RainSilo

RainSilo tanks are cylindrical corrugated steel surface tanks with conical steel roofs, available in diameters of 6, 9, 12, and 15 feet with cylinder heights of 5'-6", 8'-2", 10'-10", 13'-6", and 16'-2". Capacities range from 1,000 to 20,000 gallons.

All RainSilo tanks are made from heavy-duty 16 gauge wall rings and 17 gauge roof panels and feature super-thick G-150 galvanizing for long-term durability in any climate. Ring and roof sheets are bolted together with long-life corrosion-resistant bolts and sealing tapes. Access is provided through a central hinged lid in the center of the conical 30° roof.

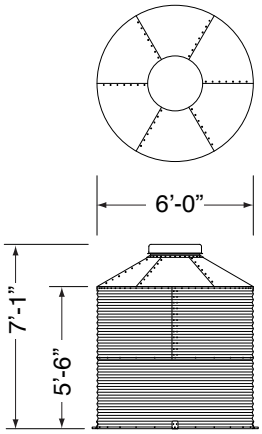
Water is retained in a flexible, reinforced, potable-grade polypropylene internal waterproofing liner so there is no direct water-to-steel contact. A thick fabric mat between the liner and steel protects the liner from mechanical damage and protects the steel from condensation damage.

PHYSICAL CHARACTERISTICS

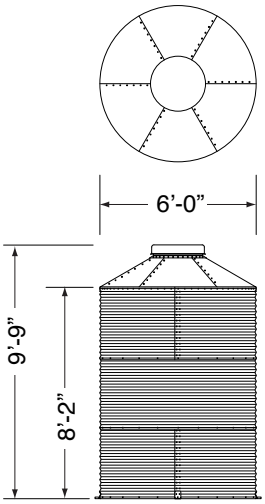
Model	Gallons	Diameter	Cylinder	Overall	Rings	Roof	Weight
RainSilo-S0602	1,100	6'	5'-6"	7'-1"	2d x 2h	6 panels	400 lbs
RainSilo-S0603	1,600	6'	8'-2"	9'-9"	2d x 3h	6 panels	550 lbs
RainSilo-S0604	2,200	6'	10'10"	12'5"	2d x 4h	6 panels	700 lbs
RainSilo-S0605	2,700	6'	13'6"	15'1"	2d x 5h	6 panels	850 lbs
RainSilo-S0606	3,300	6'	16'2"	17'9"	2d x 6h	6 panels	1000 lbs
RainSilo-S0902	2,500	9'	5'6"	7'11"	3d x 2h	9 panels	650 lbs
RainSilo-S0903	3,700	9'	8'2"	10'7"	3d x 3h	9 panels	875 lbs
RainSilo-S0904	5,000	9'	10'10"	13'3"	3d x 4h	9 panels	1100 lbs
RainSilo-S0905	6,200	9'	13'6"	15'11"	3d x 5h	9 panels	1325 lbs
RainSilo-S0906	7,500	9'	16'2"	18'7"	3d x 6h	9 panels	1550 lbs
RainSilo-S1202	4,500	12'	5'6"	8'10"	4d x 2h	12 panels	875 lbs
RainSilo-S1203	6,700	12'	8'2"	11'6"	4d x 3h	12 panels	1175 lbs
RainSilo-S1204	8,900	12'	10'10"	14'2"	4d x 4h	12 panels	1475 lbs
RainSilo-S1205	11,100	12'	13'6"	16'10"	4d x 5h	12 panels	1775 lbs
RainSilo-S1206	13,300	12'	16'2"	19'6"	4d x 6h	12 panels	2075 lbs
RainSilo-S1502	7,000	15'	5'6"	9'-8"	5d x 2h	18 panels	1200 lbs
RainSilo-S1503	10,500	15'	8'2"	12'-6"	5d x 3h	18 panels	1575 lbs
RainSilo-S1504	13,900	15'	10'10"	15'-0"	5d x 4h	18 panels	1950 lbs
RainSilo-S1505	17,400	15'	13'6"	17'-8"	5d x 5h	18 panels	2325 lbs
RainSilo-S1506	20,900	15'	16'2"	20'-4"	5d x 6h	18 panels	2700 lbs

SIX-FOOT DIAMETER TANKS

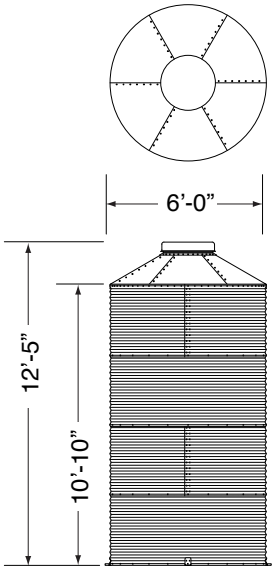
Six-foot diameter RainSilo tanks are available in capacities from 1100 gallons to 3,300 gallons with heights from 7’1” to 17’9”. The cylindrical section is built from identical ring sheets, two per level. The conical top consists of six identical roof panels with a central access lid.



