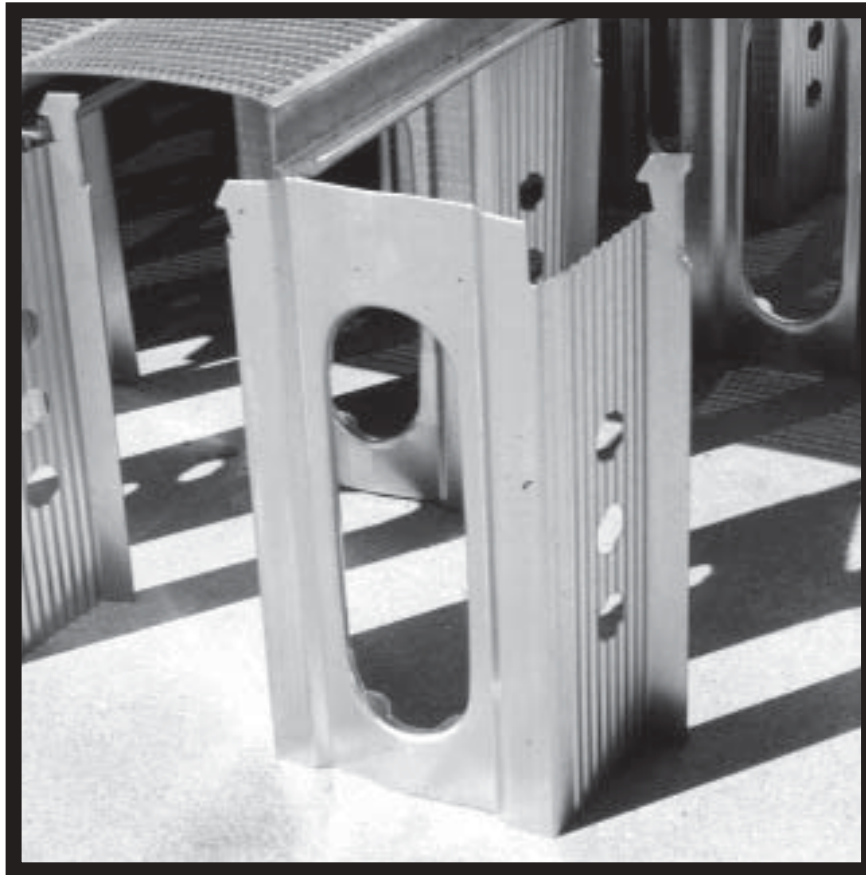




PNEG-219

COR-LOK & CUT-LOK FLOORING INSTALLATION INSTRUCTIONS AND GRANDSTAND LAYOUT



33' DIAMETER BINS

PRINTED:
REVISED: AUGUST 22, 1996

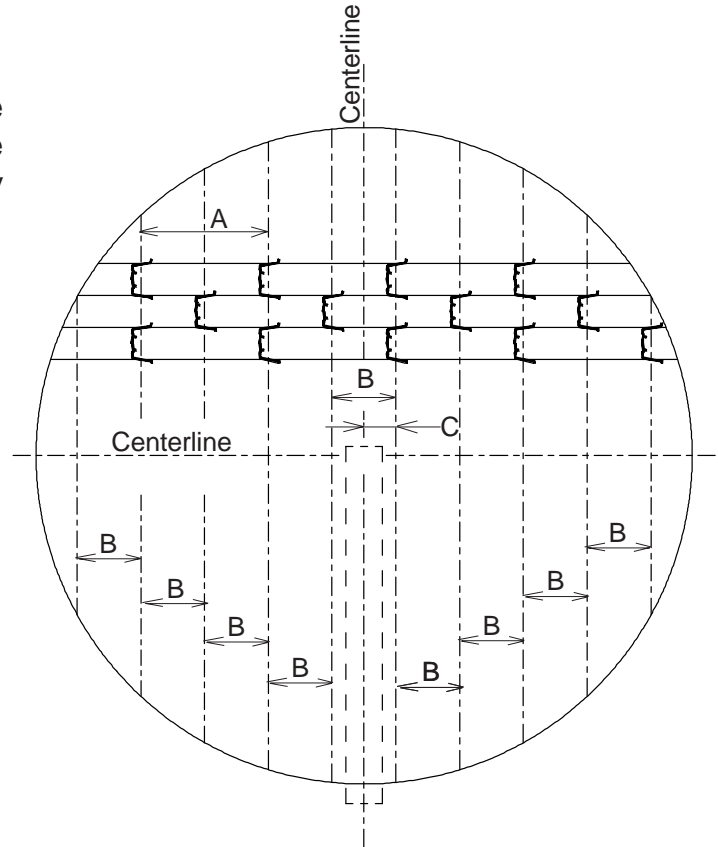
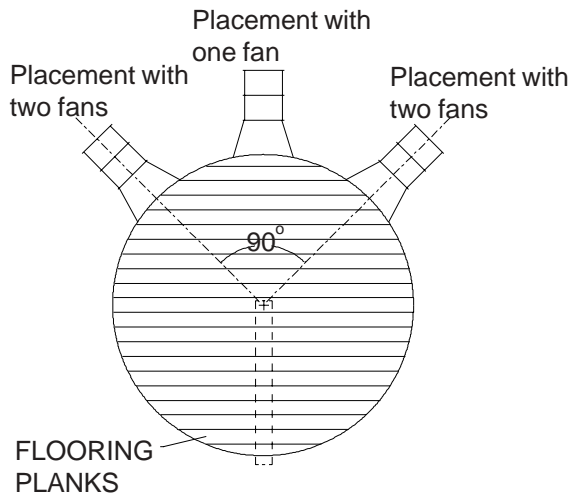


GRAIN SYSTEMS, INC. Assumption, IL 62510 USA 217-226-4421



FAN PLACEMENT DIAGRAM

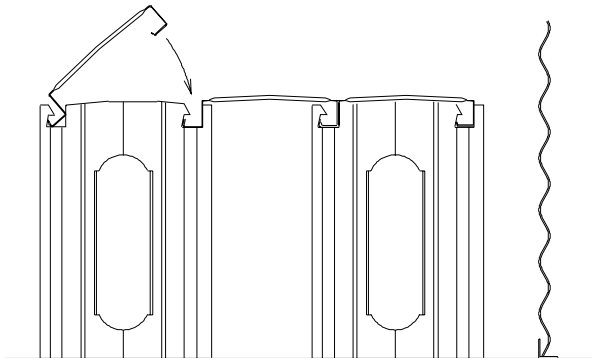
For most uniform air flow the fan(s) should be located as shown below with respect to the unloading tube. The floor planks should lay perpendicular to the unloading tube.



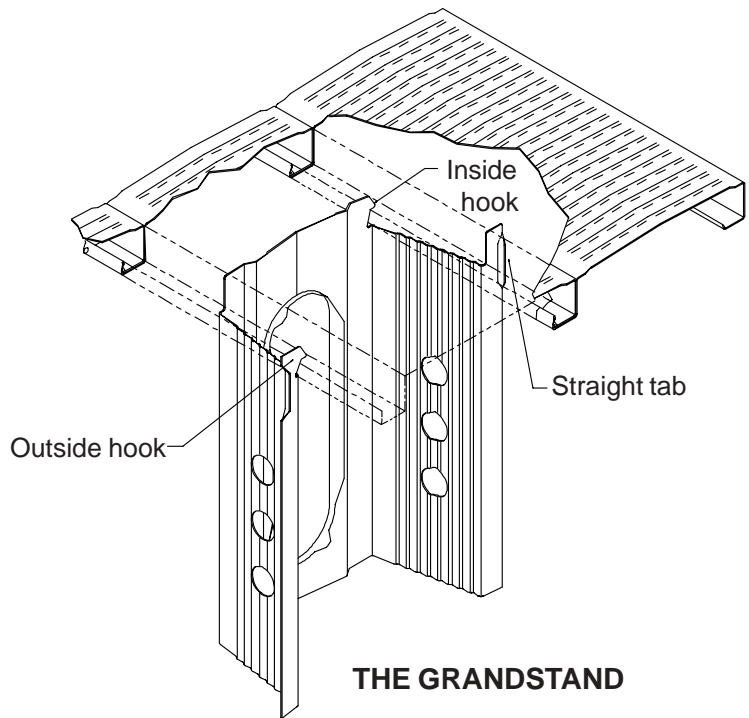
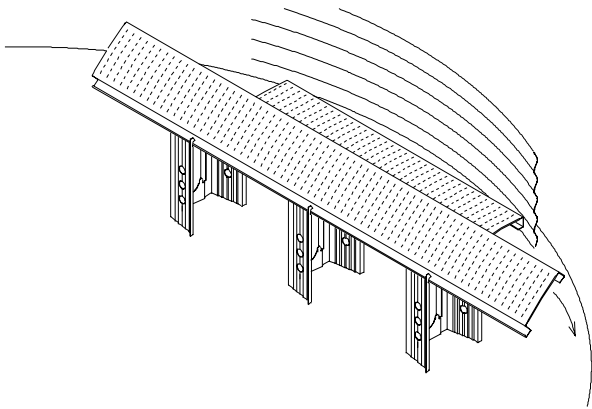
GRAIN SYSTEMS RECOMMENDED METHOD FOR FULL FLOOR INSTALLATION

This method should save floor construction time and eliminate problems of improper installation which could invalidate warranty. Dimension "A" is the leg to leg spacing along the centerline of a given plank. Dimension "B" is the amount of stagger between supports under adjacent planks and is half of "A". Dimension "C" is the distance from the center of unload auger to the nearest rows of supports and is half of "B". Dimensions "A", "B" and "C" are shown on the appropriate Grandstand layout for wall heights under 35 ft. For taller bins, Grandstand quantity as well as dimensions "A" and "B" are given on page #14 & #15.

