

**PNEG-222** 

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



# 48' DIAMETER BINS

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

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

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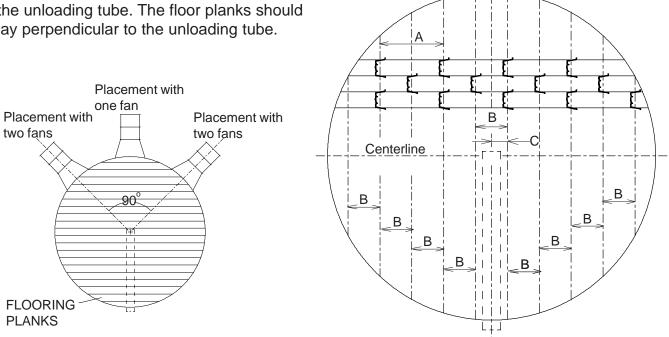
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#### FAN PLACEMENT DIAGRAM

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.

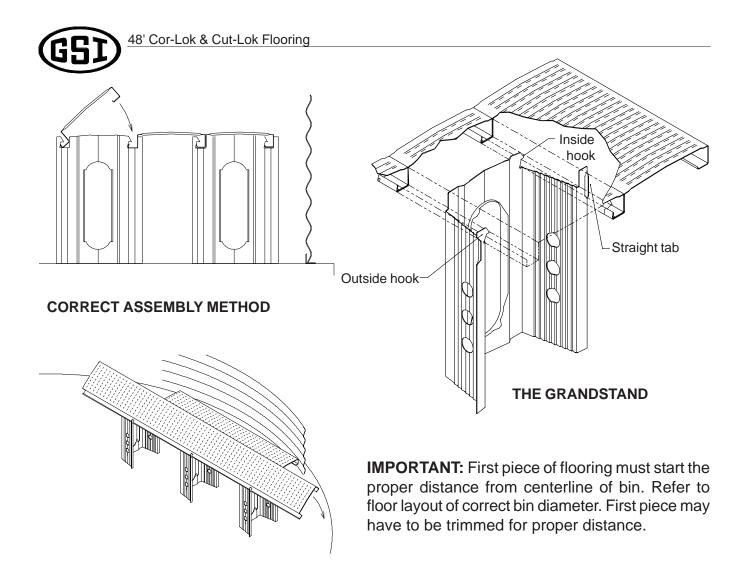


Centerline

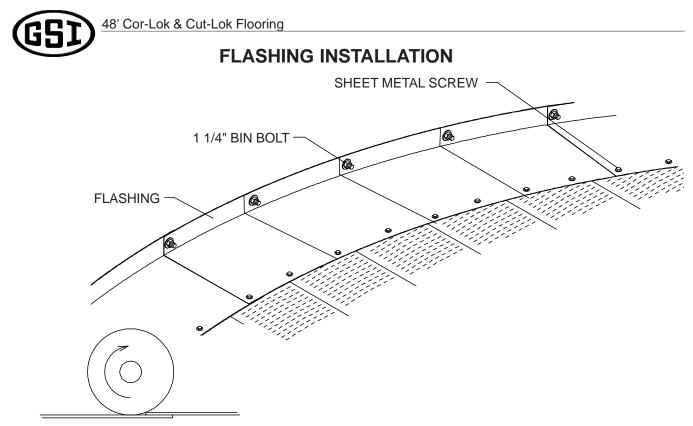
#### GRAIN SYSTEMS RECOMMENDED METHOD FOR FULL FLOOR INSTALLATION

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 #18 & #19.

- 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.



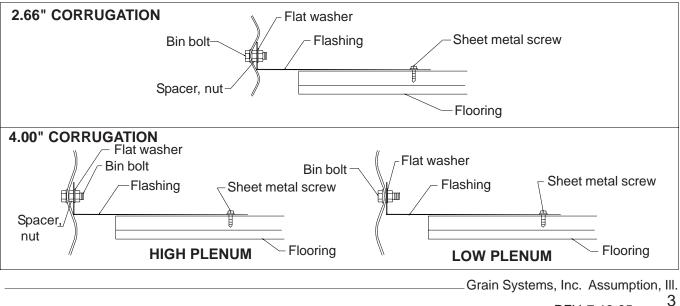
- 5. Start at bin wall with shortest floor piece. **POSITION SUPPORTS FOR THIS PIECE AS SHOWN ON SUPPORT LAYOUT FOR CORRECT BIN DIAMETER AND SUPPORT SPACING.** Be sure flat side of floor piece is facing bin wall and is at designated distance from the wall (The open channel edge of floor must be facing 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.