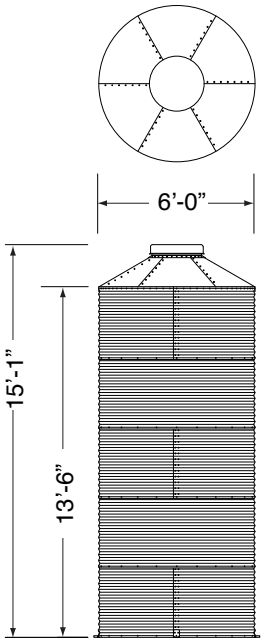
RainSilo-S0602
1100 gal



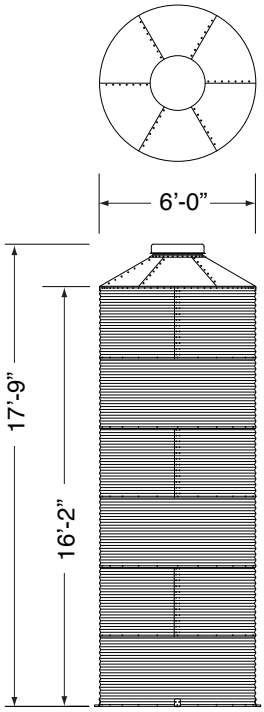
RainSilo-S0603
1600 gal



RainSilo-S0604
2200 gal



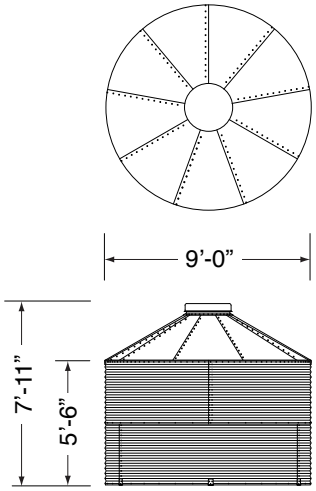
RainSilo-S0605
2700 gal



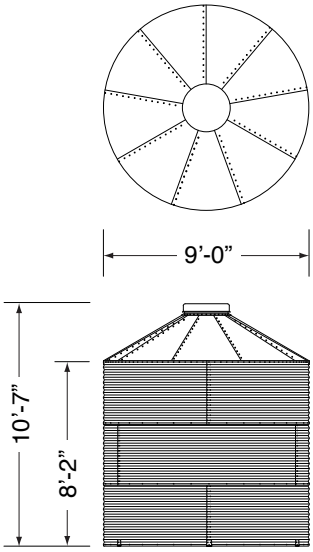
RainSilo-S0606
3300 gal

NINE-FOOT DIAMETER TANKS

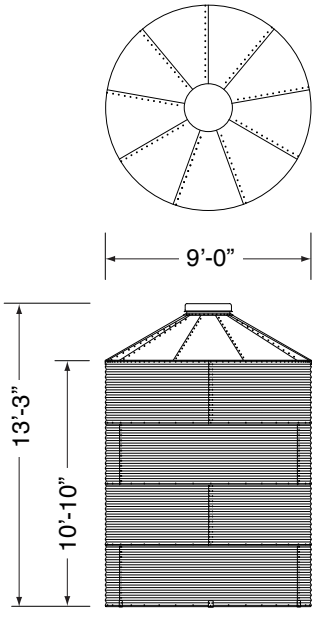
Nine-foot diameter RainSilo tanks are available in capacities from 2,500 gallons to 7,500 gallons with heights from 7’11” to 18’7”. The cylindrical section is built from identical ring sheets, three per level. The conical top consists of nine identical roof panels with a central access lid.