1. Layout center-lines of tank being sure one centerline is in line with the direction of the flooring planks while the other center-line is perpendicular with the flooring planks.
2. Measure over "C" dimension from centerline that is perpendicular to the direction of the flooring planks. Do this at each end of the bin. Strike a chalk line here.
3. Measure over "B" dimension from the previously (chalked in step #2) and strike a chalk line here. Continue this procedures until the bin wall is reached in both directions.
4. When completed there should be a set of parallel lines "B" dimensions apart.



CORRECT ASSEMBLY METHOD



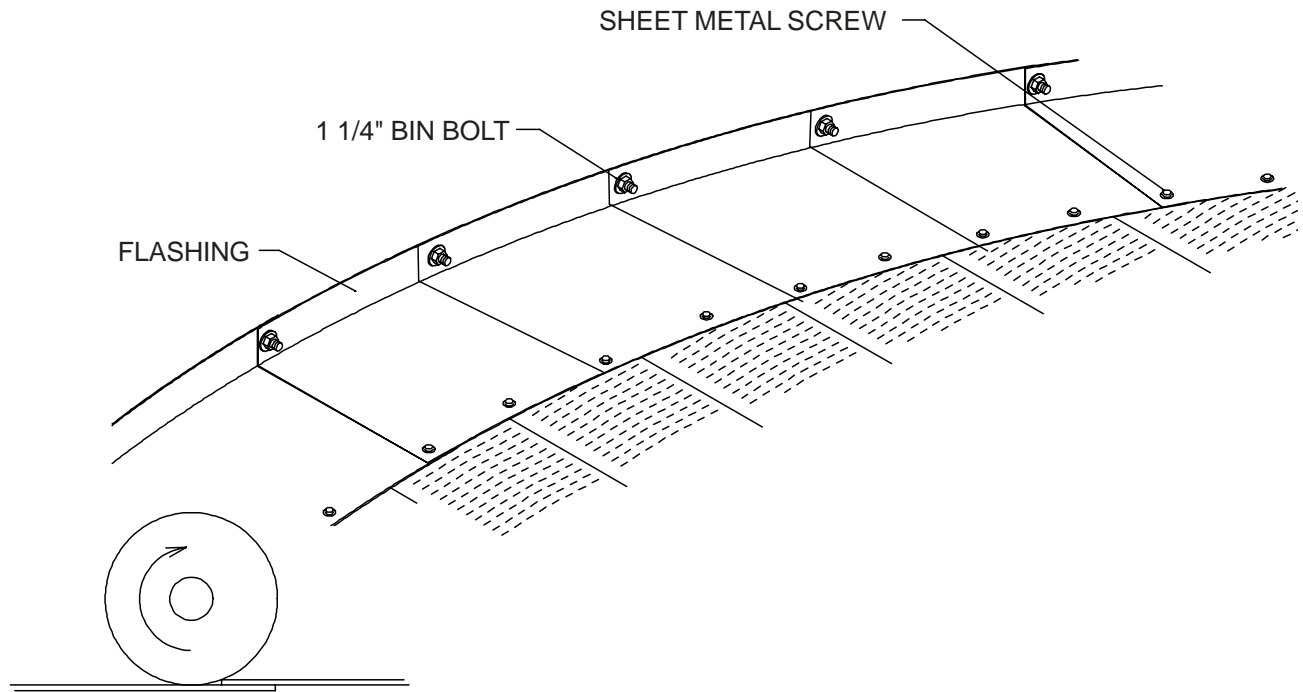
IMPORTANT: First piece of flooring must start the proper distance from centerline of bin. Refer to floor layout of correct bin diameter. First piece may have to be trimmed for proper distance.

5. Start at bin wall with shortest floor piece. **POSITION SUPPORTS FOR THIS PIECE AS SHOWN ON SUPPORT LAYOUT FOR CORRECT BIN DIAMETER AND SUPPORT SPACING.** Be sure flat side of floor piece is facing bin wall and is at designated distance from the wall (The open channel edge of floor must be facing the center of the bin.)
6. **POSITION THE NEXT ROW OF SUPPORTS ACCORDING TO THE CHALK LINES** and support layout. The straight tab and inside hook should "snap" under the first (previous) floor piece. After the supports in the row are correctly positioned, install the next floor piece by hooking the open channel edge under the outside hooks of floor supports. Push down sharply on the outside edge floor piece until it snaps into the previous floor piece.
7. Continue this procedure for the rest of the floor.

NOTE: Whenever there is more than B/3 inches of plank unsupported beside the bin wall there should be a support on that plank or a support on each of planks adjacent such that no more than B/3 inches is unsupported



FLASHING INSTALLATION

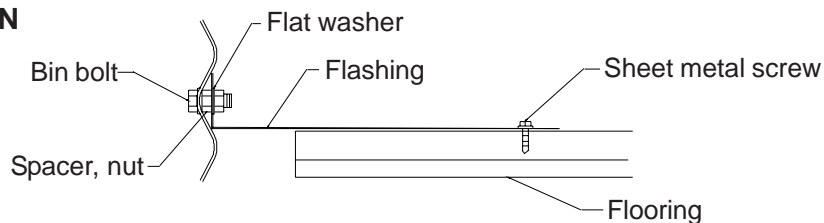


GRAIN SYSTEMS FORMED FLASHING INSTALLATION

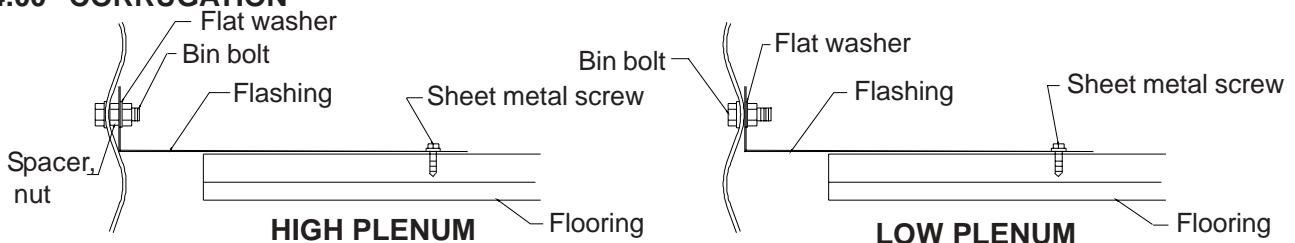
If bin sweep auger is to be used, overlap flashing such that rotation (usually clockwise) of the sweep will climb up on the next flashing section. This will prevent the rotating/slipping outer wheel of the sweep from catching on the flashing edges.

After the floor is in place, lay the flashing pieces on top of the floor place over the 1.1/4" bin bolts. See the details below to determine the correct sequence for placing the nuts and washers. Finger tighten the nuts. While holding flashing flat, fasten the flashing to the floor with sheet metal screws. Now tighten flashing nuts.