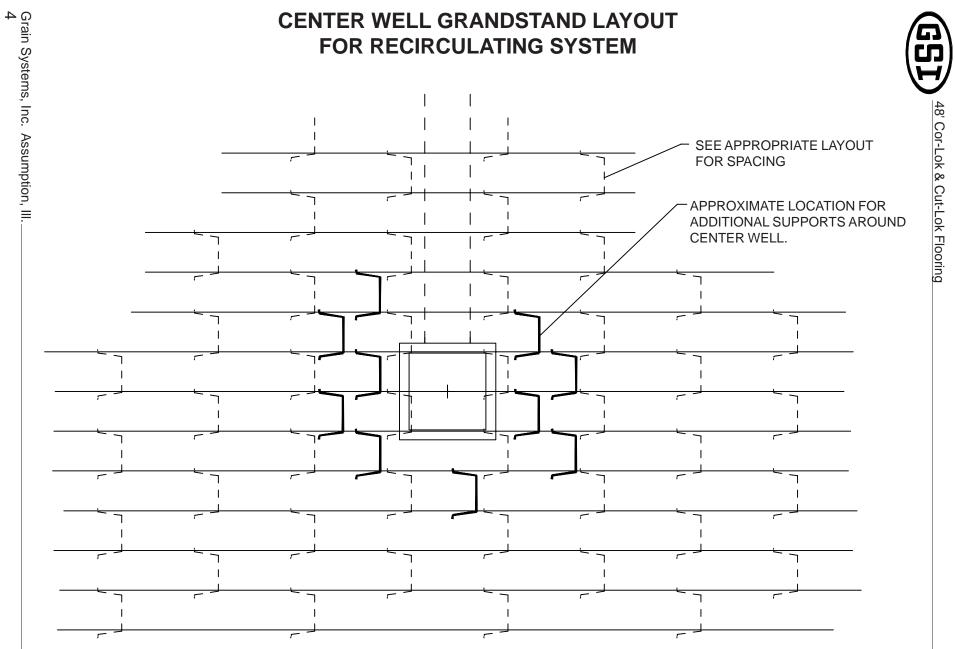


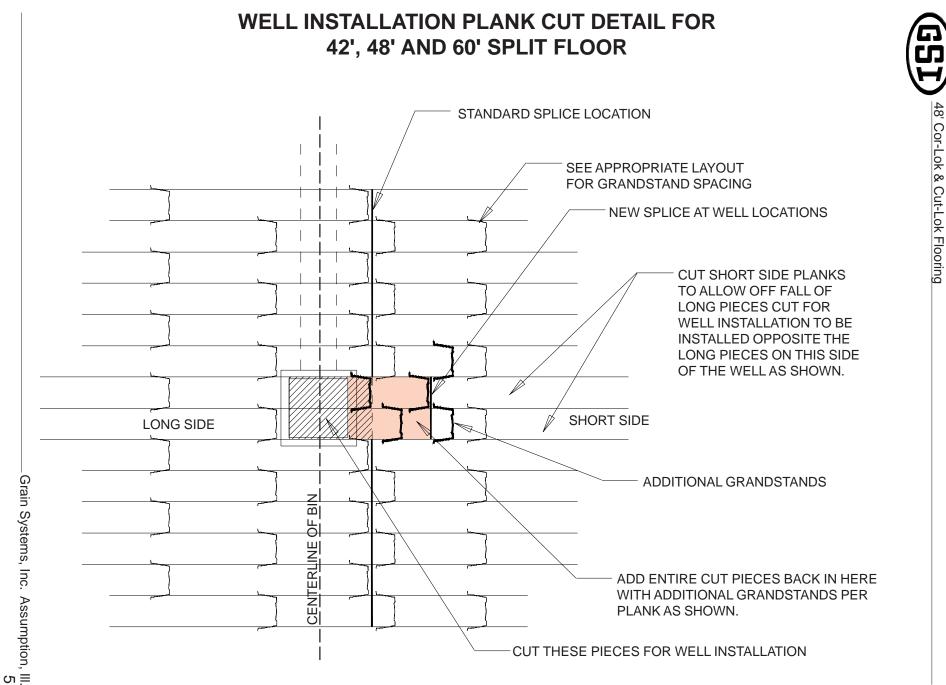
#### **GRAIN SYSTEMS FORMED FLASHING INSTALLATION**

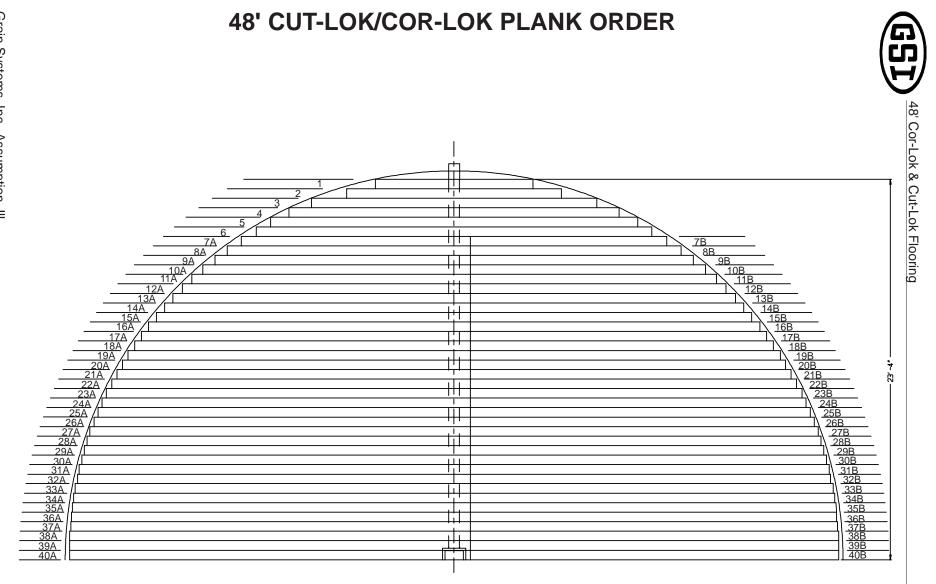
If bin sweep auger is to be used, overlap flashing such that rotation (usually clockwise) of the sweep will climb up on the next flashing section. This will prevent the rotating/slipping outer wheel of the sweep from catching on the flashing edges.