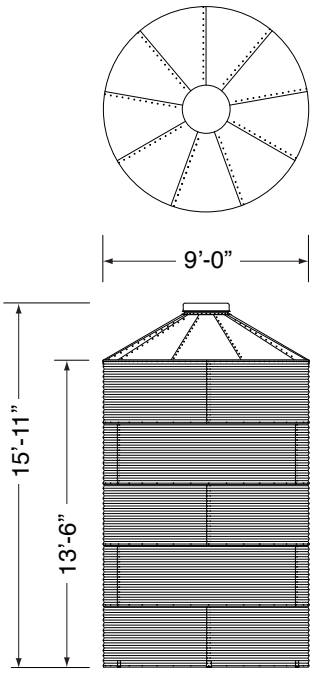
RainSilo-S0902
2500 gal



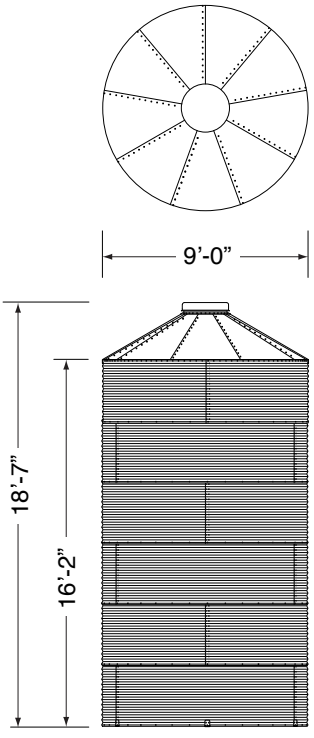
RainSilo-S0903
3700 gal



RainSilo-S0904
5000 gal



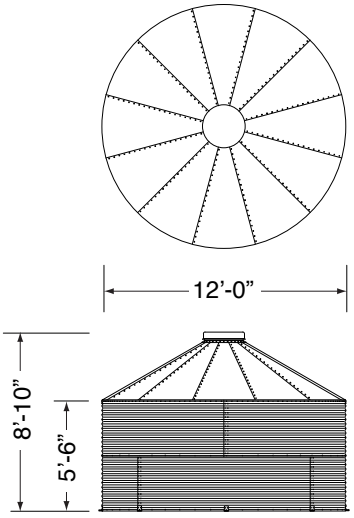
RainSilo-S0905
6200 gal



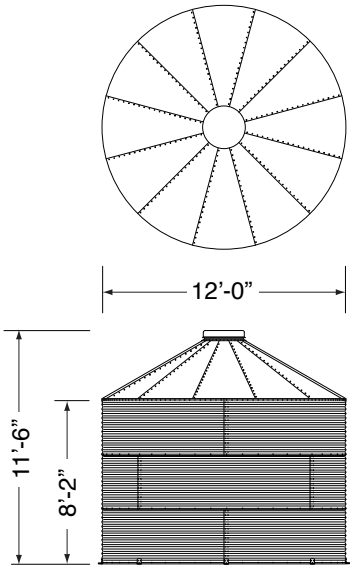
RainSilo-S0906
7500 gal

TWELVE-FOOT DIAMETER TANKS

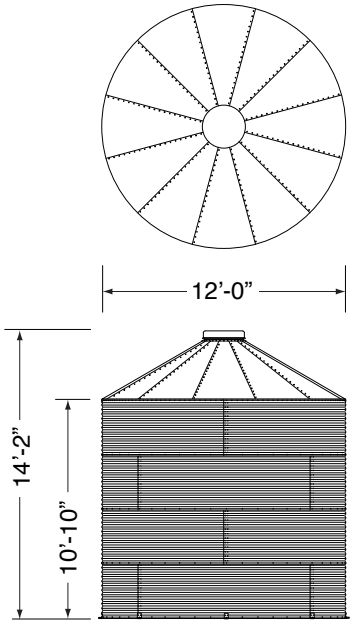
Twelve-foot diameter RainSilo tanks are available in capacities from 4,500 gallons to 13,300 gallons with heights from 8’10” to 19’6”. The cylindrical section is built from identical ring sheets, four per level. The conical top consists of twelve identical roof panels with a central access lid.