2.66" CORRUGATION

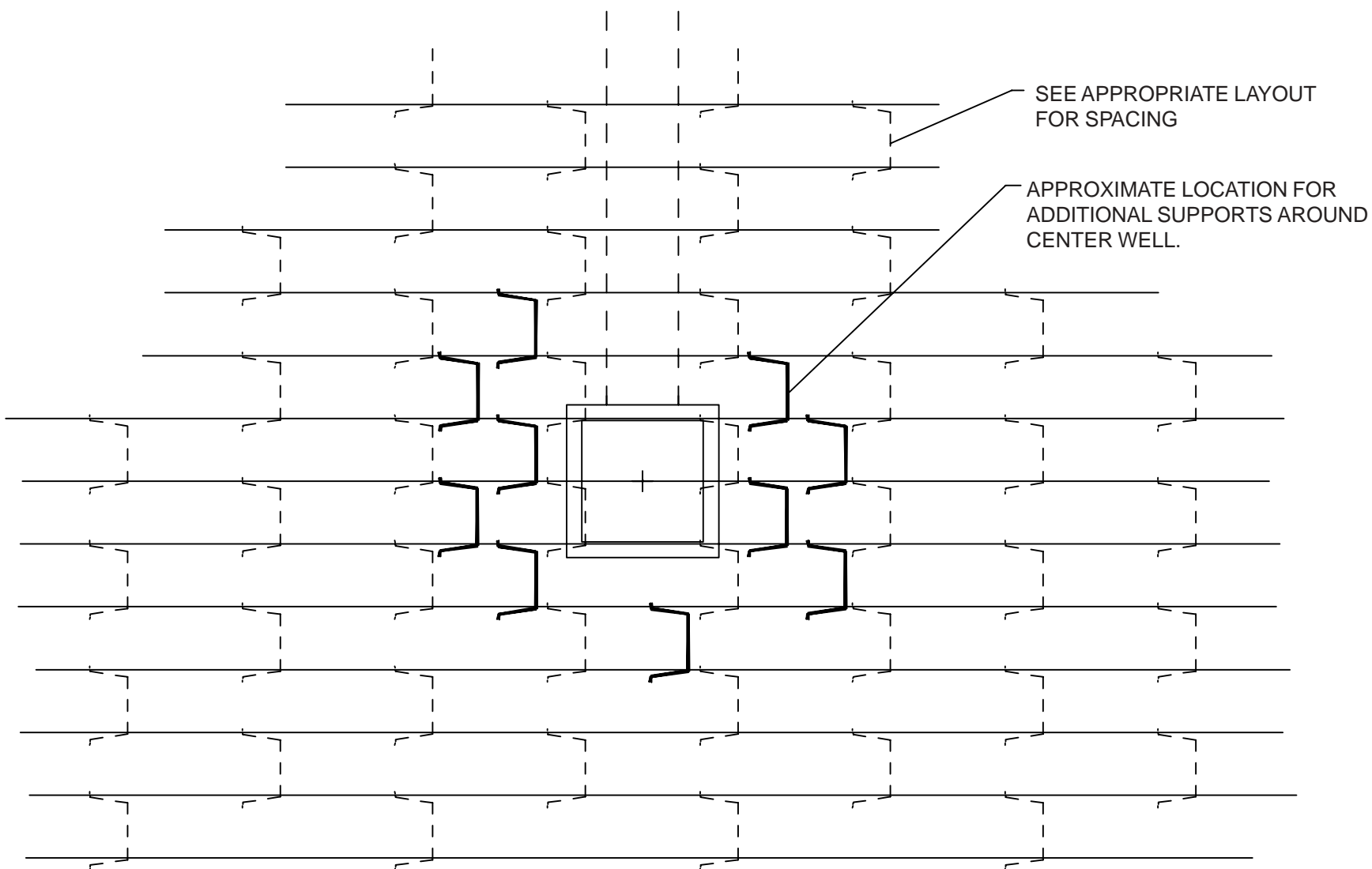


4.00" CORRUGATION





CENTER WELL GRANDSTAND LAYOUT FOR RECIRCULATING SYSTEM

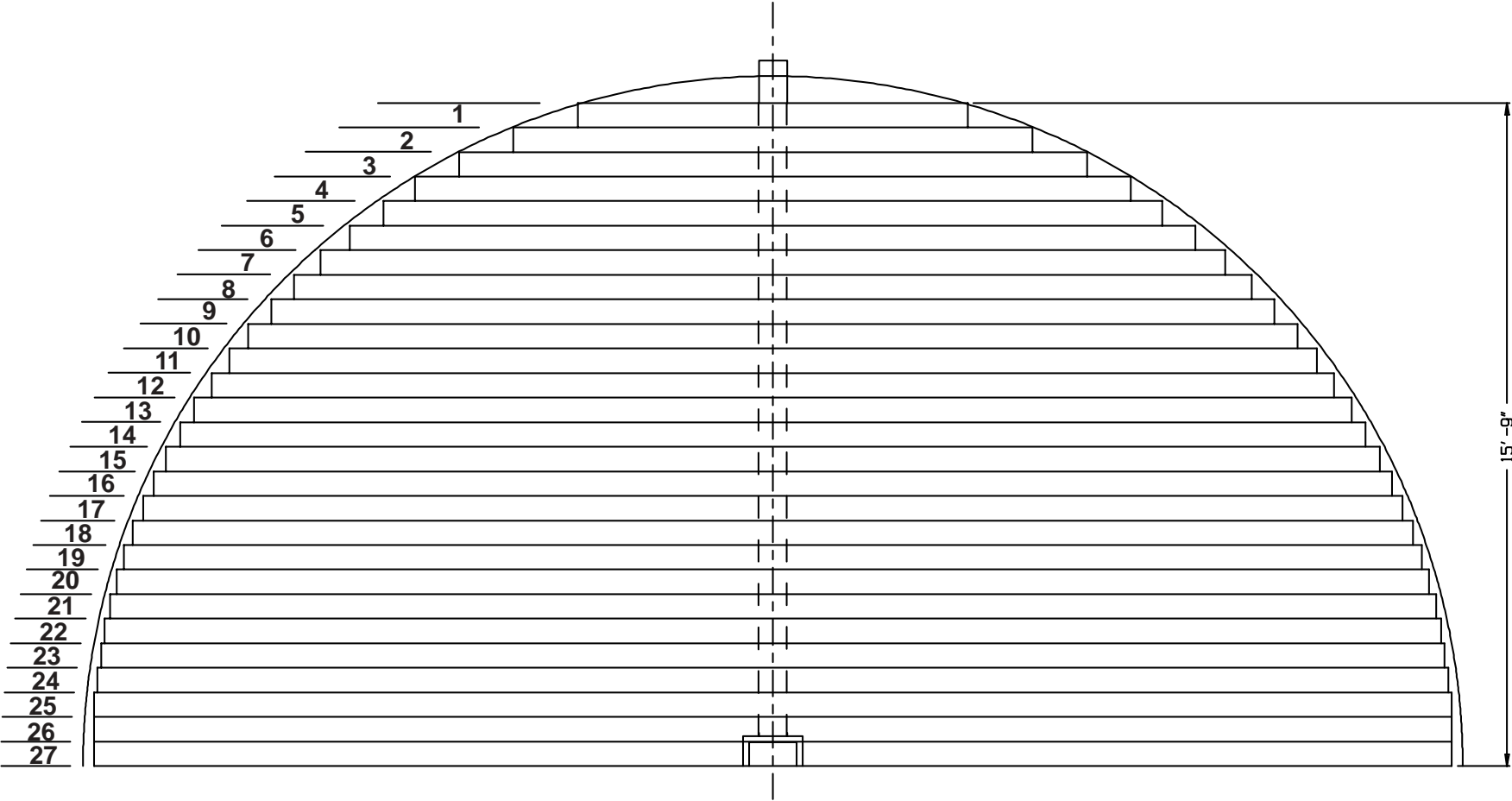


33' CUT-LOK/COR-LOK PLANK ORDER



33' Cor-Lok & Cut-Lok Flooring

.6-.51



33' GRANDSTAND LAYOUT FOR RECIRCULATING SYSTEM

CUT-LOK OR 18 GA. COR-LOK FLOORS

2.66" CORRUGATED BINS 8 RINGS MAX.

