM cleaner and a Scotch-Brite® scrub pad followed by a clean terry cloth rag saturated with cleaner. Once solvent has evaporated, use Scotch-Brite® pad and apply Mule-Hide tape primer. **White unleaded gas is not an acceptable cleaning agent.**

3. Install Mule-Hide continuous 4” wide Mate-Line bridging material or similar style product.

4. Using a pen or marker, mark an alignment line for the Laminated Cover Tape. This alignment should center the tape over the mate line area. One needs to only apply this line 5 to 10 feet from the edge of the structure. The complexity of the roll and a good eye will keep it centered as needed.

5. Starting at the building edge, roll out approximately 5 feet of Cured Cover Tape. Align the 5 foot section with the edge of the structure and along the alignment line. Lifting the 5 foot section, peel back the release tape. Set the Cured Cover Tape back in place along the alignment line. Roll the 5 foot section with a 2” steel or nylon roller. Roll the large roll back onto the 5 foot section. Bring the release paper over the top of the roll and extending over the 5 foot section. Insert a 3” X 24” piece of plastic pipe through the cardboard core of the roll. With your weight on the release paper, start rolling (with a steady flow) the Cured Cover Tape along the alignment line, centering the Cured...
Cover Tape over the Mate-Line. The release paper should come free as the Cured Cover Tape is rolled down the Mate-Line. If the release paper becomes too long to manage, simply cut it off.

6. Using a 2” wide steel roller, pressure roll the cover tape across the width and then roll it again the second time in a lengthwise direction.

7. Use Mule-Hide Lap Sealant (caulk) at the end laps and t-laps. Do not trowel Mule-Hide caulk.

**Joining of Modular Units Using Cured EPDM Membrane Strips.**

1. Install backer rod or insulation between units.

2. To bridge the Mate-Line gap, install Mule-Hide continuous 4” wide Mate-Line bridging material, or, install wood or particle board bridging material. **Bridging material should not hamper the flow of water or allow pooling.**

3. Clean the roof area to be covered with cured EPDM strip and the bottom side of the cured strip using approved cleaners. Roof area and bottom side of the cured EPDM strip can be cleaned with Tape Primer and a Scotch-Brite® pad.

4. Wait until cleaner or primer has flashed off and is dry, then center the cured EPDM strip, aligning the membrane equally on both modular units. Mark the location with a pen or marker. Fold back the membrane.

5. Apply the splice adhesive to the cleaned surfaces of both the cured EPDM strip and the surface to be covered. Mule-Hide recommends the use of a solvent resistant, 3” to 4” wide, short bristle paint brush or a 3” wide ½” medium nap paint roller.

6. Apply the adhesive in a uniformly thick, even coat. When using a paint brush, do not use a circular motion. Use long, straight strokes applying sufficient adhesive that will achieve a smooth surface without leaving brush marks. When using a roller, do not over roll the adhesive as this will cause an uneven application.

7. Do not allow adhesive to puddle, as these areas will not dry properly and may cause excessive swelling of the membrane which will result in fish mouths in the finished seam.

8. Adhesive must be applied to both surfaces of the seam at the same time to allow for uniform drying of the adhesive. The adhesive must fully cover the surface of the splice areas. The seam splice on each side of the Mate-Line shall be a minimum of 3” wide.
9. Allow the adhesive to dry tacky to the touch of a dry finger without stringing or sticking to the finger and does not move when pushed forward or the finger is twisted. *Drying time (also referred to as Flash Off time) will vary from day to day depending on the ambient weather conditions. In colder weather, condensation may form on the surface which is caused by the solvent flashing off. If this occurs, the application of the Splice Adhesive should be discontinued. The surface must be allowed to dry and a thin coat of adhesive must be applied over existing adhesive.*

10. Carefully align the sheet to the mark or pen line.

11. Using a 2" wide steel or nylon roller, apply positive pressure by rolling the roller (with overlapping strokes) perpendicular to the length of the cured EPDM strip. After the entire seam has been rolled, roll each edge of the EPDM strip running the roller parallel with the strip.

12. All “T-joint” laps in the field membrane shall be reinforced with a 6” piece of uncured EPDM membrane (uncured flashing tape may also be used) centered over the intersection of the edges of the seams. All “T-joint” patches shall be caulked with Lap Sealant.

13. The cured EPDM stripping should be allowed to set for several hours prior to the application of Lap Sealant. At the latest, Lap Sealant should be applied to all seam edges at the end of the work day and before any moisture has a chance to form on the membrane. Lap Sealant should be applied at a maximum rate of 20 linear feet per tube. Do not trowel Lap Sealant.

---

**3.3 SU-A.3.3**

**APPROVED BY**

[Logo] NIA

[Text] Revised Dec 03, 2010

[Logo] INC.

[Text] FEDERAL MANUFACTURED HOME CONSTRUCTION AND SAFETY STANDARDS
**Firestone Rubber Guard Roofing**

On-Site installation instructions for completing the mate line of homes with Firestone Rubber Guard Roofing System with an EPDM membrane installed at the factory. Field Tie-ins of modular units.

**A. Transportation**

Prior to shipment of each modular unit to the job site, the EPDM must be securely attached with a furring strip or other such mechanical attachments which in the opinion of the modular manufacturer will prevent air infiltration under the fully adhered assembly.

**B. Job Site preparation**

Modular unit shall be properly secured into their permanent positions before the roof work begins. The temporary secuements of EPDM on the edges to be mated shall be removed before the modular units are attached to each other.

**C. Install a Wood Bridge Over All Field Joints**

1. Install a 45 degree tapered 1” X 4” (minimum) wood bridge over all field joints and fasten 12” O. C. to each unit with Firestone fasteners.

2. Install Firestone’s 15” MRS Cover Strip over each wood nailer, or.

3. Fold the loose edges of the EPDM over each other and secure using Firestone’s Quickseam.

**D. Cautions**

1. Refer to details for splicing procedures.

2. Cover strips must lap over a minimum of 6” at the ends.

3. If the Flap method is used, remove edge of EPDM with securement holes from the previous termination.

4. End laps and 4-way intersections must be stripped in with at least 6” FormFlash a minimum of 3” onto the roof membrane.

**E. Drainage**

1. When the unit must drain across the wood bridge nailer, install details in the appropriate areas. Cut an opening approximately 18” wide in the wood bridge and bevel the ends. Install at 6” wide 26ga galvanized sheet metal over the exposed Mate Line, remove all sharp edges and round all comers before attaching the rust resistant nails approximately 4” O. C. Stop the 15” Cover Strip or Flap detail before the bevel and flash area including the sheet metal with at least 12” Un-cured FormFlash. Be sure that the FormFlash laps over the EPDM by at least 3” at the seams.
**F. Patching**

When necessary to patch a wrinkle or puncture, use the following procedure:

1. A wrinkle/fish mouth that occurs within 18” of a splice requires that the installer cut out the entire wrinkle and patch the area with Firestone EPDM. Assure that a minimum 3” overlap occurs beyond the boundary of the cut.