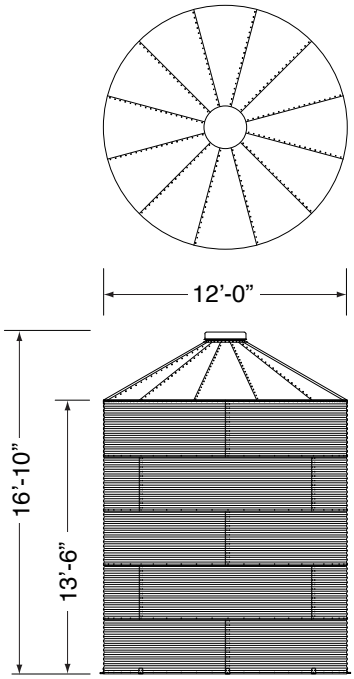
RainSilo-S1202
4500 gal



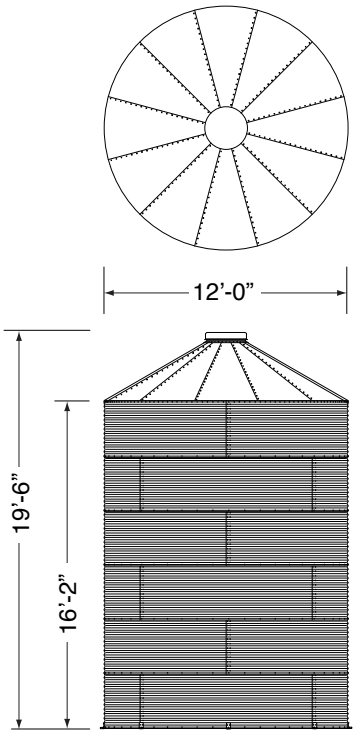
RainSilo-S1203
6700 gal



RainSilo-S1204
8900 gal



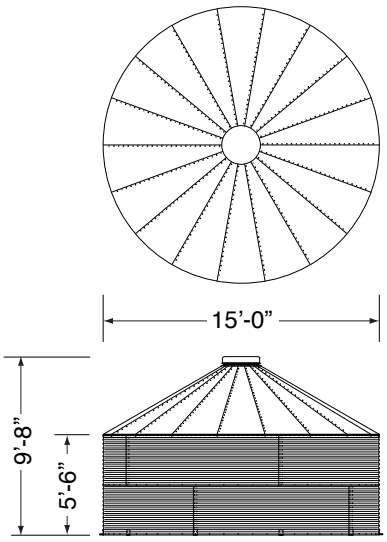
RainSilo-S1205
11100 gal



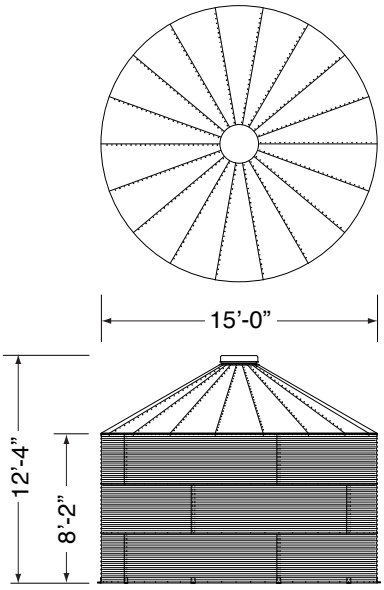
RainSilo-S1206
13300 gal

FIFTEEN-FOOT DIAMETER TANKS

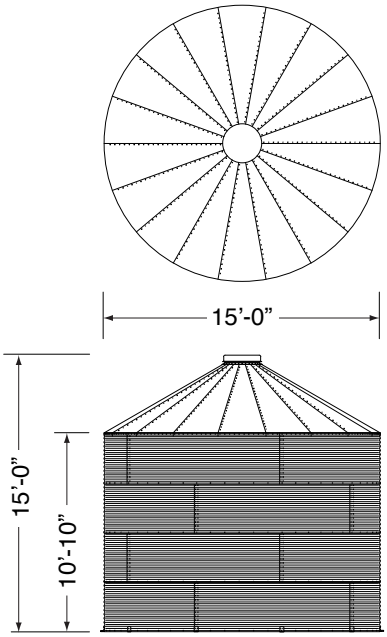
Fifteen-foot diameter RainSilo tanks are available in capacities from 7000 gallons to 20,900 gallons with heights from 9’8” to 20’4”. The cylindrical section is built from identical ring sheets, five per level. The conical top consists of eighteen identical roof panels with a central access lid.