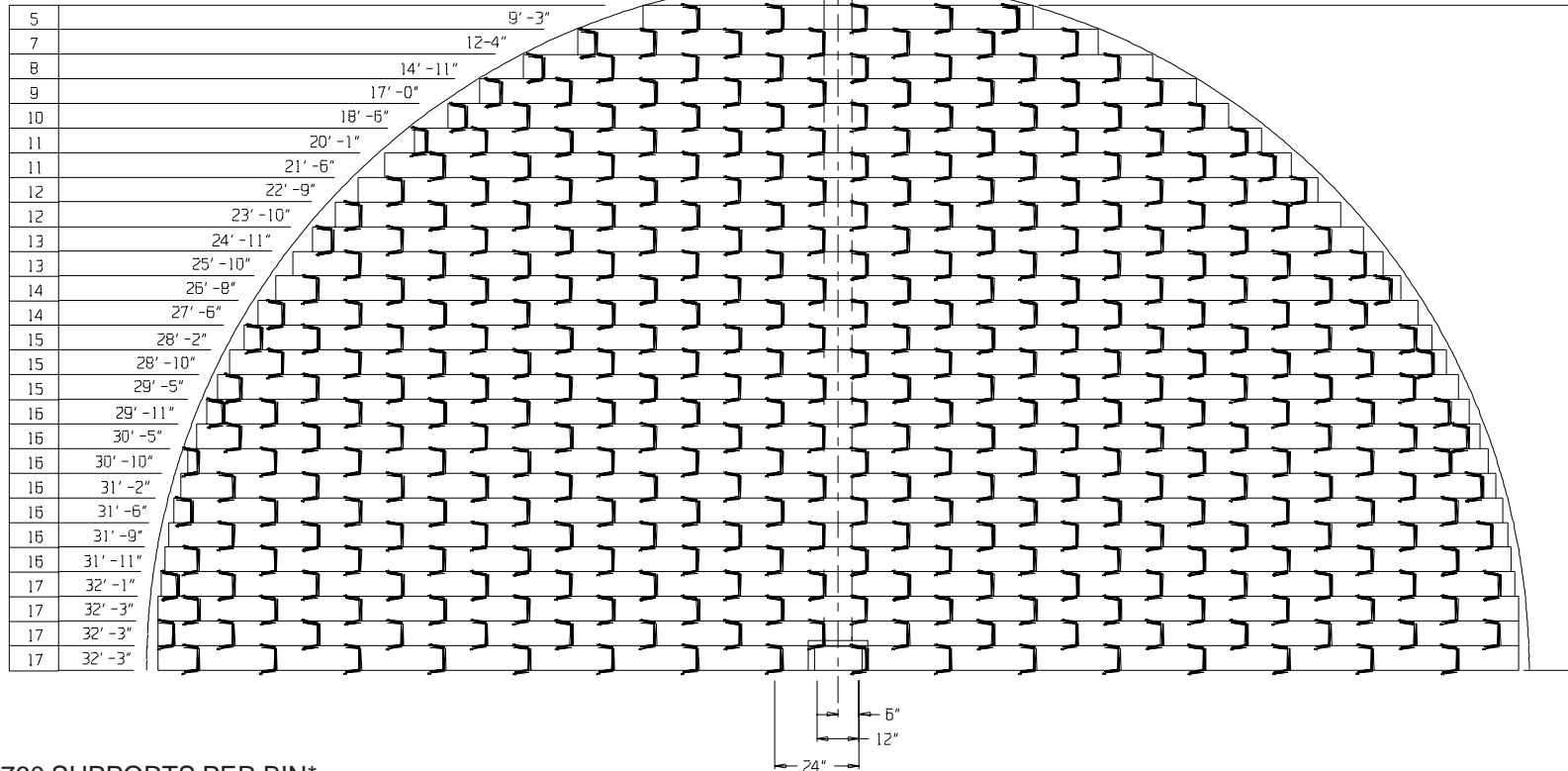
4.00" CORRUGATED BINS 6 RINGS MAX.



33' Cor-Lok & Cut-Lok Flooring

NUMBER OF
GRANDSTANDS
PER FLOOR PIECE

FLOOR LENGTHS



IMPORTANT: FIRST PIECE OF FLOORING MUST START THE PROPER DISTANCE FROM CENTER OF BIN.
FIRST FEW PIECES MAY HAVE TO BE TRIMMED FOR PROPER FIT.

760 SUPPORTS PER BIN*

NOTES: EVERY OTHER ROW TO BE STAGGERED.
UNSUPPORTED ENDS OF FLOOR PIECES NOT TO EXCEED 6 INCHES.
* 10 SUPPORTS PER TANK WERE ADDED FOR CENTER WELL
(SEE CENTER WELL GRANDSTAND LAYOUT ON PAGE 4)