2. If the wrinkle/fish mouth occurs on a portion of the roof that is covered with FormFlash, then FormFlash must be used for the patching procedure. However, the FormFlash should not extend onto the surface of the roof surface more than 6”. If patching the same wrinkle/fish mouth extends onto the roof surface, then EPDM should be used for that portion of the wrinkle/fish mouth.

3. When patching a puncture in the membrane, cured EPDM should be used. All patching must extend a minimum 3” beyond the boundary of the affected area in all directions.

4. All patches and seams must be sealed with Firestone Lap Sealant in order to insure a water tight seal.

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**NTA INC.**

**Revised**

Dec 03, 2010

FEDERAL MANUFACTURED HOME CONSTRUCTION AND SAFETY STANDARDS
Notes:
1. QuickSeam Flashing or FormFlash set in Splice Adhesive over field seam extending 3" on to field membrane with continuous Seam Edge Treatment on all four sides.
2. Cover strip must lap a minimum of 6" at end joints.
3. Compressible insulation with insulation retarder (supplied by others)
4. When structural movement is anticipated use Detail Mateline #1 or #2.

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**4-Way Intersection Of Field Units**

- 26 ga. hemmed edge cover plate fastened to all four units
- 1" x 4" wood nailing, beveled to meet cover plate
- Flash with FormFlash extending 3" (Min.) on EPDM with Seam Edge Treatment
- Refer to Detail MLS-2

---

**Modular Roofing Systems**

<table>
<thead>
<tr>
<th>Modular Roofing Systems</th>
<th>Detail No.</th>
<th>EPDM Systems</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mate-Line Expansion Joint</td>
<td>MML-3</td>
<td>Modular</td>
</tr>
<tr>
<td>Cover Strip Field Unit Tie-In</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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**APPROVED BY**

NAR INC.

FEDERAL MANUFACTURED HOME CONSTRUCTION AND SAFETY STANDARDS

Revised Dec 03, 2010
Standing Seam Metal / Rugged Roof

Amerimax Building Products
Installation Procedure Specification

Alternate Ridge Cap Close-up Procedure
for Rugged Roof

Procedure: IS-212

This alternate installation procedure has been developed to aid our customers in the installation and close-up of Amerimax's Rugged Roof steel roofing panels. However, since each producer of Manufactured Housing has different needs and requirements, the installers must consult their DAPIA manuals for specific installation conditions.

1.0 Tools and Materials needed
Screw gun with #10 hex drive
Utility knife
Ridge caps
Screws (1 1/2" pointed w/ washer)
Eave cap section
Silicone Caulk

2.0 Procedure

1. Remove the temporary shipping cap. This is the white, right angle piece capping the ridge beam. DO NOT remove the rubber closure strip in place under the shipping cap.

2. Mate the two halves in the normal manner.

3. Once the two halves have been mated, install the ridge cap sections. Where possible, lap sections away from prevailing winds. Sections should be lapped approximately six (6) inches with a liberal bead of silicone placed perpendicularly across the area of the cap to be lapped. The 1 1/2" hex screws are used to secure the ridge cap to the roof panels. DO NOT reuse the screws which secured the temporary ridge cap, as the rubber washers may have fallen off. New screws have been included in the 'close-up' package. Screws are driven throughout the ridge cap into the rib or high part of the profile touching the ridge cap. Do not place screws between the panel ribs. Screws are driven into each rib approximately 1 1/2" to 2" back from the edge of the ridge cap (See figure 1). Make sure the rubber closure strip is in place when setting the ridge cap (See figure 2).

![Diagram of ridge cap placement](image)

**FIGURE 1: RIDGE CAP PLACEMENT**

3.7

SU-A.3.7
Amerimax Building Products
Installation Procedure Specification

Alternate Ridge Cap Close-up Procedure for Rugged Roof

Procedure: IS-212

Issue Date: 7/21/99

Steps:
1. Install closure strips using sealant on the bottom of closure strip.
2. Apply sealant along top of closure strips.
3. Install ridge cap.

FIGURE 2: RIDGE CAP DETAIL

4. A section of eave trim may be included. This piece is used to cap the pinnacle of the eave and close the ridge cap opening (See figure 3).

FIGURE 3: END CAP/J-RAIL PLACEMENT

3.8 SU-A.3.8
Tile Roof Close-Off

1. After securing the roof together, replace the sheathing used for the access to the beam fasteners and install 2X4 ridge nailer w/8d. 16” O.C.

2. Install rake tile to 1” X4” nailer use 2 corrosion resistant 8d nails (top an bottom), with a rake overhang of not less than 1/2” and an eave overhang of not less than 2”

3. Install a large dab of construction grade adhesive or mastic cement on the barrels

4. Install field tile up to 2X4 ridge. Cut tile if needed. Make sure tile joints are staggered by trimming off each course of tile as needed.

5. Before installing the ridge tile, the void between the 2”X4” ridge nailer and the top course of field tile must be filled with mortar. As an alternative, roofing tape can be used (Flashband or equivalent) (see Fig. 6.12)

6. Fasten the ridge tile to the 2”X4” nailer using a corrosion-resistant 8d. Nail two inches from the back end of the tile. Apply a large dab of construction adhesive or mastic cement over the fastener. The first and last ridge tile should be face-nailed.

7. High wind areas may warrant double nailing of the ridge tile, as well as adhesive or mastic.

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Revised Dec 03, 2010

FEDERAL MANUFACTURED HOME CONSTRUCTION AND SAFETY STANDARDS

3.9 SU-A.3.9
**Cor-A-Vent Ridge Peak Vents**

For models with optional Cor-A-Vent roof vent system on multiwide units, the Cor-A-Vent system is to be installed as follows:

1. At the ends of the roof install the first 4 shingle ridge caps directly to the roof deck. See Fig 6.15.

2. Install Cor-A-Vent end caps and Cor-A-Vent units at ridge cap. Secure down with 2-1/4” roofing nail into each truss of each half. See Fig. 6.15.

3. Install shingle ridge cap directly to Cor-A-Vent with 2-1/4” roofing nail. See Fig. 6.15.
# 4 Piers

## Pier Loads for 60 and 80psf Units with Perimeter Piers

Use the following tables for units over 40psf that do not have continuous perimeter support. See standard Cavco Set Up Manual for all other information as well as pier and footing details.