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.









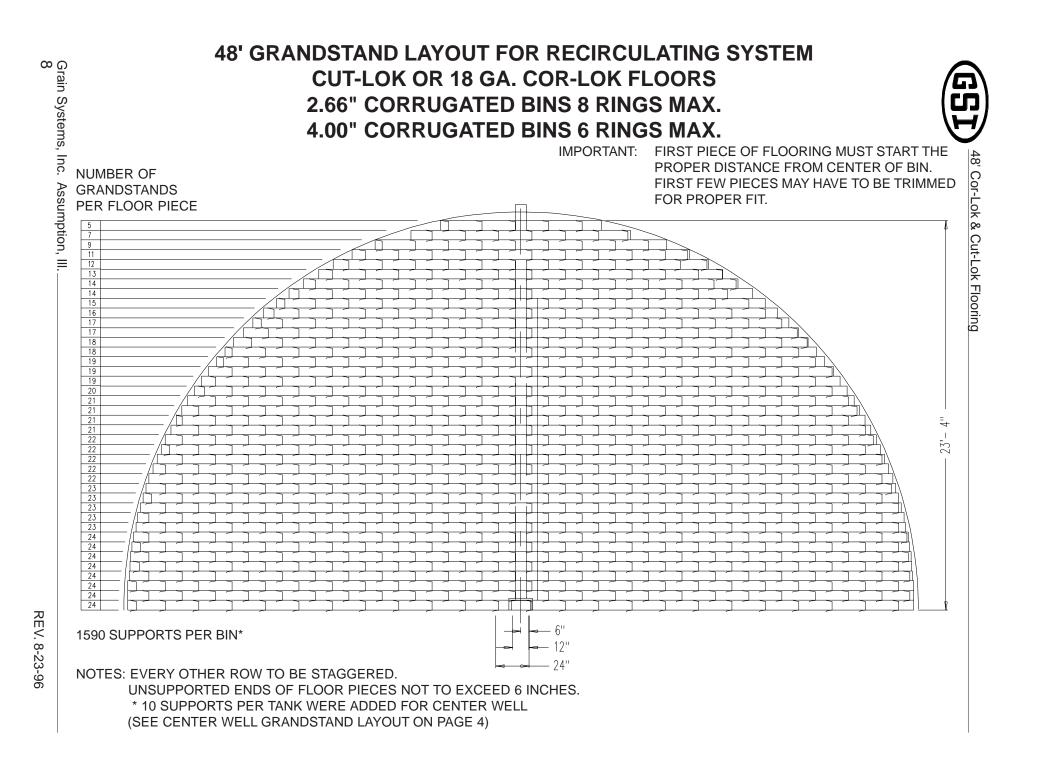
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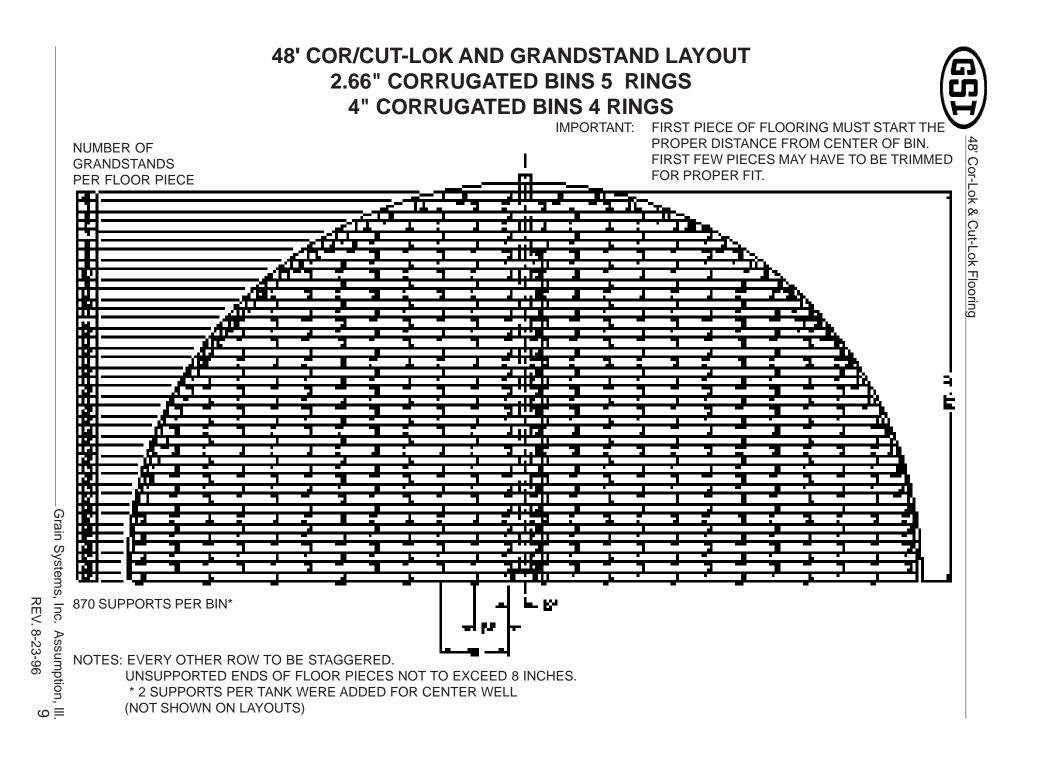
### THE FOLLOWING PLANK LENGTHS START AT THE SIDEWALL AND WORK TOWARDS THE CENTER OF THE BIN. REFERENCE GRANDSTAND LAYOUT PAGES FOR FLOOR DRAWING.