33' COR/CUT-LOK AND GRANDSTAND LAYOUT

2.66" CORRUGATED BINS 5 & 6 RINGS

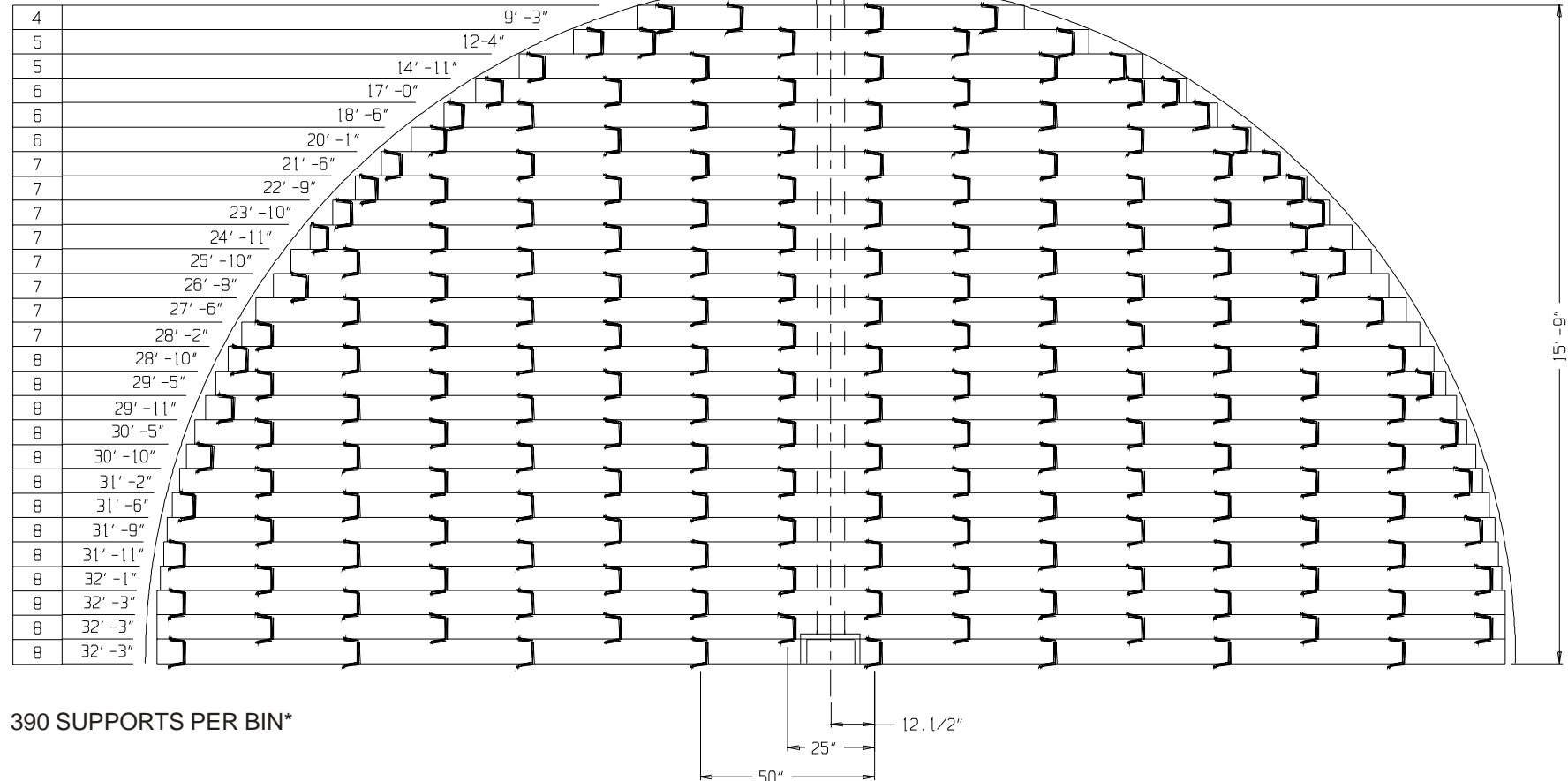
4.00" CORRUGATED BINS 4 RINGS



33' Cor-Lok & Cut-Lok Flooring

NUMBER OF
GRANDSTANDS
PER FLOOR PIECE

FLOOR LENGTHS



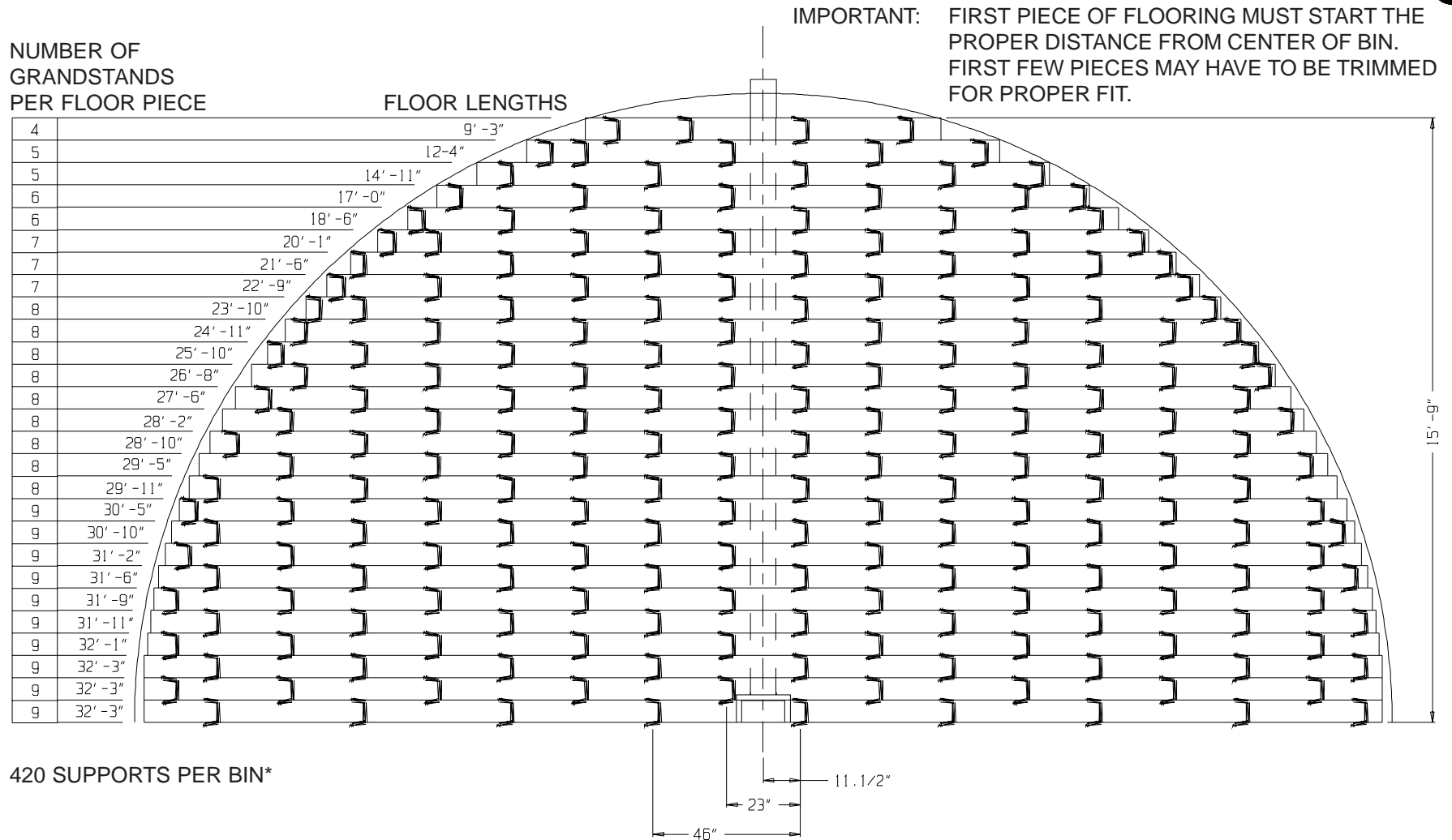
390 SUPPORTS PER BIN*

NOTES: EVERY OTHER ROW TO BE STAGGERED.
UNSUPPORTED ENDS OF FLOOR PIECES NOT TO EXCEED 8 INCHES.
* 2 SUPPORTS PER TANK WERE ADDED FOR CENTER WELL
(NOT SHOWN ON LAYOUTS)

33' COR/CUT-LOK AND GRANDSTAND LAYOUT 2.66" CORRUGATED BINS 7 RINGS 4.00" CORRUGATED BINS 5 RINGS



33' Cor-Lok & Cut-Lok Flooring



NOTES: EVERY OTHER ROW TO BE STAGGERED.
UNSUPPORTED ENDS OF FLOOR PIECES NOT TO EXCEED 8 INCHES.
* 2 SUPPORTS PER TANK WERE ADDED FOR CENTER WELL
(NOT SHOWN ON LAYOUTS)

33' COR/CUT-LOK AND GRANDSTAND LAYOUT 2.66" CORRUGATED BINS 8 RINGS 4.00" CORRUGATED BINS 6 RINGS

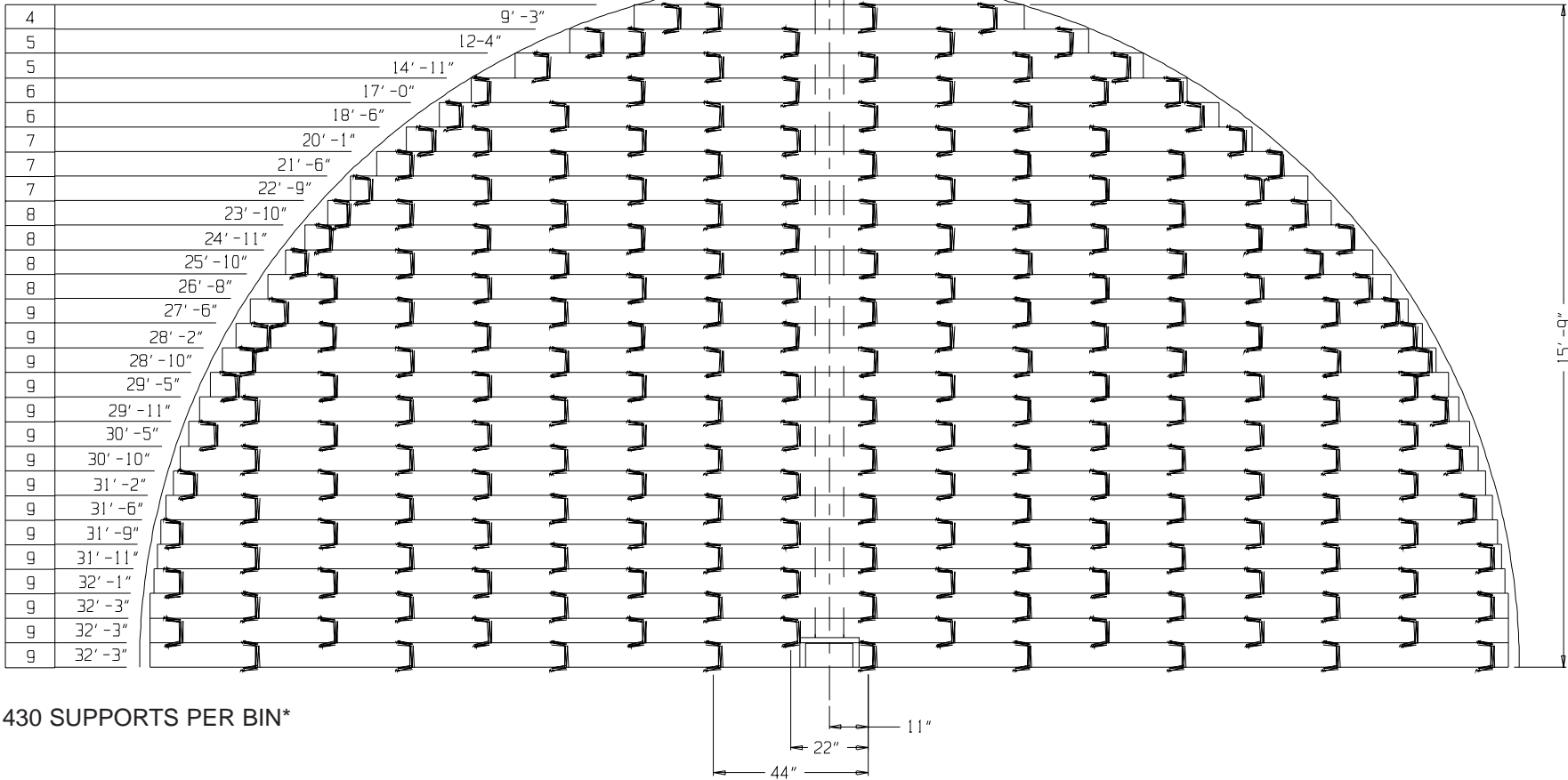


33' Cor-Lok & Cut-Lok Flooring

NUMBER OF
GRANDSTANDS
PER FLOOR PIECE

FLOOR LENGTHS

IMPORTANT: FIRST PIECE OF FLOORING MUST START THE
PROPER DISTANCE FROM CENTER OF BIN.
FIRST FEW PIECES MAY HAVE TO BE TRIMMED
FOR PROPER FIT.