### TABLE 5A. POINT LOAD AT SIDEWALL FOR 60 AND 80psf RLL

<table>
<thead>
<tr>
<th>Load</th>
<th>Width, in</th>
<th>Eave, in</th>
<th>120°</th>
<th>120°</th>
<th>144°</th>
<th>164°</th>
<th>187.5°</th>
<th>208.5°</th>
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<td></td>
<td>16</td>
<td>18</td>
<td>0</td>
<td>16</td>
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<td>5680</td>
<td>5260</td>
<td>6360</td>
<td>6220</td>
<td>7320</td>
</tr>
</tbody>
</table>

1. Asterisk (*) indicates 75.5° main rail spacing. All other values are for 99.5° and 95.5 spacing.
2. 120° max. sidewall height, 7 psf wall dead load, 16psf roof dead load
3. Only concrete block piers may be used, piers may not be recessed.
4. Table may be used for midwalls. Pier dead load is not included.
5. For center columns, add load from each span (e.g. the center column load of an 80psf, 28 wide, 16° eaves with 8' and 10' opening will be 3260 lbs + 4030 lbs = 7290 lbs)

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4.1

MANUEL SANTANA
NEW MEXICO LICENSED PROFESSIONAL ENGINEER
07/10/12

SU-A.4.1
TABLE 8 - 9A. LOAD ON FRAME & PERIMETER SUPPORTS FOR 60 AND 80psf RLL

<table>
<thead>
<tr>
<th>Roof Live Load, psf</th>
<th>Pier Loads - Frame and Perimeter Piers, lbs</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>60 psf RLL</td>
</tr>
<tr>
<td></td>
<td>120&quot; &quot;</td>
</tr>
<tr>
<td>Eave Width, in</td>
<td>16</td>
</tr>
<tr>
<td>Frame Pier Spacing</td>
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<tr>
<td>4 ft</td>
<td>2750</td>
</tr>
<tr>
<td>6 ft</td>
<td>4120</td>
</tr>
<tr>
<td>8 ft</td>
<td>5600</td>
</tr>
<tr>
<td>Perimeter Pier Spacing</td>
<td></td>
</tr>
<tr>
<td>4 ft</td>
<td>1000</td>
</tr>
<tr>
<td>6 ft</td>
<td>1000</td>
</tr>
<tr>
<td>8 ft</td>
<td>1000</td>
</tr>
</tbody>
</table>

- Asterisk (*) indicates 75.5" main rafter spacing; all other values are for 95.5" and 99.5" spacing.
- Table uses 120" max sidewall height, 7psf wall dead load, 15psf roof dead load and 12psf frame dead load.
- Table uses floor system to transfer load back to the frame. It assumes 14ga outriggers and 13ga x-members at 8 ft o.c.
- Pier dead load is not included.
- Site installed outriggers may not replace perimeter piers.
- Only concrete block piers may be used; piers may not be recessed.

Pier Loads for 144 (12 Wide) with 75.5" I-Beam Spacing

Homes with a section width of 144' max, 16' eaves and 75.5" centers should use values from the following pier load tables located in the Cavco Installation Manual.

TABLE 5 - use values for 164" section width, 16" eave
TABLE 6 - use values for 144" section width, 16" eave
TABLE 7 - use values for 144" section width
TABLE 8 - use values for 144" section width, 16" eave
TABLE 9 - use values for 144" section width, 16" eave
TABLE 10 - use values for 144" section width

4.2
**Pier Loads for 20 psf – 40 psf – 96” Sidewall Max**

Use the following tables for units 20-40psf with reduced sidewall height, wall load and roof dead load. See standard Cavco Set Up Manual for all other information as well as pier and footing details.

**TABLE 5B. PIER LOAD AT SIDEWALL OPENINGS FOR 20-40 psf RLL (96” SIDEWALL MAX. SEE NOTES FOR SIZE/LOAD LIMITATIONS)**

<table>
<thead>
<tr>
<th>Load</th>
<th>Width, in</th>
<th>120&quot;</th>
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<tr>
<td></td>
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<th>154&quot;</th>
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<table>
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<th>120&quot;</th>
<th>144&quot;</th>
<th>154&quot;</th>
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</thead>
<tbody>
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<td>16</td>
<td>0</td>
<td>16</td>
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<tr>
<td>4 in</td>
<td>1000</td>
<td>1000</td>
<td>1000</td>
<td>1000</td>
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<tr>
<td>6</td>
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<td>12</td>
<td>1650</td>
<td>1590</td>
<td>1550</td>
<td>1950</td>
<td>1910</td>
</tr>
</tbody>
</table>

1. Asterisk (*) indicates 75.5' main ral spacing. All other values are for 99.5' and 95.5 spacing.
2. 96" max. sidewall height, 5 psf wall dead load, 10 psf roof dead load
3. Table may be used for midwides. Pier dead load is not included.
4. For center columns, add load from each span (e.g. the center column load of a 30psf, 26 wide, 15' eaves with 8 ft and 10 ft opening will be 1160 lbs + 1490 lbs = 2650 lbs)
5. NR = Not Required
TABLE 8 – 9B. LOAD ON FRAME & PERIMETER SUPPORTS FOR HOMES FOR 20 - 40 psf RLL (96” SIDEWALLS MAX. SEE NOTES FOR SIZE/LOAD LIMITATIONS)

<table>
<thead>
<tr>
<th>Eave Width, in</th>
<th>Section Width, in</th>
<th>20 psf RLL</th>
<th>30 psf RLL</th>
<th>40 psf RLL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>120”</td>
<td>120”</td>
<td>144”</td>
<td>164”</td>
</tr>
<tr>
<td>Frame Pier Spacing</td>
<td>4 ft</td>
<td>197C</td>
<td>1970</td>
<td>2130</td>
</tr>
<tr>
<td></td>
<td>6 ft</td>
<td>296C</td>
<td>2960</td>
<td>3200</td>
</tr>
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<td></td>
<td>8 ft</td>
<td>394C</td>
<td>3940</td>
<td>4280</td>
</tr>
<tr>
<td>Perimeter Pier Spacing</td>
<td>4 ft</td>
<td>NR</td>
<td>NR</td>
<td>NR</td>
</tr>
<tr>
<td></td>
<td>6 ft</td>
<td>NR</td>
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<td>NR</td>
</tr>
<tr>
<td></td>
<td>8 ft</td>
<td>NR</td>
<td>NR</td>
<td>NR</td>
</tr>
</tbody>
</table>

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1. Asterisk (*) indicates 75.5” main rafter spacing, all other values are for 95.5” and 99.5” spacing
2. Table uses 96” max sidewall height, 5 psf wall dead load, 10 psf roof dead load and 12 psf frame dead load
3. Table uses the floor system to transfer load back to the frame. It assumes 14ga outriggers and 13ga x-members at 8 ft o.c.
4. Pier dead load is not included.
5. NR – Not Required
5 Footing Designs

RESERVED: See main installation manual for standard footing designs
6 Special Structural Designs

Dropped Floor Fastening

For homes with a dropped floor design, use the leveling, alignment, and fastener size & spacing instructions in the main Installation Manual and secure & seal as indicated in figures 5.3a & 5.3b;

![Figure 5.3a](image)

![Figure 5.3b](image)

Residential & Garage Ready Units

For units with dryer/washer connections installed in an area for future garage attachment, there are to be the following provisions:

1. Terminate the vent of the dryer to the exterior of the garage. Do not terminate the vent under the home.

2. The recepts for the dryer and washer must be installed as follows:
   - Washer – Recept will be of grounding type and installed per Section 210.8 of the NEC (2005 ed.) and will be placed on a GFIIC circuit.
   - Dryer – Recept will be 4 wire grounding type.

For homes built as garage or carport ready, garages or carports must be installed as a required part of the installation of the home. Attached garages or carports shall be independently supported (freestanding), but may be attached to the home for weather-proofing purposes.