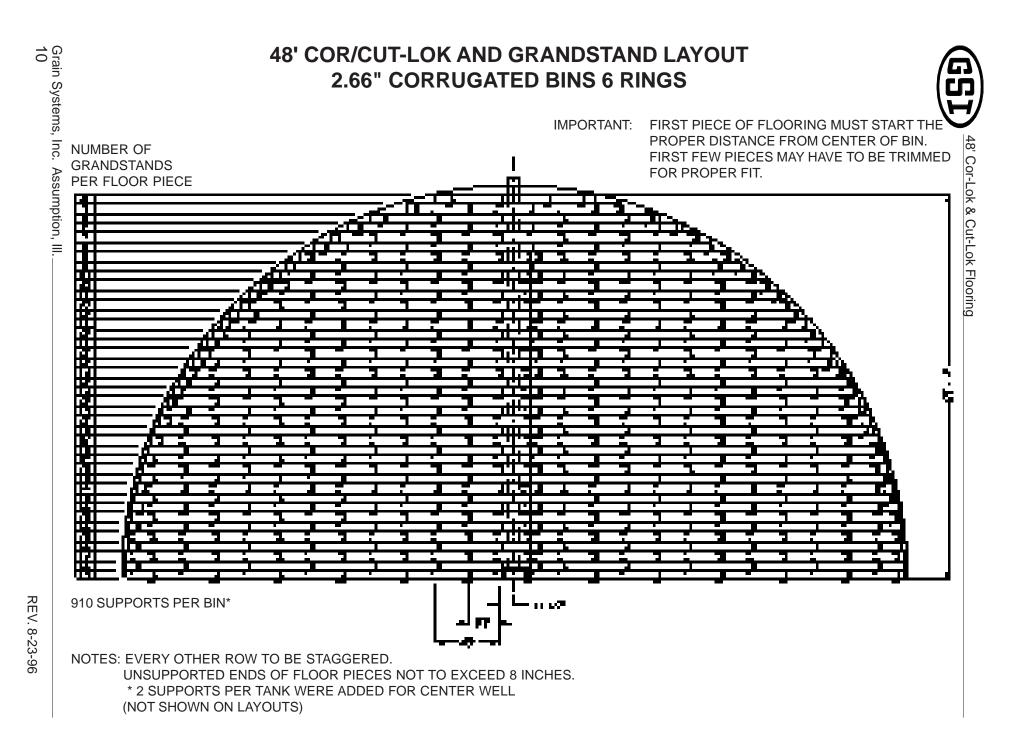
**Revised Plank Lengths as of December 1, 1996** 

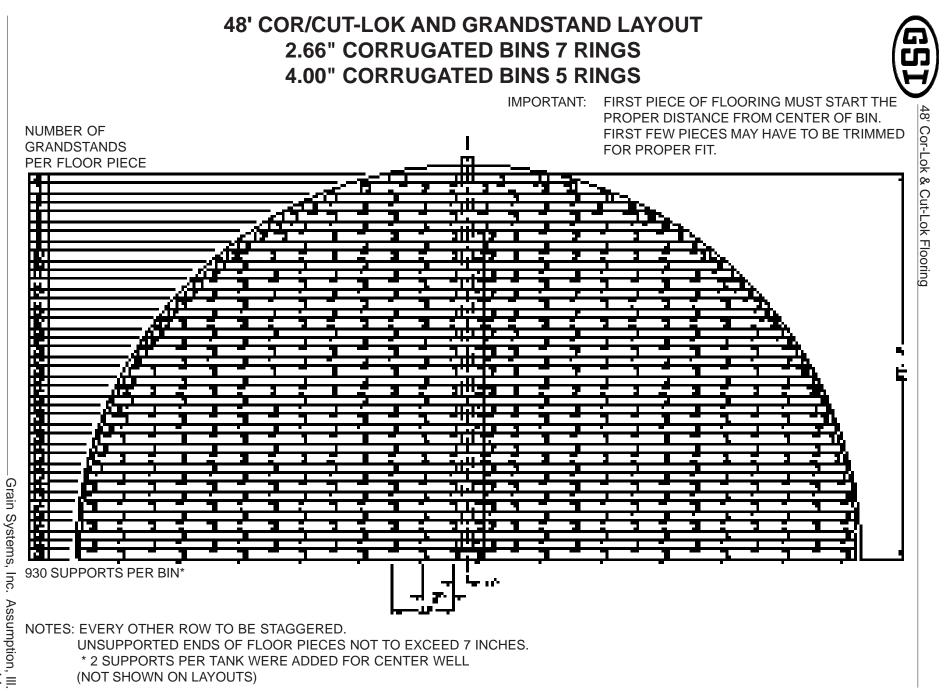
|                            | juis as c | Decem            |
|----------------------------|-----------|------------------|
|                            | 9'-8"     |                  |
|                            | 13'-2"    |                  |
|                            | 17'-6"    |                  |
|                            | 20'-3"    |                  |
|                            | 22'-6"    |                  |
|                            | 24'-3"    |                  |
| 14'-1"                     |           | 12'-0"           |
| 14'-11"                    |           | 12'-11"          |
| 15'-8"                     |           | 13'-8"           |
| 16'-5"                     |           | 14'-5"           |
| 17'-1"                     |           | 15'-1"           |
| 17'-8"                     |           | 15'-8"           |
| 18'-3"                     |           | 16'-3"           |
| 18'-9"                     |           | 16'-9"           |
| 19'-3"                     |           | 17'-3"           |
| 19'-9"                     |           | 17'-9"           |
| 20'-2"                     |           | 18'-2"           |
| 20'-7"                     |           | 18'-7"           |
| 21'-0"                     |           | 19'-0"           |
| 21'-4"                     |           | 19'-4"           |
| 21'-8"                     |           | 19'-8"           |
| 22'-0"                     |           | 20'-0"           |
| 22'-4"                     |           | 20'-4"           |
| 22'-7"                     |           | 20'-7"           |
| 22'-10"                    |           | 20'-10"          |
| 23'-1"                     |           | 21'-1"           |
| 23'-4"                     |           | 21'-4"           |
| 23'-6"                     |           | 21'-6"           |
| 23'-8"                     |           | 21'-8"           |
| 23'-10"                    |           | 21'-10"          |
| 24'-0"                     |           | 22'-0"           |
| 24'-1"                     |           | 22'-1"           |
| 24'-3"<br>24'-4"<br>24'-5" |           | 22'-3"           |
| 24'-4"                     |           | 22'-3"<br>22'-4" |
| 24'-5"                     |           | 22'-5"           |
| 24'-5.1/2"                 |           | 22'-5.1/2"       |
| 24'-6"                     |           | 22'-6"           |
| 24'-7"                     |           | 22'-7"           |
| 24'-7"                     |           | 22'-7"           |
| 24'-7"                     |           | 22'-7"           |
|                            |           |                  |