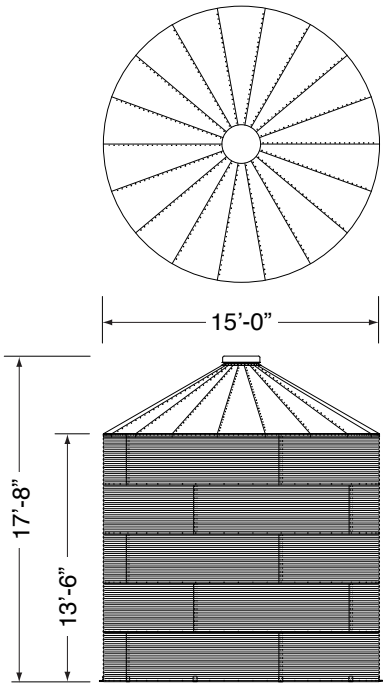
RainSilo-S1502
7000 gal



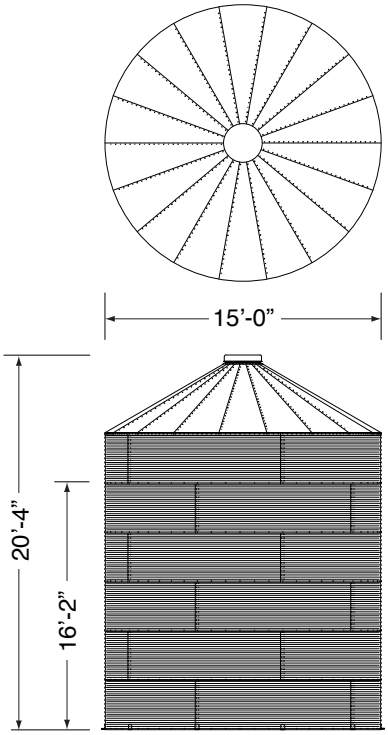
RainSilo-S1503
10500 gal



RainSilo-S1504
13900 gal



RainSilo-S1505
17400 gal



RainSilo-S1506
20900 gal

FOUNDATION

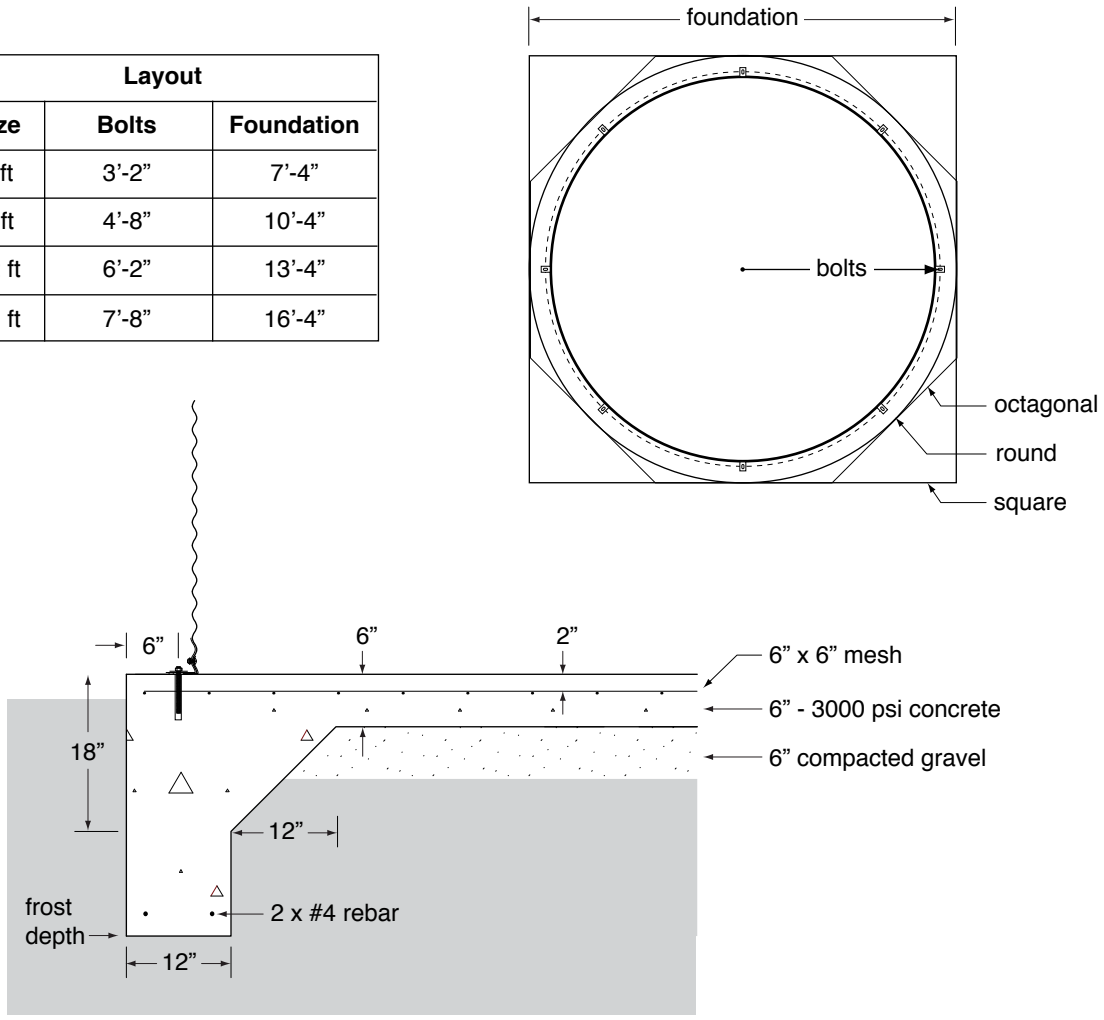
The following general-purpose foundation design guidance is suitable for inland sheltered sites with stable soils in regions with low seismic risk. Additional engineering is required for installations in coastal areas, regions with seismic activity, or sites with unstable soils.

The RainSilo foundation must be built on undisturbed soil or properly compacted engineered backfill with bearing capacity of at least 3,000 lb/ft^2. Load-bearing capacity should be verified by a soil engineer. Foundations can be round, square, or octagonal in shape and should extend at least 8" beyond the tank on all sides (see drawing and chart below for foundation dimensions). A monolithic foundation design with integral footings is recommended to create a continuous bearing surface for the liner. The slab should be 6" thick with 6"x6" reinforcing mesh 2" from the top surface and should bear on a 6" layer of compacted angular gravel. The footings should be 12" wide at the bottom and should extend below the expected frost depth. The footings should widen at a 12:12 slope to 24" just below the slab. Two #4 rebar should be installed near the bottom of the footings. Fittings for pipe penetrations should be pre-installed and cast into the concrete (see PENETRATIONS for details).