For residential units with and integral metered service, at a minimum, a concrete-encased electrode with a conductor suitable for wet locations (i.e. #4 AWG bare copper conductor) will be installed per section 250.52(A)(3) of the NEC (2005 ed.). Consult the local authorities for exact requirements. For future moves, protect all exposed interior finishes (i.e. sheetrock, panel, unfinished wood, etc.) from the weather by closing off with polyethylene plastic, or plywood.
Evaporative Coolers

If the home has been constructed with a drop or an inlet to the duct system for an evaporative cooler that is located in the open span at the marriage line, the design is for a cooler with an operational weight (filled with water) of no more than 205 pounds.

Homes may have a heavier evaporative cooler installed under the following conditions:

- The cooler does not weight over 410 pounds operational weight.
- The cooler location is where a marriage line wall is located under the beam on multiwide units.
- If the cooler is located in an open span of a multiwide marriage line, the span does not exceed the spans in the flowing chart.

<table>
<thead>
<tr>
<th>Roof Live Load</th>
<th>12 wide</th>
<th>14 wide</th>
<th>16 wide</th>
</tr>
</thead>
<tbody>
<tr>
<td>20</td>
<td>17'5&quot;</td>
<td>15'8&quot;</td>
<td>13'4&quot;</td>
</tr>
<tr>
<td>30</td>
<td>13'4&quot;</td>
<td>12'2&quot;</td>
<td>11'2&quot;</td>
</tr>
<tr>
<td>40</td>
<td>17'0&quot;</td>
<td>15'11&quot;</td>
<td>15'3&quot;</td>
</tr>
<tr>
<td>60</td>
<td>14'5&quot;</td>
<td>13'7&quot;</td>
<td>12'10&quot;</td>
</tr>
<tr>
<td>80</td>
<td>13'4&quot;</td>
<td>12'5&quot;</td>
<td>11'9&quot;</td>
</tr>
<tr>
<td>100</td>
<td>12'2&quot;</td>
<td>11'5&quot;</td>
<td>10'8&quot;</td>
</tr>
</tbody>
</table>

- Place the evaporative coolers only in the designated location provided. Moving the cooler to another location will require reinforcement of the roof trusses.

WARNING: CAVCO INDUSTRIES INC. PROHIBITS ANY CONNECTION OF AN EVAPORATIVE WATER COOLER TO THE FACTORY INSTALLED FLOOR HEAT DUCT SYSTEM. ANY SUCH PROHIBITED CONNECTION WILL NOT ONLY VOID THE WARRANTY BUT MAY CAUSE DAMAGE TO THE DUCTING SYSTEM, FURNACE, CARPETING, FLOOR JOISTS AND FLOOR DECKING. SERIOUS PROPERTY DAMAGE AND OR PERSONAL INJURY MAY OCCUR AS A RESULT OF A CONNECTION OF AN EVAPORATIVE WATER COOLER TO THE FACTORY INSTALLED FLOOR HEAT DUCT SYSTEM.
**Seat Bay Supports**

This addendum is for seat bays that do not extend fully to the underside of eaves or overhangs that are installed on the home. Seat bays that have the roof load supported by eaves or overhangs are not affected by this addendum. These bays have been capped with the roof supported by the bay. These bays are to be perimeter supported by support walls. See the drawing below for the correct construction and installation of the support.

1. REDWOOD MAY BE SUBSTITUTED FOR P.T. MATERIAL.
2. FASTENERS TO BE CORROSION RESISTANT.
3. SECURE STUDS W/ 2-10d BOX EA. PLATE TO EA. STUD.
4. SECURE P.T. SHEATHING W/ 6d BOX 6" O.C. EDGE 12" O.C.FIELD.
5. SECURE SIDING PER MFGRS. INSTRUCTIONS.
6. SECURE TOP PLATE TO BAY WITH 10d BOX - 16" O.C.
7. SECURE BOTTOM PLATE TO FOOTING W/ REDHEAD 16" O.C.
8. FINISH SIDING TO BE NO CLOSER THAN 6" FROM GROUND LEVEL.
On Site Installation of French Doors

The following items were completed in the factory:

1. The header and studs are installed at the location of the door and the opening is checked for size.

2. The exterior siding shall be installed when the door is located on the sidewall.

3. The door opening is covered with material for shipping and weatherproofing. This material can be wood sheathing, plastic close-off or other appropriate material.

4. The shiploose will include the door and an exterior grade caulking suitable for sealing the door.

The following instructions are for installation of the door on-site, after the home is set:

1. Remove the covering that was used to seal off the door opening.

2. Check plumb and squareness of the door opening to make sure the door will fit.

3. Check for the spacer block in between the bottom of the door and the threshold.

4. Place the door in the center of the opening, flush the door to the exterior siding and adjust the doorframe so that it is even across the bottom. DO NOT REMOVE THE ALIGNMENT BRACKET AT THIS TIME.

5. Set one screw at the center of the frame on the lock and hinge side.

6. Set shims from the inside, between the hinge and sidewall. The shims should be press fit and should be located near the screw hold locations.

7. Open the door and set screw into the stud through the hole provided in the hinge. Set the screws snug in all three holes.

8. Close the door and check for the clearance around the door. Adjust screws until the clearance around the doors is equal.

9. Shim the rest of the door and install screws to secure the door in place.

10. Adjust the striker plate.

11. Use the exterior grade sealant and caulk all the way around the door.

12. If used, install trim pieces in place and touch up as needed.

If there is a conflict between these instructions and the manufacturers’ instructions for the installation of the door the manufacturers’ instructions take precedence.

This page will be placed on the door so that it can be read from the exterior of the home.
Site Installed Carport / Awning

When a carport, awning, patio cover or similar accessory structure is attached and bearing on the home, the following conditions must be met.

- The home must be built to a 30psf roof load min.
- The home must be located in a 20psf max area
- The home must be labeled with a “carport/awning ready” sticker near the data plate
- Fiber cement (Hardiepanel / Cempanel) or LP Smartside panel siding must cover the sidewall directly below the accessory structure
- Accessory structures may not transfer a load to the home greater than the following:
  - Uniform Uplift = 120 plf max
  - Uniform Gravity = 76 plf max
- When an accessory structure is fastened to a dormer, the point loads may not exceed the following:
  - Uplift Point Load @ midpoint = 1050 lbs
  - Gravity Point Load @ midpoint = 750 lbs
  - Uplift Point Load @ ends = 700 lbs
  - Gravity Point Load @ ends = 475 lbs
- Section width may not be greater than 208.5”
- Accessory structure may be fastened to wall or truss rim rail. It may not fasten to the eave
- Section widths exceeding 14 wide must have perimeter piers at 8’ o.c. with 12x12 pad under the sidewall supporting an accessory structure only. The Cavco Set Up Guide may require closer pier spacing or larger footings.
- Tiedown straps under sidewalls with accessory structure per page 6.6 of this addendum
- Connection of the accessory structure to the home is the responsibility of others
- Proper drainage and weatherproofing is the responsibility of others