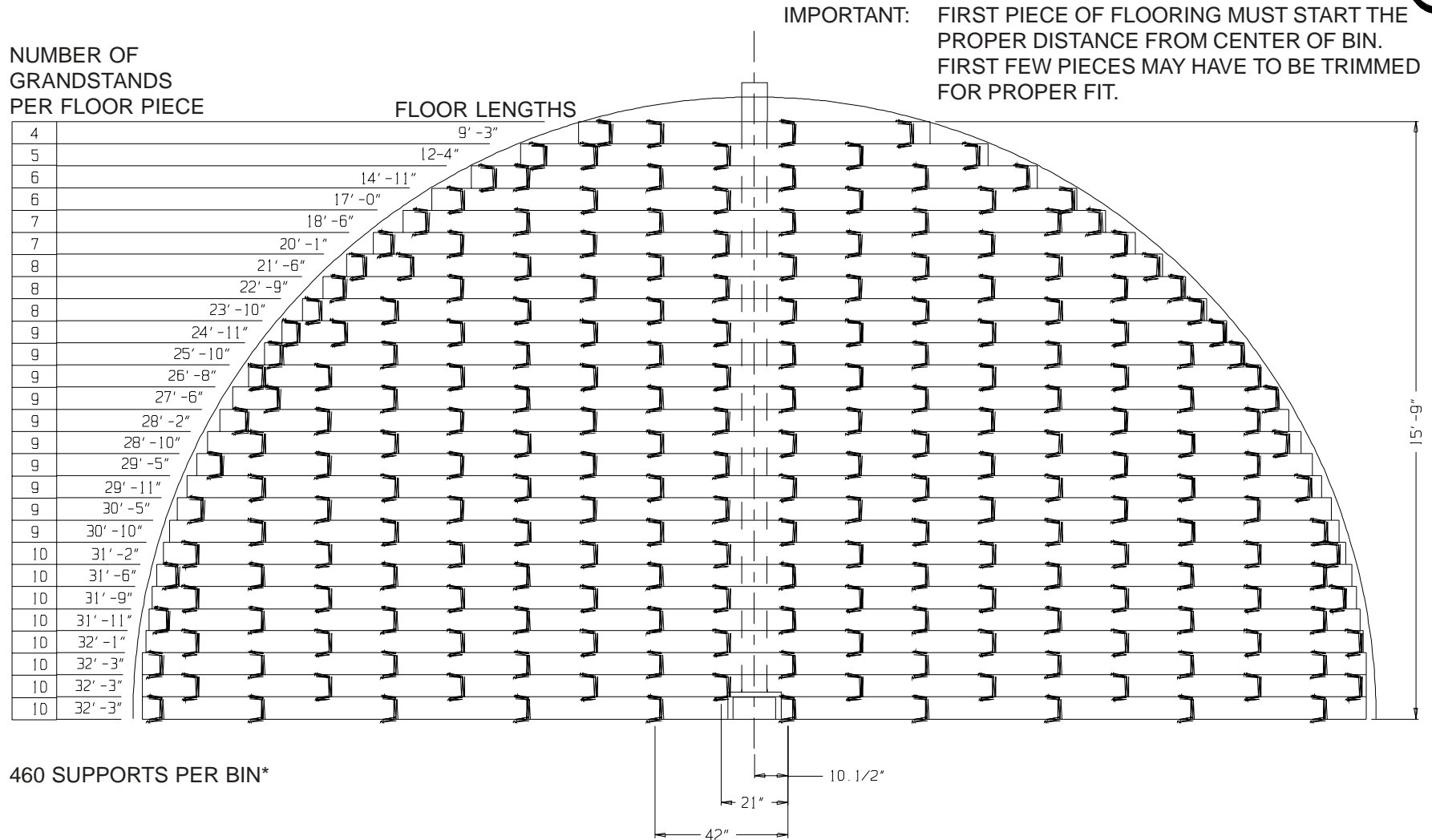
430 SUPPORTS PER BIN*

NOTES: EVERY OTHER ROW TO BE STAGGERED.
UNSUPPORTED ENDS OF FLOOR PIECES NOT TO EXCEED 7 INCHES.
* 2 SUPPORTS PER TANK WERE ADDED FOR CENTER WELL
(NOT SHOWN ON LAYOUTS)

33' COR/CUT-LOK AND GRANDSTAND LAYOUT 2.66" CORRUGATED BINS 9 RINGS



33' Cor-Lok & Cut-Lok Flooring



NOTES: EVERY OTHER ROW TO BE STAGGERED.
UNSUPPORTED ENDS OF FLOOR PIECES NOT TO EXCEED 7 INCHES.
* 2 SUPPORTS PER TANK WERE ADDED FOR CENTER WELL
(NOT SHOWN ON LAYOUTS)

33' COR/CUT-LOK AND GRANDSTAND LAYOUT

2.66" CORRUGATED BINS 10 RINGS

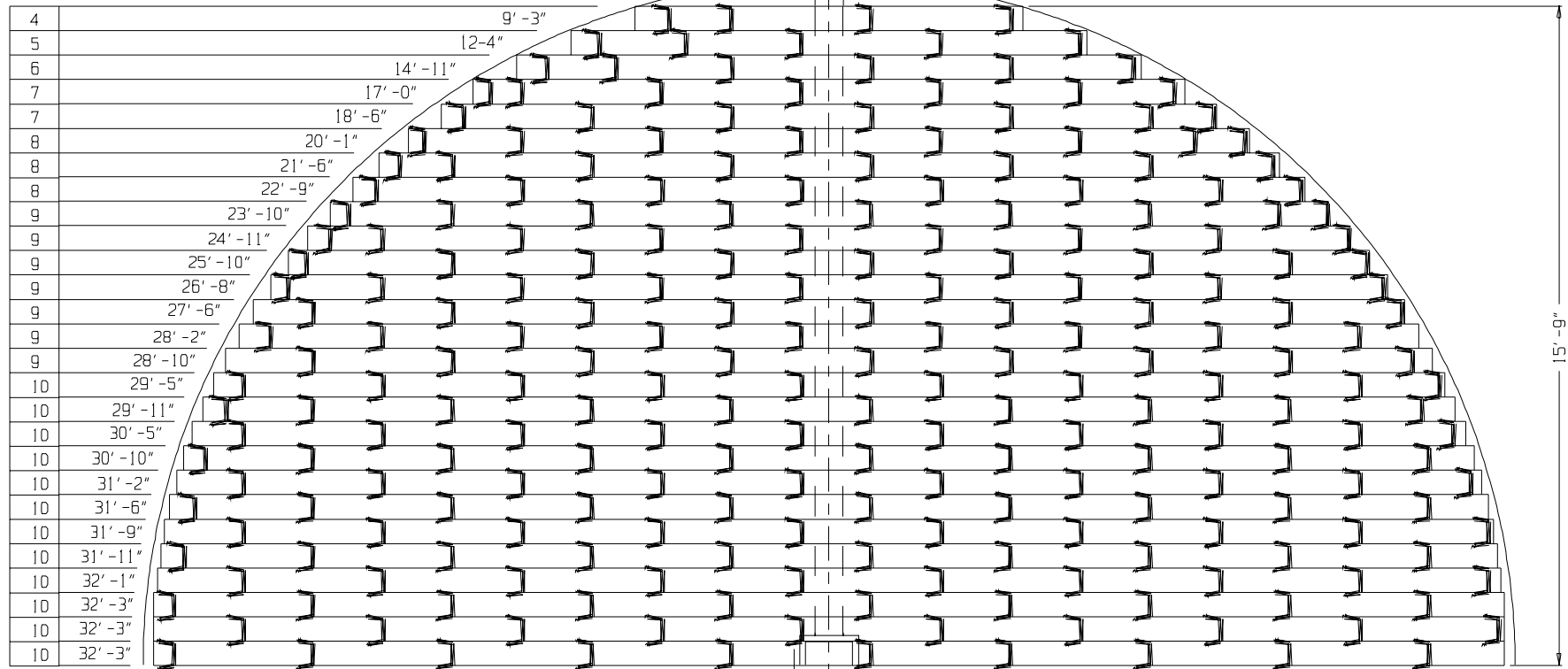
4.00" CORRUGATED BINS 7 RINGS



33' Cor-Lok & Cut-Lok Flooring

NUMBER OF
GRANDSTANDS
PER FLOOR PIECE

FLOOR LENGTHS



IMPORTANT: FIRST PIECE OF FLOORING MUST START THE PROPER DISTANCE FROM CENTER OF BIN. FIRST FEW PIECES MAY HAVE TO BE TRIMMED FOR PROPER FIT.