Grain Systems, Inc. Assumption, III. 7

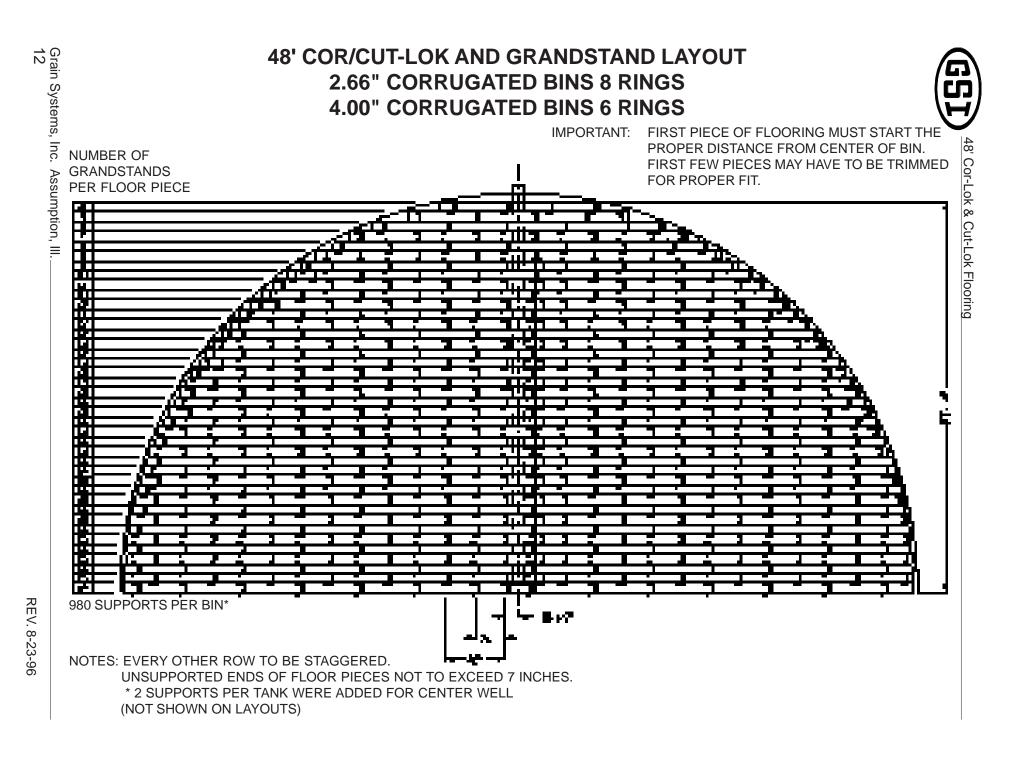


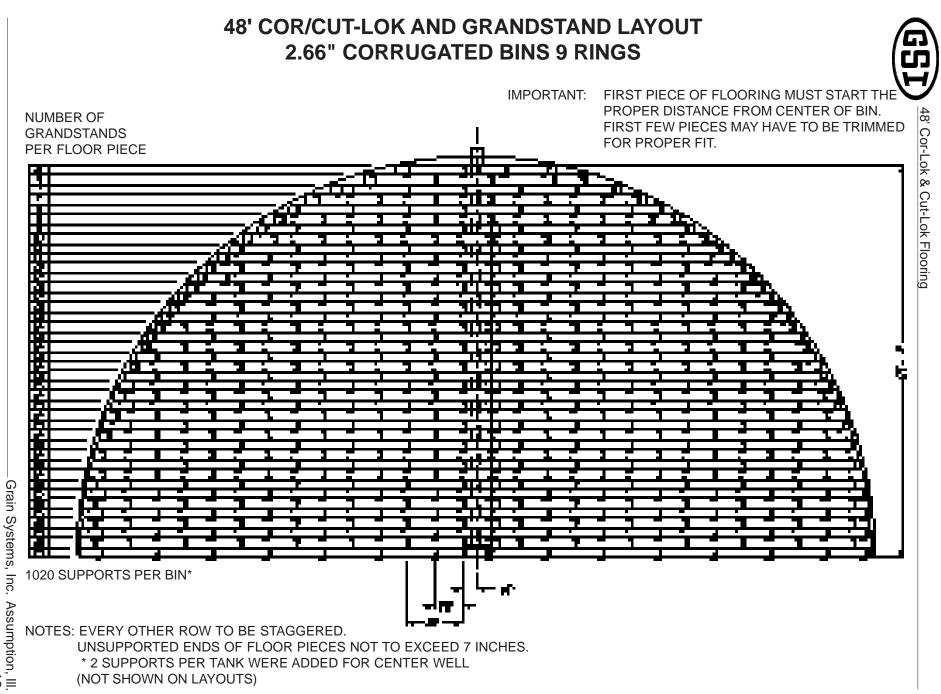




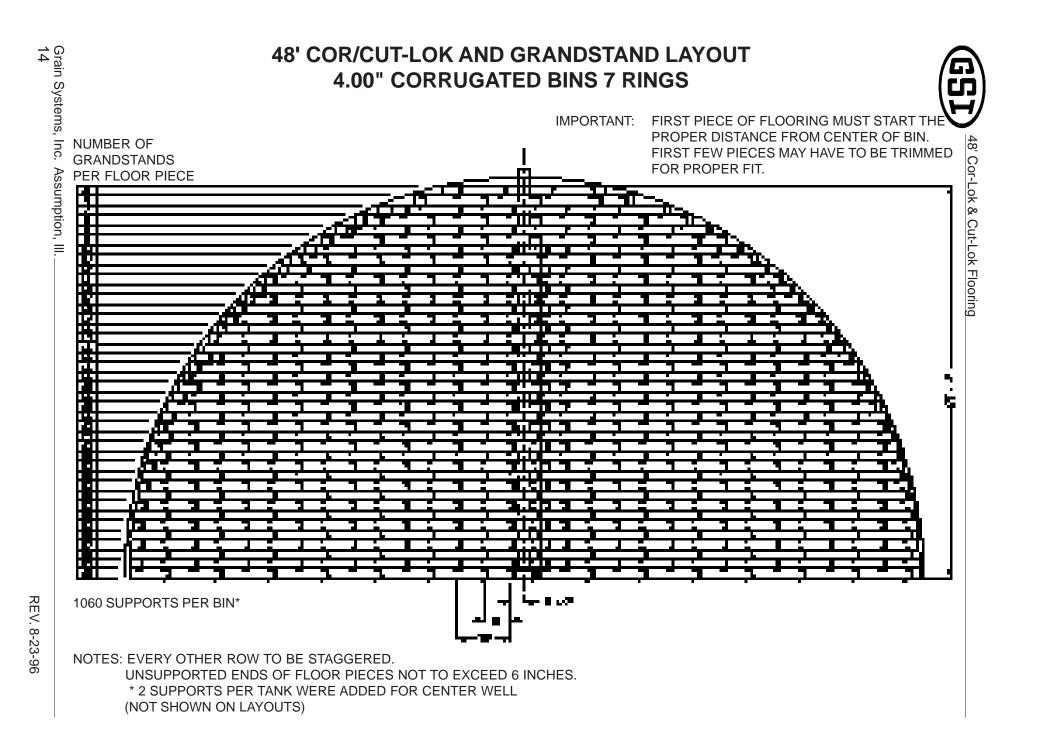


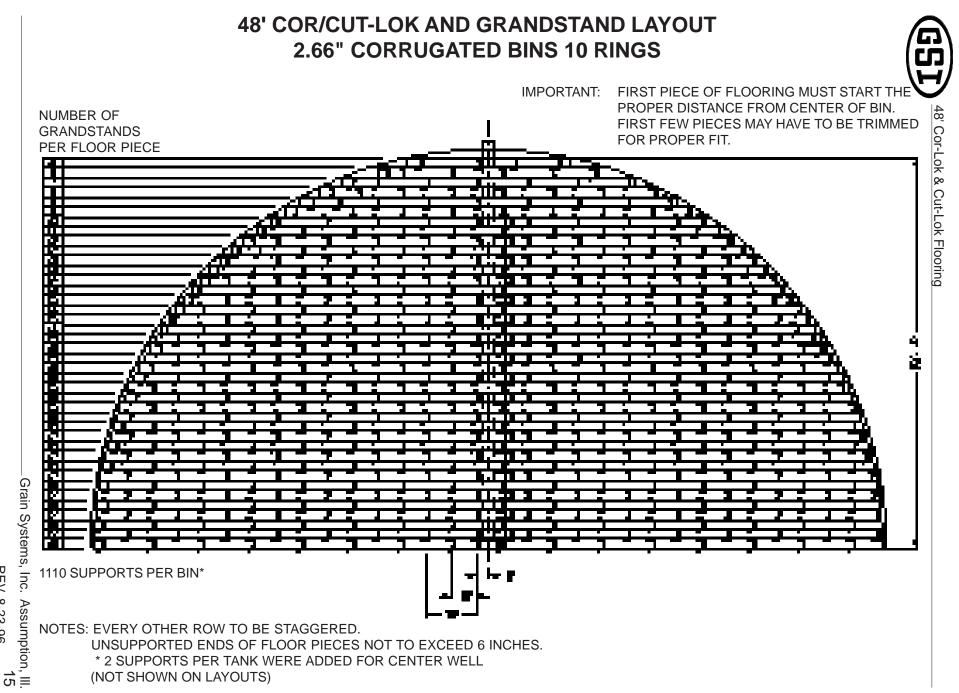
rain Systems, Inc. Assumption, III REV. 8-23-96



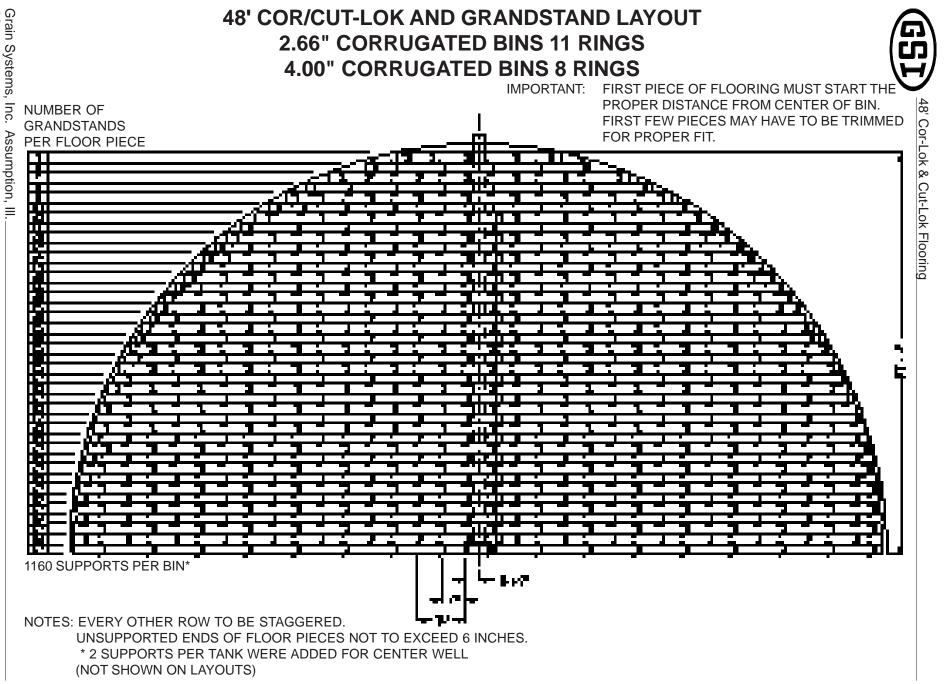


REV. 8-23-96 Assumption, III.