Cavco Industries does not assume responsibility not guarantee the performance of any site installed accessory structure. Cavco will not be held responsible for any damage caused by on site modifications that do not meet the conditions of this letter.
## Tiedowns for Units with Site Installed Accessory Structures

<table>
<thead>
<tr>
<th>Floor Width</th>
<th>Maximum Sidewall Height</th>
<th>Maximum Transverse Strap Spacing, ft</th>
<th>Height From Ground to Floor</th>
<th>Roof Slope Under 4.3/12</th>
<th>Roof Slope Under 4.3/12</th>
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<tbody>
<tr>
<td></td>
<td></td>
<td>120° Section</td>
<td>144° Section</td>
<td>164° Section</td>
<td>187.5° Section</td>
</tr>
<tr>
<td></td>
<td></td>
<td>20 Wide</td>
<td>24 Wide</td>
<td>28 Wide</td>
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<tr>
<td></td>
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<td>--</td>
<td>--</td>
<td>6.6</td>
<td>6.8</td>
</tr>
</tbody>
</table>

1. These values only apply to 95.5" main rail spacing
2. Values do not include eaves.
3. Ground anchors are assumed to be 2" from the exterior face of the sidewall.
4. All values are based on a ground anchor/strap capacity of 3150 lbs.
5. Only applicable beneath the sidewall with accessory structure attached.
7 Permanent Foundation

Contact plant engineering department for Cavco generic permanent foundation or obtain a specific foundation design from an outside (third party) engineer or architect.
INTRODUCTION

These drawings show foundation details which are applicable to homes produced by CAVCO Industries. The foundation plan shown is general and is to be adjusted to meet the specific home being installed. The floor plan is provided with each home. The manual, floor plan and these details must be used together to establish dimensions and loads for the foundation. Where the word "MAX." is used with a dimension, any distance up to but not exceeding the dimension may be used. Several alternate construction methods are shown. Any combination of alternates may be used from within those for the design loads applicable to the construction site. Foundation system details used shall be compatible with local soil conditions.

These design drawings are supplemental to the Installation Manual. Details and dimensions of other types of foundations in the manual are not applicable to this design unless otherwise specified.

GENERAL NOTES:

1. Contractor shall verify site conditions and all dimensions prior to starting work. Notify owner of any discrepancies.
2. All work shall conform to the requirements of this design and of the building code adopted by the agency having jurisdiction.
3. This foundation design is only applicable to areas that conform to the design loads provided on this page.
4. The ground surface adjacent to the home shall be sloped away from the structure with a fall of a least 6" for the first 10'. Provisions shall be made for drainage to prevent accumulation of surface water.
5. Provide an 18" x 24" access crawl hole to under-floor area. Provide under-floor area ventilation of a not area of not less than 1 square foot for each 150 square foot of under-floor area. Ventilation openings shall be covered for their height and with a perforated (1/4" max. opening) corrosion and weather-resistant covering.
6. For multi-section homes, mating line piers shall be located directly below ridge beam support column. Support post column locations are shown on the approved floor plan to the home.
7. Refer to the Cavco Homes Installation Manual for ridge beam pier and main beam pier locations and loads. When spacing shown in the manual is less than shown here, the manual shall be followed.
8. This foundation is not designed for expansive soil conditions or flood loads.
9. Mud sill anchors shall be installed within 12" of each end of sill and at a spacing shown on the foundation plan. Mud sill anchors may be 5/8" dia. bolts with 1/4" x 3" x 3" plate washer or Simpson Strong Tie MAS/BASB. Anchor bolts shall be set 7" into concrete.
10. Stem wall may be concrete or concrete block. See details pages.
11. Concrete shall be 2500 psi minimum at 28 days.
12. Concrete blocks shall conform to ASTM C-90. Blocks shall be 8" x L x height desired for site conditions.
13. Special inspection may be required by the local authority having jurisdiction.
14. For all details and information not shown, see CAVCO Installation Manual.
15. Mortar mix shall be Type M or S, and conform to ASTM C270.
16. Masonry grout shall be 1 part Portland Cement, 3 parts sand, and 2 parts 3/8" gravel by volume, mixed to pouring consistency in accordance with ASTM C 476.
17. Reinforsing bars for concrete or concrete block foundation shall be formed bars meeting ASTM A 615, grade 40. Lap all bars 24" minimum.
18. All lumber in contact with concrete shall be pressure treated with a specie approved for use directly in contact with concrete. Individual concrete or masonry piers shall project at least 6" above exposed ground unless the column or post the support are treated wood.
19. Compaction control not required when nominal backfill is used.

DESIGN BASIS:

- 2009 IBC & ASCE7-05
- 90 MPH Wind Speeds
- Exposure C
- 30 PSF Roof Live Load
- Dead Load Assumptions:
  - Roof = 10 PSF;
  - Floor = 10 PSF;
  - Wall = 7 PSF;
  - Steel Frame = 12 PLF
- Seismic Criteria
  - S1 = 1.5
  - S2 = 0.70
  - Soil Site Class = D
  - Seismic Design Category = D
- 2009 IRC Seismic Design Category = D2

Foundation design complies with Permanent Foundations Guide for Manufactured Housing.

7.2

SU-A.7.2
SEE FLOOR PLAN FOR LENGTH OF HOME (76'-0" MAX.)
SEE FLOOR PLAN FOR LOCATION OF ENTRY DOORS

STEEL FRAME RAILS (VERIFY SPACING ON HOME)
FOR FRAME PIERS AND SPACING SEE INSTALLATION MANUAL, TABLE 7

13'-4" MIN. 18'-0" MAX.

SINGLE-SECTION HOME

SEE FLOOR PLAN FOR LENGTH OF HOME (76'-0" MAX.)
SEE FLOOR PLAN FOR LOCATION OF ENTRY DOORS

4'-0" MAX.

FOR FRAME PIERS AND SPACING SEE INSTALLATION MANUAL, TABLE 7

STEEL FRAME RAILS (VERIFY SPACING ON HOME)
TYPICAL MATING LINE PIER (SEE INSTALLATION MANUAL, TABLE 10)

23'-4" MIN. 32'-0" MAX.

MULTI-SECTION HOME

12" 4'-3.50" MAX.

MAX. 6'-0" SIDEWALL HEIGHT

Single-Section Home

12" 4'-3.50" MAX.

MAX. 6'-0" SIDEWALL HEIGHT

Multi-Section Home

Notes:
1. See other approved drawings in this section for foundation details.
2. Required crawlspace access and vents not shown for clarity.

7.3

SU-A.7.3
Notes:

1. Masonry stemwall may be hollow without vertical reinforcement in SDC = C. Must be solid grout, concrete or solid block in SDC = D2.

2. Longitudinal #4 bars will be placed within 12" of top of wall and between 3" - 4" of bottom of footing. 24" min. lap at splices.

3. 5/8" anchor bolt with 7" of embedment, spaced per anchor bolt spacing chart.

4. Vertical reinforcement of #4 bars with standard hook at 48" o.c. max. must extend to min. 3" above bottom of footing and 14" into stemwall.