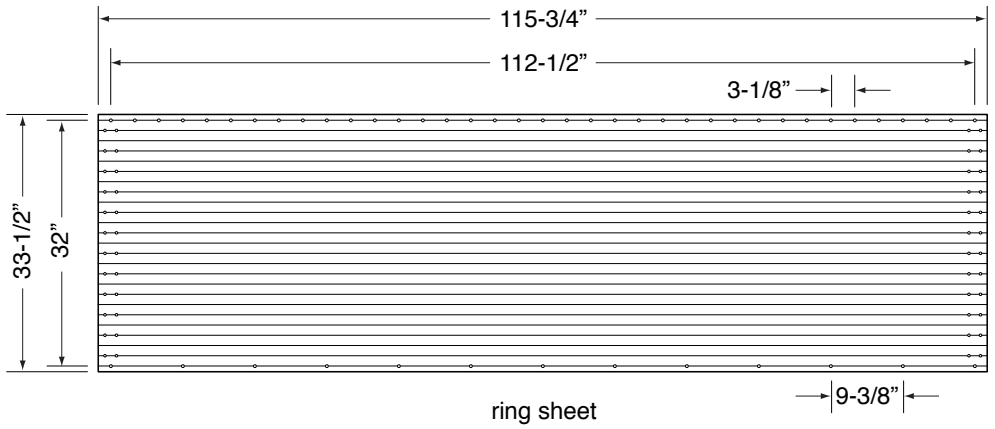
Concrete shall have a minimum cured compressive strength of 3000 psi. Rebar shall have a minimum yield strength of 33,000 psi. Foundations should be smooth and level to within 1/4" (6 mm). Concrete should be cured seven days before building the Silo and twenty-eight days before filling with water.

After the concrete is cured, drill a small hole in the center. Tap a nail halfway into the hole and use a measuring tape or string and a carpenter's pencil to mark the circle for the anchor bolts (see chart below). Then remove the nail.

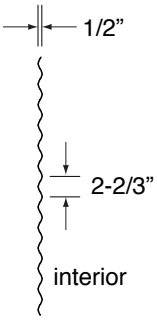
Layout		
Size	**Bolts**	**Foundation**
6 ft	3'-2"	7'-4"
9 ft	4'-8"	10'-4"
12 ft	6'-2"	13'-4"
15 ft	7'-8"	16'-4"



STEEL COMPONENTS

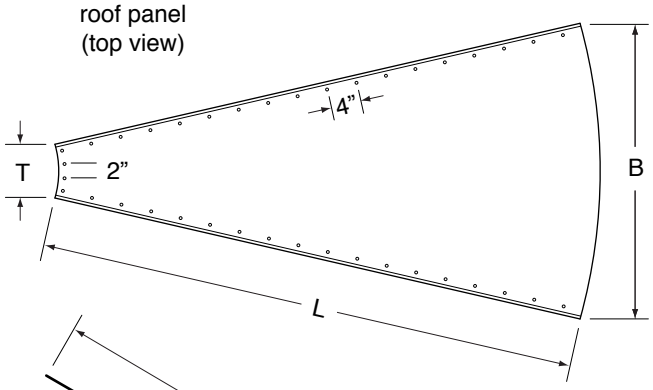


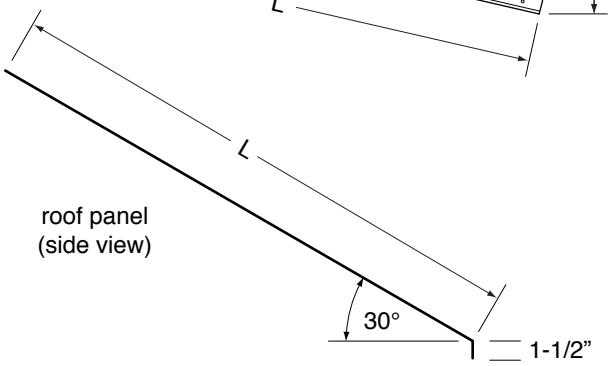
ring sheet
(flattened side view)



ring sheet
(edge view)

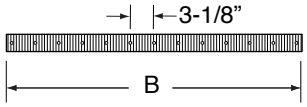
roof panel
(top view)



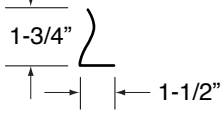


roof panel
(side view)

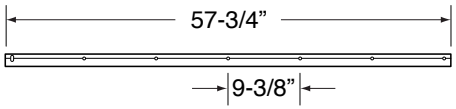
roof panel
(end view)



base flange
(end view)



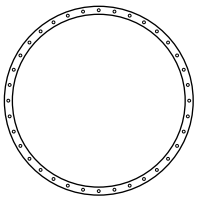
base flange
(flattened side view)



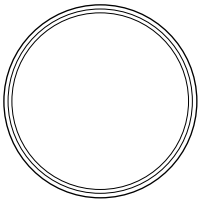
base flange
(top view)

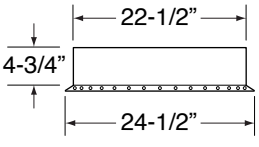
lid assembly
(side view)