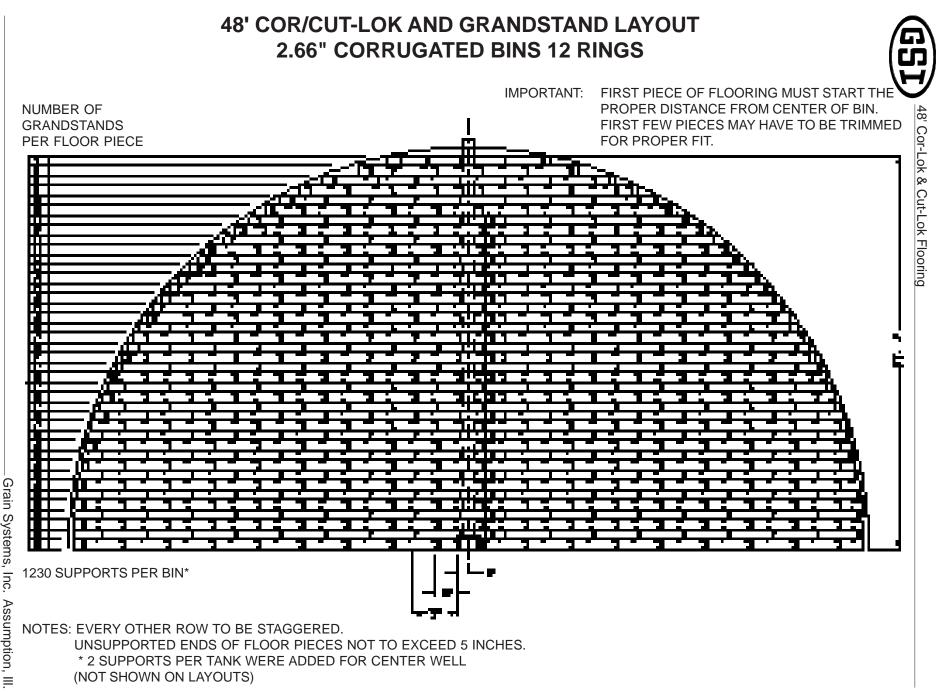




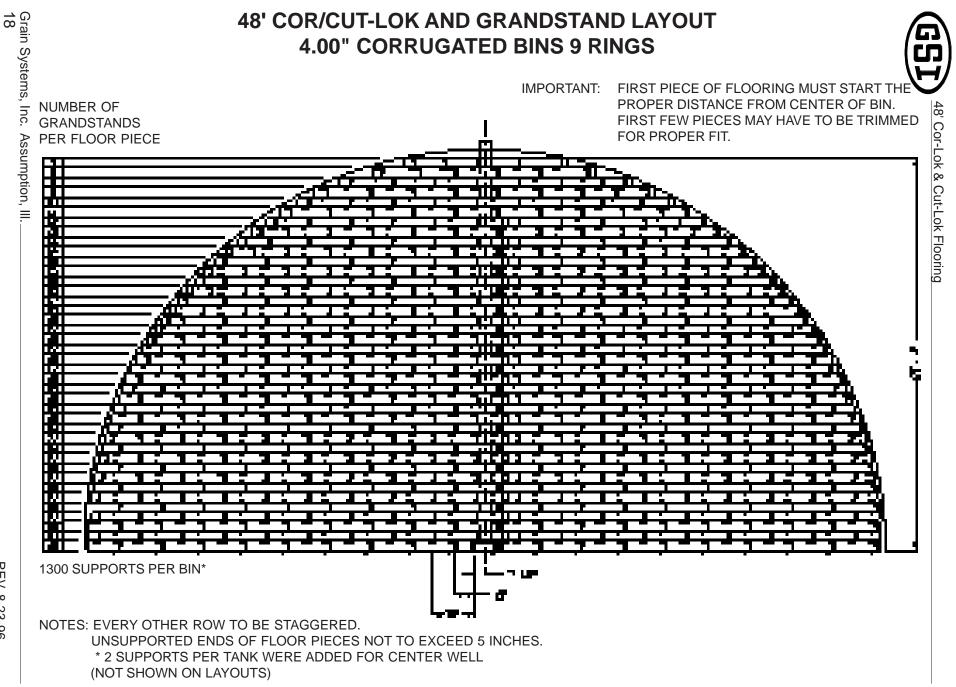
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Grain Systems, 16



Systems, Inc. REV. 8-23-96 Assumption, III.