5. 12" min. clearance from ground to underside of I-Beams

TYPICAL STEM WALL
TYPICAL CONNECTION DETAIL
SIDEWALL OR ENDBOUND

3x TREATED SILL PLATE WITH
3" MIN 4" MAX WIDTH X 1" MAX
DEEP NOTCH AT ANCHOR BOLT
LOCATIONS

ALTERNATE SILL PLATE

---

<table>
<thead>
<tr>
<th>Multi-</th>
<th>32'x6'</th>
<th>32'x56'</th>
<th>24'x6'</th>
<th>24'x56'</th>
<th>16'x6'</th>
<th>16'x56'</th>
<th>14'x7'</th>
<th>14'x56'</th>
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</tr>
<tr>
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<td>72&quot;</td>
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<td>42&quot;</td>
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<td>12&quot;</td>
<td>4&quot;</td>
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<tr>
<td>Obs. Sill Plate Nail Spacing (3)</td>
<td>8&quot;</td>
<td>22&quot;</td>
<td>10&quot;</td>
<td>20&quot;</td>
<td>6&quot;</td>
<td>24&quot;</td>
<td>8&quot;</td>
<td>24&quot;</td>
</tr>
</tbody>
</table>

Notes:
1. .131" X 1.5" nails into rim joist and sill plate.
2. .131" X 1.5" nails into rim and sill plate, spacing can be doubled if 2 rows are used.
3. .131" X 3" nails.
4. Hold downs are not required to resist overturning.
8 Special Foundation Designs

Vector Dynamics & Xi2 Foundation Systems

March 18, 2008

MS8-004

Subject: Addendum to HUD Set Up Manual for Vector Dynamics and Xi2 Systems

This letter is intended to serve as an addendum to the Cavco Set up Manual as it pertains to foundations. Cavco has determined that Tie Down Engineering’s Vector Dynamics, Xi2 and LSD systems are acceptable for use on Cavco homes in Wind Zones 1, 2 and 3 under the following conditions:

- Max Sidewall Height = 84”
- Main Rail Spacing = 95.5” or 99.5”
- Max Eave = 8”
- Singlewide Widths of 140”, 160” or 185”
- Doublewide Widths of 280”, 320” or 370”
- Max Roof Pitch < 20°
- Max Distance from Ground to Top of I-Beam = 36”
- All Foundation Systems are Installed Per Manufacturer’s Installation Instructions

Lateral Direction

<table>
<thead>
<tr>
<th>Wind Zone</th>
<th>Maximum Tributary Length Per Foundation System (f), All Widths</th>
</tr>
</thead>
<tbody>
<tr>
<td>WZ1</td>
<td>Vector Dynamics (Steel Pad) 17” Vector Dynamics (Concrete Pad) 21’8” Xi2 76’</td>
</tr>
<tr>
<td>WZ2</td>
<td>9’10” 12’6” 43’10”</td>
</tr>
<tr>
<td>WZ3</td>
<td>8’2” 10’4” 36’6”</td>
</tr>
</tbody>
</table>

1. Minimum of 2 systems must be installed in each direction

Central Office
1001 N. Central Avenue • Eighth Floor • Phoenix, Arizona 85004 • 602-255-6263 • Fax 602-255-6189

8.1

SU-A.8.1
Longitudinal Direction

<table>
<thead>
<tr>
<th>Wind Zone</th>
<th>System</th>
<th>Singlewide</th>
<th>140”</th>
<th>160”</th>
<th>185”</th>
<th>Doublewide</th>
<th>280”</th>
<th>320”</th>
<th>370”</th>
</tr>
</thead>
<tbody>
<tr>
<td>WZ1</td>
<td>LSD</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>X12</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>WZ2</td>
<td>LSD</td>
<td>2</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>X12</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>WZ3</td>
<td>LSD</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>5</td>
<td>6</td>
<td>7</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>X12</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Uplift Direction

WZ1 – Vector Dynamics
- Singlewides require 2-diagonal straps on each side of home, evenly spaced
- Doublewides do not require uplift strapping

WZ1 – X12
- Singlewides require 1 diagonal strap for every 17’6” of trib length
- Doublewides require 1 diagonal strap for every 41’ of trib length
- All straps must be evenly spaced.

WZ2 and 3 – Vector Dynamics and X12
- All units require vertical tie down straps installed per Cavco’s High Wind Installation Instructions

The conclusions on this letter are based on test reports provided by Tie Down Engineering as well as DAPIA approved comparison calcs performed by Cavco Engineering.

For all other items pertaining to Tie Down Engineering's system, please reference Tie Down Engineering's current installation Instructions.

See the Cavco Set Up Guide for all other applicable set up requirements not covered by this letter.

Sincerely,

[Signature]

Manuel Santana, P.E.
Director of Engineering
Cavco Industries, Inc.

Cc. Dave Rapp
Fast Track Foundation Systems

Cavco Industries finds that the Fast Track Foundation System (also known as Anchorpanel) is acceptable for use as a permanent foundation system when used in accordance with the following documents:

- FHA-HUD approval – File #ANCFHA1
- California HCD approval – SPA #92-2F

The foundation prints may be downloaded from www.anchorpanel.com

The Fast Track foundation system only applies to the perimeter wall of units with typical frames. It is not applicable to integrated frame designs. Pads and piers for the marriage line and main rails must be installed per the standard Cavco Installation Manual.
Multiple Cut-Back Corners – Such as the Biltmore Products

Homes with multiple cutbacks at the front of the home as shown below may require tie downs at the two corners noted on the drawing. Also at these two locations a pad and pier are required to support the load of the roof on the joists at that location. The each strap is to be secured to a ground anchor with a plate as shown below. The plate is to be secured to the MST strap that hangs below the floor joist at the end wall corner with 2 - 1/2" x 1" bolts with nut and lock washers. Use strap protection at the slot per page 1-51.1 to prevent damage by rough edges on the plate.

NOTE: IF STRAP PROVIDED BY CAVCO IS NOT SECURED TO TIEDOWN ANCHOR BUT IS PUT ON FOUNDATION, A HOLE DOWN IN THE FOUNDATION CAPABLE OF 1300# OR LESS LOAD IS REQUIRED AT THESE LOCATIONS.

If the home is set on a foundation the tie down and the pier and pad are not required if the stem wall supports the floor at this location and there must be a method in the foundation plan to support a load of 1300# uplift at the two corners shown.