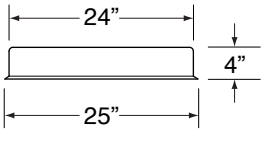
collar



lid



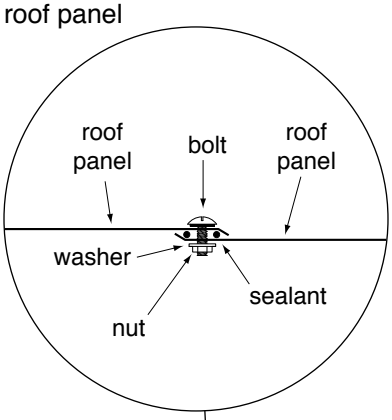




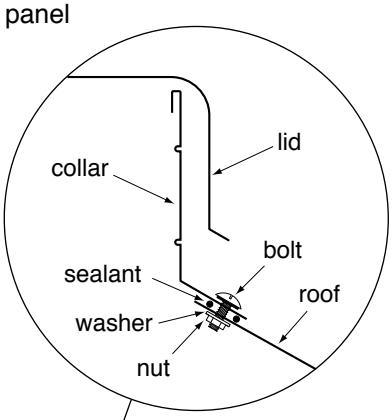
Roof Panels			
Diameter	**Length (L)**	**Top (T)**	**Bottom (B)**
6’	28-3/4”	12-1/2”	37”
9’	49-1/2”	9”	38”
12’	70-1/2”	7”	38-1/2”
15’	90-3/4”	5-1/4”	32-3/4”