REV. 8-23-96



### FLOOR SUPPORT REQUIREMENTS FOR BINS OVER 33' WALL HEIGHT

| Rings | 12          | 15           | 18           | 21           | 24           | 27           | 30           | 33           | GATION<br>36  | 42            | 48            | 60            | 72            | 75            | 78               | 90            | 105       |
|-------|-------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|---------------|---------------|---------------|---------------|---------------|---------------|------------------|---------------|-----------|
| lings |             |              | YLES O       |              |              | 21           | 00           | 00           | 00            | 72            | -10           | 00            | 12            | 10            | 70               | 50            | 100       |
|       |             |              | R SHADI      | -            |              |              |              |              |               |               |               |               |               |               |                  |               |           |
| 3     | 54/27       |              |              |              |              |              |              |              |               |               |               |               |               |               |                  |               |           |
|       | 60          |              |              |              |              |              |              |              | ALL FL        | OOR ST        | YLES O        | K FOR E       | SIN SIZE      | S             |                  |               |           |
| 4     | 54/27       |              | SUPPO        | -            |              |              |              |              | IN UPPI       | ER SHAI       | DED ARI       | EA.           |               |               |                  |               |           |
| _     | 60          |              | SUPPO        |              |              |              |              |              |               |               |               |               |               |               |                  |               |           |
| 5     | 54/27       | 58/29        | 54/27        | 52/26        | 56/28        | 54/27        | 54/27        | 50/25        | 50/25         | 50/25         | 48/24         | 46/23         |               |               |                  |               |           |
| 6     | 60          | 80           | 120          | 160          | 200          | 250          | 310          | 390          | 470           | 640           | 870           | 1380          |               |               |                  |               |           |
| 6     | 54/27       | 54/27        | 54/27        | 52/26        | 52/26        | 48/24        | 50/25        | 50/25        | 48/24         | 46/23         | 46/23         | 44/22         |               |               | yles Lis         | t             |           |
| 7     | 60<br>54/27 | 90<br>52/26  | 120<br>48/24 | 160<br>50/25 | 210<br>48/24 | 270<br>48/24 | 330<br>48/24 | 390<br>46/23 | 490<br>44/22  | 690<br>44/22  | 910<br>44/22  | 1430<br>42/21 |               | In Orde       | r of<br>ing Stre | nath          |           |
| '     | 54/27<br>60 | 52/26        | 40/24        | 50/25<br>170 | 46/24        | 40/24        | 40/24        | 40/23        | 44/22<br>520  | 44/22         | 44/22<br>930  | 1480          |               |               | COR-LO           |               |           |
| 8     | 48/24       | 48/24        | 48/24        | 46/23        | 46/23        | 46/23        | 44/22        | 44/22        | 44/22         | 42/21         | 42/21         | 40/20         |               |               | COR-LO           |               |           |
| 0     | 70/24       | 100          | 140          | 180          | 230          | 280          | 360          | 430          | 520           | 750           | 980           | 1540          |               | CUT-LC        |                  |               |           |
| 9     | 48/24       | 48/24        | 42/21        | 42/21        | 44/22        | 44/22        | 42/21        | 42/21        | 40/20         | 40/20         | 40/20         | 36/18         |               |               |                  |               |           |
|       | 70          | 100          | 140          | 190          | 240          | 300          | 390          | 460          | 560           | 790           | 1020          | 1700          |               |               |                  |               |           |
| 10    | 42/21       | 42/21        | 42/21        | 42/21        | 42/21        | 42/21        | 40/20        | 40/20        | 38/19         | 38/19         | 36/18         | 34/17         | 1             |               |                  |               |           |
|       | 80          | 110          | 140          | 190          | 250          | 310          | 400          | 480          | 600           | 820           | 1110          | 1780          |               |               |                  | -LOK IF       |           |
| 11    | 42/21       | 42/21        | 42/21        | 42/21        | 40/20        | 40/20        | 38/19        | 36/18        | 36/18         | 34/17         | 34/17         | 32/16         |               |               |                  | IN MIDD       | LE        |
| 10    | 80          | 110          | 140          | 190          | 260          | 320          | 420          | 520          | 620           | 900           | 1160          | 1880          |               | UNSHAD        |                  |               |           |
| 12    | 38/19       | 40/20        | 40/20        | 40/20        | 38/19        | 38/19        | 36/18        | 34/17        | 34/17         | 32/16         | 32/16         | 30/15         | 26/13         | 26/13         | 26/13            | 24/12         | 22/       |
| 12    | 80          | 120          | 150          | 200          | 280          | 340          | 440          | 550          | 660           | 950           | 1230          | 1990          | 3300          | 3580          | 3870             | 5520          | 81        |
| 13    | 38/19       | 38/19        | 38/19        | 36/18        | 36/18<br>290 | 36/18        | 34/17<br>470 | 32/16<br>600 | 32/16<br>710  | 30/15         | 28/14         | 26/13         | 24/12<br>3540 | 24/12<br>3840 | 24/12<br>4150    | 22/11<br>5960 | 20/       |
| 14    | 80<br>34/17 | 120<br>34/17 | 170<br>34/17 | 220<br>34/17 | 290<br>34/17 | 360<br>34/17 | 32/16        | 30/15        | 30/15         | 1010<br>28/14 | 1390<br>26/13 | 2300<br>24/12 | 22/11         | 22/11         | 4150<br>22/11    | 20/10         | 88<br>18/ |
| 14    | 34/17<br>90 | 130          | 34/17<br>180 | 230          | 34/17        | 34/17        | 500          | 630          | 30/15<br>750  |               | 1480          | 24/12         | 3820          | 4140          | 4480             | 6480          | 96        |
| 15    | 32/16       | 32/16        | 32/16        | 32/16        | 32/16        | 32/16        | 30/15        | 28/14        | 28/14         | 26/13         | 24/12         | 2400          | 22/11         | 20/10         | 20/10            | 18/9          | 18/       |
| 10    | 100         | 140          | 190          | 250          | 320          | 400          | 520          | 670          | 790           | 1140          | 1590          | 2650          | 3820          | 4500          | 4870             | 7120          | 96        |
| 16    | 30/15       | 30/15        | 30/15        | 30/15        | 28/14        | 28/14        | 28/14        | 28/14        | 26/13         | 24/12         | 22/11         | 20/10         | 20/10         | 20/10         | 18/9             | 18/9          | 16/       |
| -     | 100         | 150          | 210          | 260          | 360          | 450          | 550          | 670          | 840           | 1220          | 1710          | 2880          | 4150          | 4500          | 5340             | 7120          | 107       |
| 17    | 28/14       | 28/14        | 28/14        | 26/13        | 26/13        | 26/13        | 26/13        | 26/13        | 24/12         | 22/11         | 20/10         | 20/10         | 18/9          | 18/9          | 18/9             | 16/8          | 16/       |
|       | 110         | 160          | 220          | 290          | 380          | 480          | 590          | 710          | 900           | 1320          | 1860          | 2880          | 4550          | 4950          | 5340             | 7910          | 107       |
| 18    | 26/13       | 26/13        | 24/12        | 24/12        | 24/12        | 24/12        | 24/12        | 24/12        | 24/12         | 22/11         | 20/10         | 18/9          | 16/8          | 16/8          | 16/8             | 16/8          | 14/       |
|       | 110         | 170          | 240          | 310          | 400          | 510          | 630          | 760          | 900           | 1320          | 1860          | 3170          | 5060          | 5500          | 5940             | 7910          | 121       |
| 19    |             | 24/12        | 24/12        | 22/11        | 22/11        | 22/11        | 22/11        | 22/11        | 22/11         | 20/10         | 18/9          | 16/8          | 16/8          | 16/8          | 16/8             | 14/7          | 14/       |
| 00    |             | 180          | 240          | 340          | 440          | 550          | 680          | 820          | 970           | 1430          | 2040          | 3520          | 5060          | 5500          | 5940             | 8920          | 121       |
| 20    |             | 22/11        | 22/11        | 22/11        | 22/11        | 22/11        | 20/10        | 20/10        | 20/10         | 20/10         | 18/9          | 16/8          | 14/7          | 14/7          | 14/7             | 14/7          | 12/       |
| 21    | CUT-LC      | 190          | 260          | 340          | 440          | 550          | 740          | 890          | 1060          | 1430          | 2040          | 3520          | 5710          | 6200          | 6710             | 8920          | 139       |
| 21    | Dia. and    |              | T            | 20/10<br>370 | 20/10<br>470 | 20/10<br>600 | 20/10<br>740 | 20/10<br>890 | 20/10<br>1060 | 18/9<br>1570  | 16/8<br>2270  | 14/7<br>3970  | 14/7<br>5710  | 14/7<br>6200  | 14/7<br>6710     | 12/6<br>10280 | 12<br>139 |
| 22    | Rings is    |              | om           | 18/9         | 470<br>18/9  | 18/9         | 18/9         | 18/9         | 18/9          | 18/9          | 16/8          | 14/7          | 12/6          | 12/6          | 12/6             | 10260         | 100       |
| 22    | shaded      |              | 0111         | 400          | 520          | 660          | 810          | 970          | 1160          | 1570          | 2270          | 3970          | 6580          | 7140          | 7730             | 10280         |           |
| 23    | 0.1.4.0.4   |              |              | 18/9         | 18/9         | 16/8         | 16/8         | 16/8         | 16/8          | 16/8          | 16/8          | 14/7          | 12/6          | 12/6          | 12/6             |               |           |
| -     |             |              |              | 400          | 520          |              | 900          |              |               |               |               | 3970          | 6580          | 7140          | 7730             |               |           |
| 24    |             |              |              | 16/8         | 16/8         | 16/8         | 16/8         | 16/8         | 16/8          | 16/8          | 14/7          | 12/6          | 12/6          | 12/6          |                  |               |           |
|       |             |              |              | 450          | 580          | 730          | 900          | 1080         | 1290          | 1740          | 2560          | 4570          | 6580          | 7140          |                  |               |           |
| 25    |             |              |              | 14/7         | 14/7         | 14/7         | 14/7         | 14/7         | 14/7          | 14/7          | 14/7          | 12/6          |               |               | -                |               |           |
| 00    |             |              |              | 500          | 650          |              | 1010         |              | 1450          |               | 2560          |               | Ŭ,            | ted floors    |                  |               |           |
| 26    |             |              |              |              |              | 14/7         | 14/7         | 14/7         | 14/7          | 14/7          | 14/7          | 12/6          |               | I support     |                  |               |           |
| 27    |             |              |              |              |              | 820          | 1010         | 1220         | 1450          | 1960          | 2560          |               |               | dia. and      |                  | -             |           |
| 27    |             |              |              |              |              | 12/6         | 12/6         | 12/6         | 12/6          | 12/6          | 12/6          | 12/6          | is in bot     | tom unsł      | aded are         | eas.          |           |
| 28    |             |              |              |              |              | 950          | 1160         |              | 1670          | 2260          | 2950          | 4570          | 1             |               |                  |               |           |
| 20    |             |              |              |              |              | 12/6         | 12/6         | 12/6         | 12/6          | 12/6<br>2260  | 12/6          |               |               |               |                  |               |           |
| 29    |             |              |              |              |              | 950<br>12/6  | 1160<br>12/6 | 1410<br>12/6 | 1670<br>12/6  | SUPPO         |               |               |               |               |                  |               |           |
| 20    |             |              |              |              |              | 950          |              |              |               | SUPPO         | -             |               |               |               |                  |               |           |
| 30    | * 14/1      |              | 0400.0       |              | 400.0 (0)    |              |              |              |               | listed qu     |               |               |               |               |                  |               |           |