1A-4

EXP. 12/31/04

8.4  SU-A.8.4
Full Length Sidewall/Longitudinal Porches

Pier Loads for Unit with Sidewall Porch and Bearing Sidewall

See Appendix C for footings, Appendix D for tiedowns and Appendix E for perimeter support information not found on this page.

| Table #1 |
|-----------------|-------|------|-----|
| Pier Loads for Unit with 4' Porch, lbs | Location |
| Roof Load, | 2 | 3 | 4 |
| 4' Spacing | 40 | 2856 | 1100 | 1764 |
| 60 | 3456 | 1100 | 2264 |
| 80 | 4056 | 1100 | 2804 |
| 6' Spacing | 40 | 4284 | 1650 | 2646 |
| 60 | 5184 | 1650 | 3426 |
| 80 | 6084 | 1650 | 4206 |
| 8' Spacing | 40 | 5712 | 2200 | 3528 |
| 60 | 6912 | 2200 | 4558 |
| 80 | 8112 | 2200 | 5698 |

1. For multi-wides add loads from Location #4 with mate line loads from other section to obtain total pier load at the marriage line.

| Table #2 (1,2) |
|-----------------|-------|------|
| Pier Loads Under 4' Porch Support Columns, lbs | Location #1 |
| Column Spacing | Roof Loads, psf | 40 | 1800 |
| 8' o.c. | 60 | 2200 |
| 60 | 2800 |
| 9' o.c. | 40 | 2025 |
| 60 | 2475 |
| 10' o.c. | 40 | 2250 |

1. When double rim joists are used piers are only required under the porch column supports
2. If single rim joists are used, place a pier between the column supports with a min. capacity of 500 lbs

---

8.5
SU-A.8.5
Frost Free Foundation

Cavco Industries finds that Manufactured Home Frost Free Foundation Design system developed by SBRA is acceptable for use under the following conditions:

- Only for use in Arizona
- Only for use where the groundwater table and perched water is at least 15 ft below grade
- Only for use in areas without known frost heave issues affecting Manufactured Homes set in a similar fashion
- Only for areas where the soil saturation levels are 60% or less
- Surface water, rainwater and snowmelt must be directed away from the structure

It is the responsibility of others to verify that site conditions comply with these requirements and those of the SBRA Frost Free Foundation Design.

All other applicable requirements regarding pier loads, tiedowns, footings etc., in the Cavco Set Up Manual must be followed.
### Tiedowns for 14 Wide / 28 Wide with 75.5" Centers

<table>
<thead>
<tr>
<th>Floor Width</th>
<th>Maximum sidewall height</th>
<th>Height From Ground to Floor</th>
<th>Maximum Transverse Strap Spacing, ft</th>
<th>Near Beam Method</th>
<th>Far Beam Method</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Roof Slope Under</td>
<td>Roof Slope Under</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>4.3 / 12</td>
<td>4.3 / 12</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Singlewide</td>
<td>Doublewide</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14 Wide (64')</td>
<td>90&quot;</td>
<td>24&quot;</td>
<td>15.3</td>
<td>15.9</td>
<td>16.6</td>
</tr>
<tr>
<td>28 Wide (32')</td>
<td></td>
<td>35&quot;</td>
<td>13.4</td>
<td>13.9</td>
<td>16.8</td>
</tr>
<tr>
<td></td>
<td></td>
<td>48&quot;</td>
<td>11.6</td>
<td>12.1</td>
<td>15.3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>67&quot;</td>
<td>9.4</td>
<td>9.8</td>
<td>15.3</td>
</tr>
<tr>
<td>96&quot;</td>
<td></td>
<td>24&quot;</td>
<td>14.4</td>
<td>15.0</td>
<td>14.4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>36&quot;</td>
<td>12.7</td>
<td>13.1</td>
<td>15.9</td>
</tr>
<tr>
<td></td>
<td></td>
<td>48&quot;</td>
<td>11.0</td>
<td>11.4</td>
<td>15.4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>67&quot;</td>
<td>8.9</td>
<td>9.2</td>
<td>14.5</td>
</tr>
</tbody>
</table>

6. These values only apply to 75.5" main rail spacing.
7. Values include 6" eaves.
8. Ground anchors are assumed to be 2" from the exterior face of the sidewall.
9. All values are based on a ground anchor/strap capacity of 3150 lbs.
10. See the near beam and far beam strapping diagrams in the Cavco Installation Manual.

### Number of Longitudinal Straps On Each Side of Unit, 45° and 26.5°

<table>
<thead>
<tr>
<th>Floor Width</th>
<th>Maximum sidewall height</th>
<th>Max. Strap Angle</th>
<th>Max. Roof Slope Under 4.35/12</th>
<th>Singlewide</th>
<th>Doublewide</th>
</tr>
</thead>
<tbody>
<tr>
<td>164&quot; (64')</td>
<td>96&quot;</td>
<td>45°</td>
<td>2</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>328&quot; (32')</td>
<td></td>
<td>26.5°</td>
<td>1</td>
<td>3</td>
<td></td>
</tr>
</tbody>
</table>

1. Values include 6" eaves.
2. All values are based on a ground anchor/strap capacity of 3150 lbs.
3. See the installation diagrams in the Cavco Installation Manual.
### Tiedowns for 12 Wide / 24 Wide with 75.5° Centers

**WZ1 SIDEWALL FRAME ANCHOR SPACING, 12/24 WIDE FOR 4.3/12 & 6/12 ROOF PITCH – 75.5° I-BEAMS**

<table>
<thead>
<tr>
<th>Floor Width</th>
<th>Maximum sidewall height</th>
<th>Height From Ground to Floor</th>
<th>Maximum Transverse Strap Spacing, ft</th>
<th>Near Beam Method</th>
<th>Far Beam Method</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>4.3/12</td>
<td>6/12</td>
<td>4.3/12</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Singlewide</td>
<td>Doublewide</td>
<td>Singlewide</td>
</tr>
<tr>
<td>24&quot;</td>
<td>90°</td>
<td>24&quot;</td>
<td>14.0</td>
<td>14.5</td>
<td>9.0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>36&quot;</td>
<td>11.5</td>
<td>12.0</td>
<td>6.5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>48&quot;</td>
<td>9.5</td>
<td>10.0</td>
<td>7.0</td>
</tr>
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<td></td>
<td></td>
<td>67&quot;</td>
<td>7.5</td>
<td>7.5</td>
<td>5.5</td>
</tr>
<tr>
<td>24&quot;</td>
<td>90°</td>
<td>24&quot;</td>
<td>13.0</td>
<td>13.5</td>
<td>8.0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>36&quot;</td>
<td>11.0</td>
<td>11.0</td>
<td>6.0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>48&quot;</td>
<td>9.0</td>
<td>9.5</td>
<td>6.5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>67&quot;</td>
<td>7.0</td>
<td>7.0</td>
<td>5.0</td>
</tr>
<tr>
<td>12 Wide (144&quot;)</td>
<td>24 Wide (288&quot;)</td>
<td>24&quot;</td>
<td>12.0</td>
<td>12.0</td>
<td>7.0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>36&quot;</td>
<td>10.0</td>
<td>10.0</td>
<td>7.5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>48&quot;</td>
<td>8.0</td>
<td>8.5</td>
<td>6.0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>67&quot;</td>
<td>6.5</td>
<td>6.5</td>
<td>4.5</td>
</tr>
<tr>
<td>12 Wide (144&quot;)</td>
<td>24 Wide (288&quot;)</td>
<td>24&quot;</td>
<td>10.5</td>
<td>11.0</td>
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<tr>
<td></td>
<td></td>
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<td>9.0</td>
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<td></td>
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<td>48&quot;</td>
<td>7.5</td>
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<td>5.5</td>
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<td></td>
<td></td>
<td>67&quot;</td>
<td>5.5</td>
<td>6.0</td>
<td>4.5</td>
</tr>
</tbody>
</table>