JOINT DETAILS

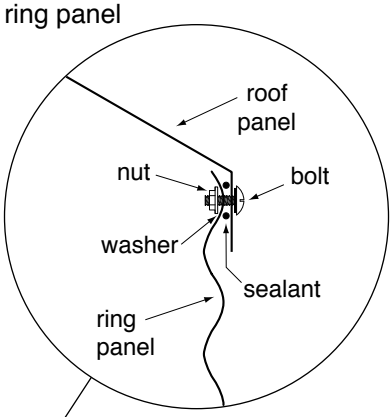
roof panel to roof panel



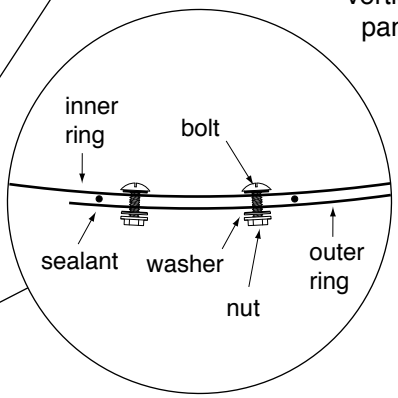
collar to roof panel

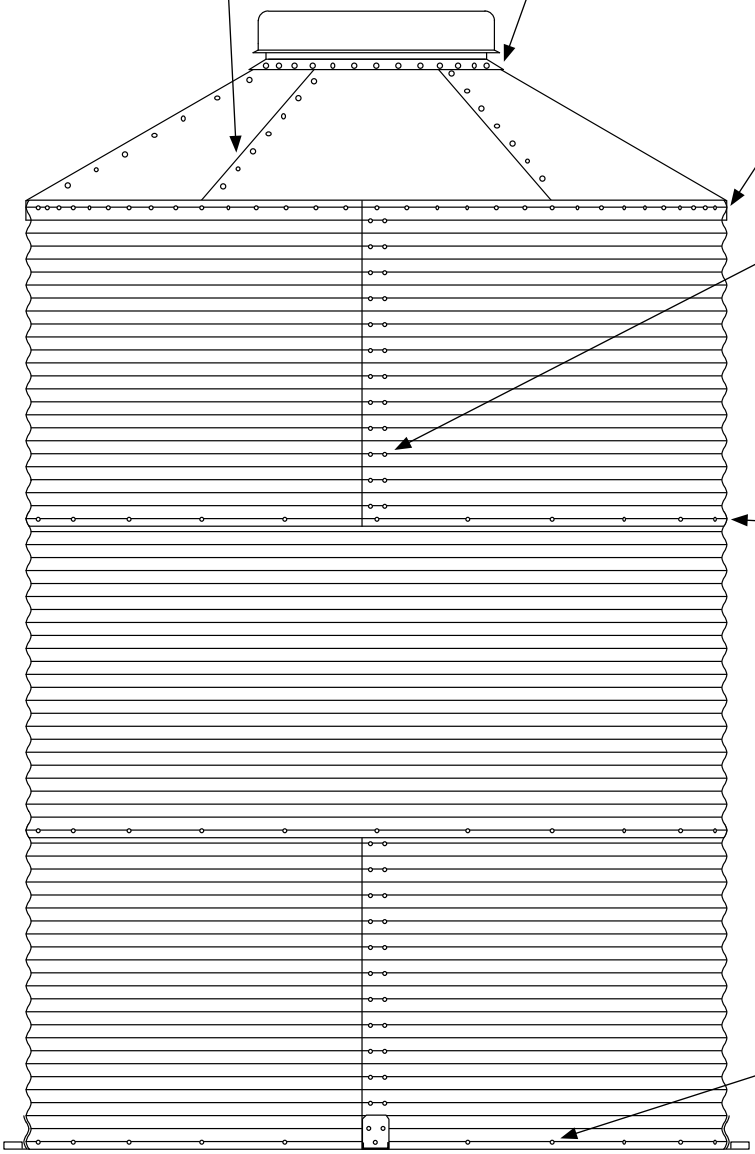


roof panel to ring panel

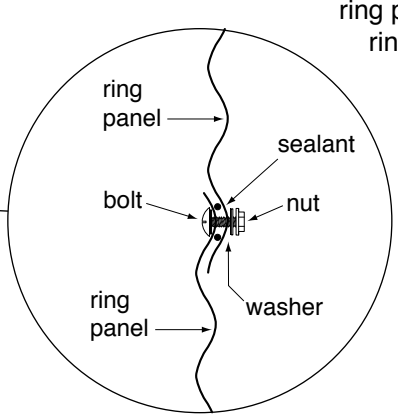


vertical ring panel joint

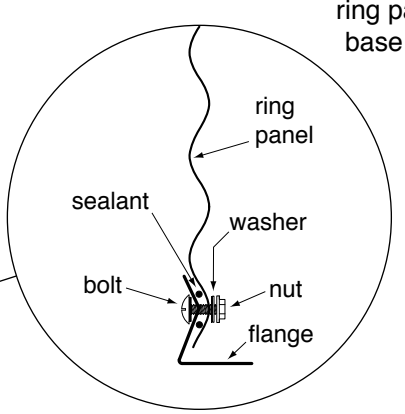




ring panel to ring panel



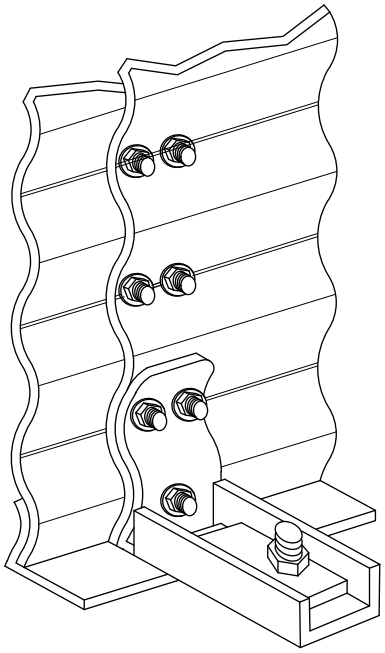
ring panel to base flange



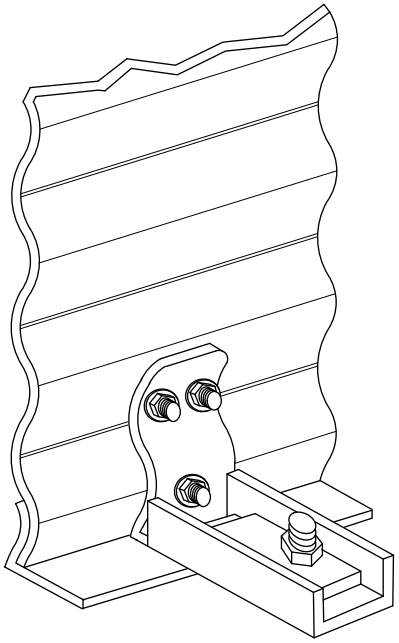
MOUNTING BRACKETS

A mounting bracket must be installed at each joint in the bottom ring and halfway between each joint. At the joints, use three bolts in the three bracket holes which will line up with holes in the rings. Between the joints, use a single bottom bolt, or drill two holes and bolt through all three holes.

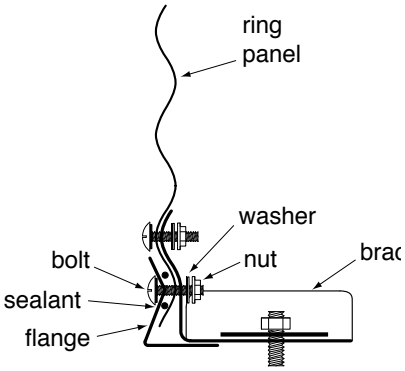
Before boring mounting bracket holes, make certain the bottom ring panels, bottom flanges, and brackets are securely bolted together. Then position the bottom flanges so that they are spaced uniformly approximately one-inch inside of the anchor bolt line drawn on the foundation. This should place the anchor bolt line approximately in the center of the slots in the anchor brackets. Then drill through the center of each slot, blow out all dust from the holes with compressed air, and attach the anchors with concrete sleeve bolts or studs set in epoxy.



bracket at ring panel joint



bracket between ring panel joints



LINER AND UNDERLINER

A custom-fitted geotextile underliner fabric and a custom-fitted reinforced waterproofing liner is supplied with each RainSilo. These are held in place with liner support hooks bolted at each seam in the top ring an at one-quarter, half, and three-quarters the distance between seams (nine bolt spaces between hooks). Heavy synthetic ropes threaded through hems in the underliner and liner are hung by the support hooks.