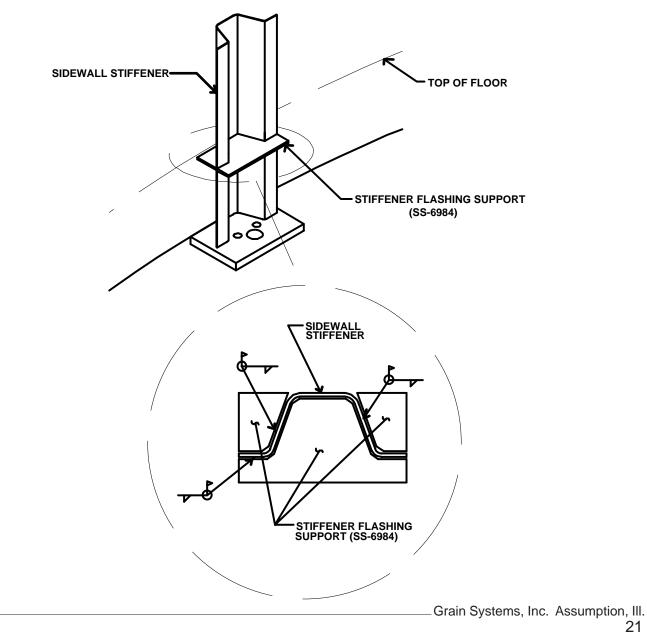
### FLOOR SUPPORT REQUIREMENTS FOR BINS OVER 33' WALL HEIGHT

|       |          |        | FULL FL  | OOR SU |       |         | ED FOR |          | YPE FLC | ORING |       |                          |
|-------|----------|--------|----------|--------|-------|---------|--------|----------|---------|-------|-------|--------------------------|
|       |          |        |          |        | 4.0   | 0" CORF | UGATIO | N        |         |       |       |                          |
| Rings | 12       | 15     | 18       | 21     | 24    | 27      | 30     | 33       | 36      | 42    | 48    |                          |
|       | ALL FLO  | OR STY | LES OK F | OR BIN |       |         |        |          |         |       |       |                          |
|       | SIZES IN | UPPER  | SHADED   | AREA.  |       |         |        |          |         |       |       |                          |
| 3     | 54/27    | 58/29  | 54/27    | 52/26  | 56/28 | 54/27   | SUPPOR | RT SPACI | NG      |       |       |                          |
|       | 60       | 80     | 120      | 160    | 200   |         | SUPPOR |          |         |       |       | All Floor Styles OK      |
| 4     | 54/27    | 54/27  | 54/27    | 52/26  | 52/26 | 48/24   | 50/25  | 50/25    | 50/25   | 46/23 | 48/24 | For Bin Sizes in         |
|       | 60       | 90     | 120      | 160    | 210   | 270     |        | 390      | 470     | 690   |       | Upper Shaded Area.       |
| 5     | 54/27    | 52/26  | 48/24    | 50/25  | 48/24 | 48/24   | 48/24  | 46/23    | 44/22   | 46/23 | 44/22 |                          |
|       | 60       | 100    | 140      | 170    | 220   | 270     |        | 420      | 520     | 690   | 930   | Floor Styles List        |
| 6     | 48/24    | 48/24  | 48/24    | 46/23  | 46/23 | 44/22   | 44/22  | 44/22    | 44/22   | 42/21 | 42/21 | in order of              |
|       | 70       | 100    | 140      | 180    | 230   | 300     |        | 430      | 520     | 750   | 980   | Increasing Strength      |
| 1     | 42/21    | 42/21  | 42/21    | 42/21  | 42/21 | 42/21   | 42/21  | 40/20    | 40/20   | 38/19 | 38/19 | 20 GA. COR-LOK           |
|       | 80       | 110    | 140      | 190    | 250   | 310     |        | 480      | 560     | 820   | 1060  | 18 GA. COR-LOK           |
| 8     | 42/21    | 42/21  | 42/21    | 42/21  | 40/20 | 40/20   | 38/19  | 36/18    | 36/18   | 34/17 | 34/17 | CUT-LOK                  |
|       | 80       | 110    | 140      | 190    | 260   | 320     |        | 520      | 620     | 900   | 1160  |                          |
| 9     | 38/19    | 40/20  | 38/19    | 38/19  | 38/19 | 36/18   | 34/17  | 34/17    | 32/16   | 32/16 |       | 18 Ga. COR-LOK or s      |
| 40    | 80       | 120    | 170      | 220    | 280   | 350     |        | 550      | 690     | 950   |       | stronger if Dia. and No. |
| 10    |          |        | 34/17    | 34/17  | 34/17 | 34/17   | 32/16  | 32/16    | 30/15   | 30/15 |       | of Rings is in middle    |
| 44    |          |        | 180      | 230    | 300   | 380     |        | 600      | 750     | 1010  |       | unshaded area.           |
| 11    |          |        | 32/16    | 32/16  | 32/16 | 32/16   | 30/15  | 30/15    | 28/14   | 26/13 | 24/12 |                          |
| 10    |          |        | 190      | 250    | 320   | 400     |        | 630      | 790     | 1140  |       | CUT-LOK only if Dia.     |
| 12    |          |        | 28/14    | 28/14  | 28/14 | 28/14   | 28/14  | 28/14    | 26/13   | 24/12 |       | and No. of Rings is in   |
|       |          |        | 210      | 280    | 360   | 450     | 550    | 670      | 840     | 1220  | 1710  | bottom shaded area.      |

\* 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

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



### Major Changes from the last printing Are Listed Below:

Revised Format (Added Text Top & Bottom)

Added Cor-Lok/Cut-Lok Plank Order



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