1. Values only apply to 75.5° I-beam spacing
2. Values include 16" eaves
3. Ground anchors are assumed to be 2' from the exterior face of the sidewall
4. All values are based on a ground anchor/strap capacity of 3150 lbs
5. See the near beam and far beam strapping diagrams in the Cavco Installation Manual
# WZ1 SIDEWALL FRAME ANCHOR SPACING, 12/24 WIDE FOR 36” AND 57” PARAPETS - 75.5” I-BEAMS

<table>
<thead>
<tr>
<th>Floor Width</th>
<th>Maximum sidewall height</th>
<th>Height From Ground to Floor</th>
<th>Near Beam Method</th>
<th>Far Beam Method</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Singlewide</td>
<td>Doublewide</td>
<td>Singlewide</td>
</tr>
<tr>
<td></td>
<td></td>
<td>36” Max Parapet</td>
<td>57” Max Parapet</td>
<td>36” Max Parapet</td>
</tr>
<tr>
<td></td>
<td>24&quot;</td>
<td>10.5</td>
<td>11.0</td>
<td>7.0</td>
</tr>
<tr>
<td>90&quot;</td>
<td>36&quot;</td>
<td>6.0</td>
<td>7.0</td>
<td>2.5</td>
</tr>
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<td></td>
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<td>7.5</td>
<td>7.5</td>
<td>6.0</td>
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<tr>
<td></td>
<td>67&quot;</td>
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<td>98&quot;</td>
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</tr>
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<td>8.5</td>
<td>8.5</td>
<td>7.0</td>
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<td></td>
<td>48&quot;</td>
<td>7.0</td>
<td>7.0</td>
<td>6.0</td>
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<td></td>
<td>67&quot;</td>
<td>5.5</td>
<td>5.5</td>
<td>4.5</td>
</tr>
<tr>
<td>108&quot;</td>
<td>24&quot;</td>
<td>8.0</td>
<td>9.5</td>
<td>9.5</td>
</tr>
<tr>
<td></td>
<td>36&quot;</td>
<td>7.5</td>
<td>8.0</td>
<td>6.5</td>
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<tr>
<td></td>
<td>48&quot;</td>
<td>6.5</td>
<td>6.5</td>
<td>5.5</td>
</tr>
<tr>
<td></td>
<td>67&quot;</td>
<td>5.0</td>
<td>5.0</td>
<td>4.5</td>
</tr>
<tr>
<td>120&quot;</td>
<td>24&quot;</td>
<td>6.5</td>
<td>9.0</td>
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</tr>
<tr>
<td></td>
<td>36&quot;</td>
<td>7.0</td>
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<td>6.0</td>
</tr>
<tr>
<td></td>
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<td>5.0</td>
</tr>
<tr>
<td></td>
<td>67&quot;</td>
<td>4.5</td>
<td>4.5</td>
<td>4.0</td>
</tr>
</tbody>
</table>

1. Values only apply to 75.5” I-beam spacing
2. Values include 3” eave
3. Ground anchors are assumed to be 2” from the exterior face of the sidewall
4. All values are based on a ground anchor/strap capacity of 3150 lbs
5. Spacing given for parapets may be used for offset units and units with dormers
6. See the near beam and far beam strapping diagrams in the Cavco Installation Manual

SEE TABLE 27 IN THE CAVCO INSTALLATION MANUAL FOR LONGITUDINAL STRAPS

APPROVED BY

[Signature]
Manuel Santana

8.9 SU-A.8.9
Oliver Technologies' All Steel Foundation System

May 21, 2012

Subject: Oliver Technologies Inc. (OTI)
All Steel Foundation System (ASF)

To Whom It May Concern:

Cavco Industries, Inc ("Cavco") has evaluated Oliver Technologies’ All Steel Foundation System, 1100 IV and 1100 ICV for Wind Zone 1 and 2 and finds it acceptable for use with Cavco’s HUD code homes under the following conditions:

- Installed per OTI’s installation instructions, stamped by a professional engineer
- Installed in WZ1 or WZ2
- Pier Height does not exceed 48"
- Not for use on parapet units
- Not for use on homes with tag units
- OTI’s installation instructions must be based on the following test reports: RAD-3233, RAD-3236, RAD-3312, RAD-3313

The ASF system may replace transverse and longitudinal tie downs in WZ1 and WZ2 as specified in the Cavco Installation Manual. Vertical tie downs in WZ2 must be installed per the Cavco Installation Manual.

This letter does not constitute Cavco’s endorsement of OTI’s ASF system nor guarantee that the product will perform as tested. Cavco does not assume liability for any performance issues with the ASF system.

Sincerely

Manuel Santana, P.E.
Director of Engineering
Cavco Industries, Inc.
9 Optional Ship-Loose Structural Components

Ship-Loose Eaves

1. Remove plastic & roll roofing paper back from edge.
2. Place eave onto trusses (take care aligning sheathing to trusses) & secure sheathing to truss.
3. Secure bottom of eave to wall w/ 18d nail - 1 on each side of wall, plus 1 at mid point between blocks.
4. Install soffit.
5. Caulk soffit joint to fascia and to wall.
6. Install drip edge secured b’ oc.
7. Install 2 layers of building paper with tar between sheets overlay this paper with the rolled over paper.
8. Install rake metal over paper & eave ends.
9. Install shingles per manufacturer’s instructions.

NOTE:
1.) Secure 8’-0” sections w/ 2 fasteners.
2.) Eaves to be constructed per Dapia Standards.

40# PSF MAX.
ROOF LOAD
SHIP LOOSE EAVE CONNECTION DETAIL

9.1
1. REMOVE PLASTIC & ROLL ROOFING PAPER BACK FROM EDGE.
2. PLACE EAVE ONTO WALL (TAKE CARE ALIGNING STRAP TO TRUSSES) & SECURE STRAP TO TRUSS.
3. SECURE BOTTOM OF EAVE TO WALL w/ 18d NAIL - 6" O.C. FOR 60# MAX. ROOF LOAD, #8x3" SCREW @ 10" O.C.
   180# MAX. ROOF LOAD.
4. INSTALL SOFFIT.
5. CRUX SOFFIT JOINT TO FASCIA AND TO WALL.
6. INSTALL DIP EDGE SECURED 8" OC.
7. INSTALL 2 LAYERS OF BUILDING PAPER WITH TAR BETWEEN SHEETS THEN OVERLAY THIS PAPER WITH THE ROLLED OVER PAPER.
8. INSTALL RAKE METAL OVER PAPER @ EAVE ENDS.
9. INSTALL SHINGLES PER MANUFACTURER'S INSTRUCTIONS.

NOTE:
1. SECURE 8'-8" SECTIONS w/ 2 FASTENERS.
2. EAVES TO BE CONSTRUCTED PER BAPA Standards.

100# PSF MAX.
ROOF LOAD
SHIP LOOSE EAVE
CONNECTION DETAIL

9.2 SU-A.9.2