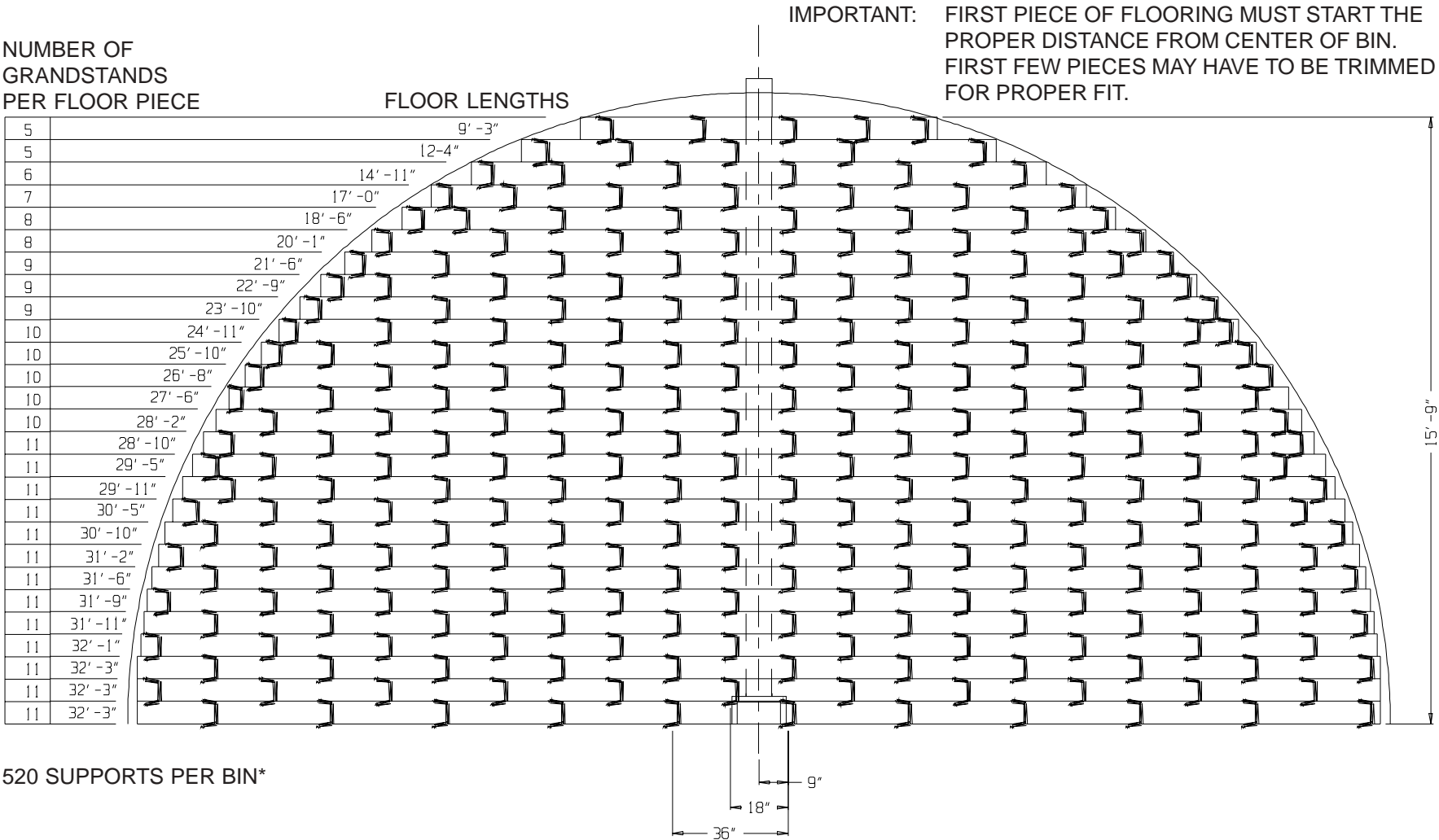
480 SUPPORTS PER BIN*

NOTES: EVERY OTHER ROW TO BE STAGGERED.
UNSUPPORTED ENDS OF FLOOR PIECES NOT TO EXCEED 7 INCHES.
* 2 SUPPORTS PER TANK WERE ADDED FOR CENTER WELL
(NOT SHOWN ON LAYOUTS)

33' COR/CUT-LOK AND GRANDSTAND LAYOUT
2.66" CORRUGATED BINS 11 RINGS
4.00" CORRUGATED BINS 8 RINGS



33' Cor-Lok & Cut-Lok Flooring



NOTES: EVERY OTHER ROW TO BE STAGGERED.
UNSUPPORTED ENDS OF FLOOR PIECES NOT TO EXCEED 6 INCHES.
* 2 SUPPORTS PER TANK WERE ADDED FOR CENTER WELL
(NOT SHOWN ON LAYOUTS)

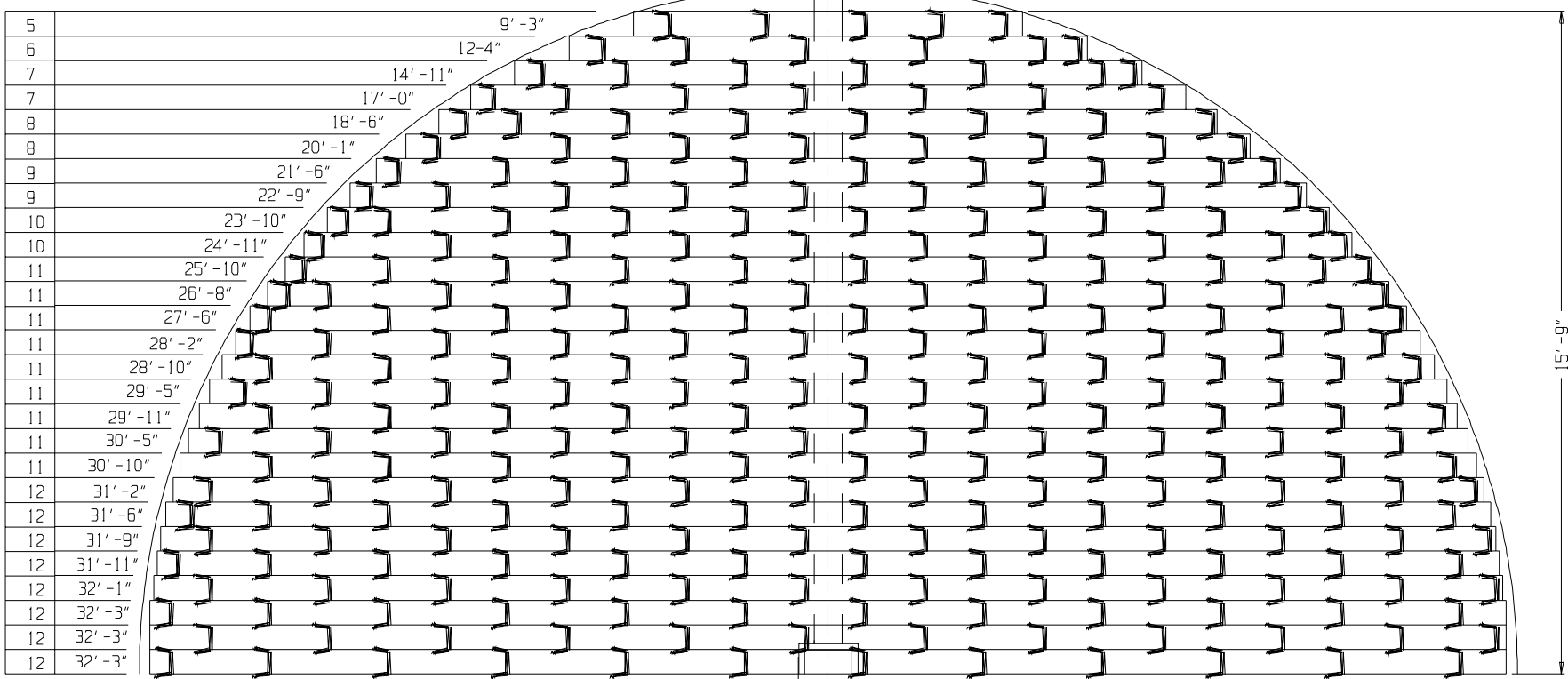
33' COR/CUT-LOK AND GRANDSTAND LAYOUT 2.66" CORRUGATED BINS 12 RINGS 4.00" CORRUGATED BINS 9 RINGS



33' Cor-Lok & Cut-Lok Flooring

NUMBER OF
GRANDSTANDS
PER FLOOR PIECE

FLOOR LENGTHS



IMPORTANT: FIRST PIECE OF FLOORING MUST START THE PROPER DISTANCE FROM CENTER OF BIN.
FIRST FEW PIECES MAY HAVE TO BE TRIMMED FOR PROPER FIT.

550 SUPPORTS PER BIN*

NOTES: EVERY OTHER ROW TO BE STAGGERED.
UNSUPPORTED ENDS OF FLOOR PIECES NOT TO EXCEED 6 INCHES.
* 2 SUPPORTS PER TANK WERE ADDED FOR CENTER WELL
(NOT SHOWN ON LAYOUTS)



FLOOR SUPPORT REQUIREMENTS FOR BINS OVER 33' WALL HEIGHT

FULL FLOOR SUPPORTS REQUIRED FOR PLANK TYPE FLOORING																	
2.66" CORRUGATION																	
Rings	12	15	18	21	24	27	30	33	36	42	48	60	72	75	78	90	105
	ALL FLOOR STYLES OK FOR BIN SIZES IN UPPER SHADED AREA																
3	54/27 60																
4	54/27 60	58/29 80	SUPPORT SPACING SUPPORT QUANTITY						ALL FLOOR STYLES OK FOR BIN SIZES IN UPPER SHADED AREA.								
5	54/27 60	58/29 80	54/27 120	52/26 160	56/28 200	54/27 250	54/27 310	50/25 390	50/25 470	50/25 640	48/24 870	46/23 1380					
6	54/27 60	54/27 90	54/27 120	52/26 160	52/26 210	48/24 270	50/25 330	50/25 390	48/24 490	46/23 690	46/23 910	44/22 1430		Floor styles List In Order of Increasing Strength 20 GA. COR-LOK 18 GA. COR-LOK CUT-LOK			
7	54/27 60	52/26 100	48/24 140	50/25 170	48/24 220	48/24 270	48/24 350	46/23 420	44/22 520	44/22 730	44/22 930	42/21 1480					
8	48/24 70	48/24 100	48/24 140	46/23 180	46/23 230	46/23 280	44/22 360	44/22 430	44/22 520	42/21 750	42/21 980	40/20 1540					
9	48/24 70	48/24 100	42/21 140	42/21 190	44/22 240	44/22 300	42/21 390	42/21 460	40/20 560	40/20 790	40/20 1020	36/18 1700					
10	42/21 80	42/21 110	42/21 140	42/21 190	42/21 250	42/21 310	40/20 400	40/20 480	38/19 600	38/19 820	36/18 1110	34/17 1780					
11	42/21 80	42/21 110	42/21 140	42/21 190	40/20 260	40/20 320	38/19 420	36/18 520	36/18 620	34/17 900	34/17 1160	32/16 1880	18 ga. COR-LOK of CUT-LOK IF DIA. AND NO. OF RINGS IS IN MIDDLE UNSHADED AREA.				
12	38/19 80	40/20 120	40/20 150	40/20 200	38/19 280	38/19 340	36/18 440	34/17 550	34/17 660	32/16 950	32/16 1230	30/15 1990	26/13 3300	26/13 3580	26/13 3870	24/12 5520	22/11 8110
13	38/19 80	38/19 120	38/19 170	36/18 220	36/18 290	36/18 360	34/17 470	32/16 600	32/16 710	30/15 1010	28/14 1390	26/13 2300	24/12 3540	24/12 3840	24/12 4150	22/11 5960	20/10 8820
14	34/17 90	34/17 130	34/17 180	34/17 230	34/17 300	34/17 380	32/16 500	30/15 630	30/15 750	28/14 1070	26/13 1480	24/12 2460	22/11 3820	22/11 4140	22/11 4480	20/10 6480	18/9 9680
15	32/16 100	32/16 140	32/16 190	32/16 250	32/16 320	32/16 400	30/15 520	28/14 670	28/14 790	26/13 1140	24/12 1590	22/11 2650	22/11 3820	20/10 4500	20/10 4870	18/9 7120	16/8 9680
16	30/15 100	30/15 150	30/15 210	30/15 260	28/14 360	28/14 450	28/14 550	26/13 670	26/13 840	24/12 1220	22/11 1710	20/10 2880	20/10 4150	20/10 4500	18/9 5340	18/9 7120	16/8 10760
17	28/14 110	28/14 160	28/14 220	26/13 290	26/13 380	26/13 480	26/13 590	26/13 710	24/12 900	22/11 1320	20/10 1860	20/10 2880	18/9 4550	18/9 4950	18/9 5340	16/8 7910	16/8 10760
18	26/13 110	26/13 170	24/12 240	24/12 310	24/12 400	24/12 510	24/12 630	24/12 760	24/12 900	22/11 1320	20/10 1860	18/9 3170	16/8 5060	16/8 5500	16/8 5940	16/8 7910	14/7 12140
19		24/12 180	24/12 240	22/11 340	22/11 440	22/11 550	22/11 680	22/11 820	22/11 970	20/10 1430	18/9 2040	16/8 3520	16/8 5060	16/8 5500	16/8 5940	14/7 8920	14/7 12140
20		22/11 190	22/11 260	22/11 340	22/11 440	22/11 550	20/10 740	20/10 890	20/10 1060	18/9 1430	16/8 2040	16/8 3520	14/7 5710	14/7 6200	14/7 6710	14/7 8920	12/6 13990
21	CUT-LOK only if Dia. and No. of			20/10 370	20/10 470	20/10 600	20/10 740	20/10 890	20/10 1060	18/9 1570	16/8 2270	14/7 3970	14/7 5710	14/7 6200	14/7 6710	12/6 10280	12/6 13990
22	Rings is in bottom shaded areas.			18/9 400	18/9 520	18/9 660	18/9 810	18/9 970	18/9 1160	18/9 1570	16/8 2270	14/7 3970	12/6 6580	12/6 7140	12/6 7730	12/6 10280	
23				18/9 400	18/9 520	16/8 730	16/8 900	16/8 1080	16/8 1290	16/8 1740	16/8 2270	14/7 3970	12/6 6580	12/6 7140	12/6 7730		
24				16/8 450	16/8 580	16/8 730	16/8 900	16/8 1080	16/8 1290	16/8 1740	14/7 2560	12/6 4570	12/6 6580	12/6 7140			
25				14/7 500	14/7 650	14/7 820	14/7 1010	14/7 1220	14/7 1450	14/7 1960	14/7 2560	12/6 4570	Corrugated floors and Monorail supports are req'd. if dia. and no. of rings is in bottom unshaded areas.				
26						14/7 820	14/7 1010	14/7 1220	14/7 1450	14/7 1960	14/7 2560	12/6 4570					
27						12/6 950	12/6 1160	12/6 1410	12/6 1670	12/6 2260	12/6 2950	12/6 4570					
28						12/6 950	12/6 1160	12/6 1410	12/6 1670	12/6 2260	12/6 2950						
29						12/6 950	12/6 1160	12/6 1410	12/6 1670	SUPPORT SPACING SUPPORT QUANTITY							
30	* When using FL-3102-3 or FL-3102-6 (3",6") Grandstands, increase the listed quantities by 33% (standard quantity x 1.33).																



FLOOR SUPPORT REQUIREMENTS FOR BINS OVER 33' WALL HEIGHT

FULL FLOOR SUPPORTS REQUIRED FOR PLANK TYPE FLOORING 4.00" CORRUGATION												
Rings	12	15	18	21	24	27	30	33	36	42	48	
	ALL FLOOR STYLES OK FOR BIN SIZES IN UPPER SHADED AREA.											All Floor Styles OK For Bin Sizes in Upper Shaded Area. Floor Styles List in order of Increasing Strength 20 GA. COR-LOK 18 GA. COR-LOK CUT-LOK
3	54/27 60	58/29 80	54/27 120	52/26 160	56/28 200	54/27 250	SUPPORT SPACING					
4	54/27 60	54/27 90	54/27 120	52/26 160	52/26 210	48/24 270	50/25 330	50/25 390	50/25 470	46/23 690	48/24 870	
5	54/27 60	52/26 100	48/24 140	50/25 170	48/24 220	48/24 270	48/24 350	46/23 420	44/22 520	46/23 690	44/22 930	
6	48/24 70	48/24 100	48/24 140	46/23 180	46/23 230	44/22 300	44/22 360	44/22 430	44/22 520	42/21 750	42/21 980	
7	42/21 80	42/21 110	42/21 140	42/21 190	42/21 250	42/21 310	42/21 390	40/20 480	40/20 560	38/19 820	38/19 1060	
8	42/21 80	42/21 110	42/21 140	42/21 190	40/20 260	40/20 320	38/19 420	36/18 520	36/18 620	34/17 900	34/17 1160	
9	38/19 80	40/20 120	38/19 170	38/19 220	38/19 280	36/18 350	34/17 470	34/17 550	32/16 690	32/16 950	30/15 1300	
10			34/17 180	34/17 230	34/17 300	34/17 380	32/16 500	32/16 600	30/15 750	30/15 1010	28/14 1390	18 Ga. COR-LOK or s stronger if Dia. and No. of Rings is in middle unshaded area. CUT-LOK only if Dia. and No. of Rings is in bottom shaded area.
11			32/16 190	32/16 250	32/16 320	32/16 400	30/15 520	30/15 630	28/14 790	26/13 1140	24/12 1590	
12			28/14 210	28/14 280	28/14 360	28/14 450	28/14 550	28/14 670	26/13 840	24/12 1220	22/11 1710	

* When using FL-3102-3 or FL-3102-6 (3",6") Grandstand, increase the listed quantities by 33% (std. quantity x 1.33).



STIFFENER FLASHING SUPPORT INSTRUCTIONS FOR INTERNAL UNIVERSAL STIFFENERS

- 1). INSTALL THE FLOOR AND SUPPORT SYSTEM, CUTTING THE FLOOR TO GO AROUND THE INTERNAL STIFFENERS AS REQUIRED.
- 2). BREAK THE STIFFENER FLASHING SUPPORT (SS-6984) INTO IT'S THREE COMPONENTS.
- 3). LAY THE FLASHING SUPPORTS ON TOP OF THE FLOORING AND WELD THE FLASHING SUPPORTS TO THE STIFFENER AS CLOSE AS POSSIBLE. FASTEN THE FLASHING TO THE WALL, FLASHING SUPPORT, AND FLOOR SEAL ALL SPACES BY WELDING OR CAULKING.
- 4). PAINT ALL WELDS WITH GOOD QUALITY ZINC RICH PAINT.
- 5). STIFFENER FLASHING SUPPORTS (SS-6984) MUST BE ORDERED SEPARATELY FROM THE STANDARD FLOOR AND FLASHING.

