



Packaging Information – MI&E Soft Sided Bundles

Performance Pipe IPS Products Soft-Sided Bundles (20', 40' & 50' Joints)

Size	Bundle Style	Pipe OD	Joints Per Bundle	Bundles Per Truck 20'/40'/50'	Joints Per Truck 20'/40'/50'	DR	Feet Per Truck 20' Joints	Feet Per Truck 40' Joints	Feet Per Truck 50' Joints
3"	Soft	3.500"	54	14 / 7 / NA	756 / 378 / NA	5	15,120'	15,120'	N/A
			54	20 / 10 / NA	1,080 / 540 / NA	7	21,600'	21,600'	N/A
			54	24 / 12 / NA	1,296 / 648 / NA	9	25,920'	25,920'	N/A
			54	28 / 14 / NA	1,512 / 756 / NA	11 – 19	30,240'	30,240'	N/A
4"	Soft	4.500"	32	15 / 7 / 6	480 / 224 / 192	5	9,600'	8,960'	9,600'
			32	21 / 10 / 8	672 / 320 / 256	7	13,440'	12,800'	12,800'
			32	25 / 12 / 10	800 / 384 / 320	9	16,000'	15,360'	16,000'
			32	28 / 14 / 12	896 / 448 / 384	11	17,920'	17,920'	19,200'
			32	28 / 14 / 14	896 / 448 / 448	13.5-19	17,920'	17,920'	22,400'
5"	Soft	5.375"	26	13 / 6 / 5	338 / 156 / 130	5	6,760'	6,240'	6,500'
			26	18 / 9 / 7	468 / 234 / 182	7	9,360'	9,360'	9,100'
			26	22 / 11 / 8	572 / 286 / 208	9	11,440'	11,440'	10,400'
			26	24 / 12 / 10	624 / 312 / 260	11	12,480'	12,480'	13,000'
			26	24 / 12 / 12	624 / 312 / 312	13.5-19	12,480'	12,480'	15,600'
5"	Soft	5.563"	26	12 / 6 / 5	312 / 156 / 130	5	6,240'	6,240'	6,500'
			26	16 / 8 / 6	416 / 208 / 156	7	8,320'	8,320'	7,800'
			26	20 / 10 / 8	520 / 260 / 208	9	10,400'	10,400'	10,400'
			26	24 / 12 / 9	624 / 312 / 234	11	12,480'	12,480'	11,700'
			26	24 / 12 / 11	624 / 312 / 286	13.5	12,480'	12,480'	14,300'
			26	24 / 12 / 12	624 / 312 / 312	17	12,480'	12,480'	15,600'
6"	Soft	6.625"	13	18 / 9 / 7	234 / 117 / 91	5	4,680'	4,680'	4,550'
			13	23 / 11 / 9	299 / 143 / 117	7	5,980'	5,720'	5,850'
			13	28 / 14 / 11	364 / 182 / 143	9	7,280'	7,280'	7,150'
			20	20 / 10 / 9	400 / 200 / 180	11	8,000'	8,000'	9,000'
			20	20 / 10 / 10	400 / 200 / 200	13.5-19	8,000'	8,000'	10,000'
7"	Soft	7.125"	13	15 / 7 / 6	195 / 91 / 78	5	3,900'	3,640'	3,900'
			13	20 / 10 / 8	260 / 130 / 104	7	5,200'	5,200'	5,200'
			13	24 / 12 / 10	312 / 156 / 130	9	6,240'	6,240'	6,500'
			13	24 / 12 / 12	312 / 156 / 156	11-19	6,240'	6,240'	7,800'
8"	Soft	8.625"	9	14 / 7 / 6	126 / 63 / 54	5	2,520'	2,520'	2,700'
			9	20 / 10 / 8	180 / 90 / 72	7	3,600'	3,600'	3,600'
			9	20 / 10 / 10	180 / 90 / 90	9	3,600'	3,600'	4,500'

Note: the joint lengths listed above are the more common lengths. Other less common joint lengths can be shipped on a flatbed as long as all products within a given column is the same joint length and the resulting load can be safely secured with 16 trucker straps or less in alignment with our trucker strap procedures. Joint lengths of 12' to 16' result in three columns of product on the trailer for which 16 straps limit the number of layers to five or less. Joint lengths of 10' or 11' result in four columns of product on the trailer for which 16 straps limit the number of layers to four or less.

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Performance Pipe **DIPS** Products
SOFT-SIDED Bundles
(20', 40' & 50' Joints)

Size	Bundle Style	Pipe OD	Joints Per Bundle	Bundles Per Truck 20'/40'/50'	Joints Per Truck 20'/40'/50'	DR	Feet Per Truck 20' Joints	Feet Per Truck 40' Joints	Feet Per Truck 50' Joints
4"	Soft	4.800"	29	24 / 12 / 9	696 / 348 / 261	9	13,920'	13,920'	13,050'
			29	28 / 14 / 11	812 / 406 / 319	11	16,240'	16,240'	15,950'
			29	28 / 14 / 14	812 / 406 / 406	13.5-21	16,240'	16,240'	20,300'
6"	Soft	6.900"	13	26 / 13 / 10	338 / 169 / 130	9	6,760'	6,760'	6,500'
			20	20 / 10 / 8	400 / 200 / 160	11	8,000'	8,000'	8,000'
			20	20 / 10 / 10	400 / 200 / 200	13.5-21	8,000'	8,000'	10,000'

1. Soft – Sided Style:

A. For encasing all straight lengths between 3.500" OD and 7.125" OD.

1. Soft-Sided bundles utilize lumber only on bottom.
2. Lumber Sizes and Placement:
 - (a) Will be constructed using 2"x 6" bottom boards (Note: 2" x 6" boards actually have a thickness of approximately 1.5", 3"x4" boards are 2.5".) Hardwood or softwood is acceptable. Grooved boards are preferable, but not mandatory as the banding will create a notch in some soft woods securing the banding in place. Plants may use one (1) 3" x 4" for bottom boards for any product line in diameters 3" and 4" to help with pack stability as long as they don't exceed height restrictions.
 - (b) The bottom board length requirements are summarized below.

<u>IPS</u> Pipe Size	Board Thickness	Minimum Length	Maximum Length
3"	Approximately 1.5"	46"	48"
4"	Approximately 1.5"	46"	48"
5" (5.375")	Approximately 1.5"	44"	46"
5" (5.563")	Approximately 1.5"	46"	48"
6"	Approximately 1.5"	40"	44"
7"	Approximately 1.5"	44"	48"
8"	Approximately 1.5"	42"	44"

<u>DIPS</u> Pipe Size	Board Thickness	Minimum Length	Maximum Length
4"	Approximately 1.5"	44"	46"
6"	Approximately 1.5"	44"	46"

- (d) Bottom boards are spaced at three (3) equidistant locations for twenty-foot (20') joints.
- (e) Bottom boards are spaced at six (6) equidistant locations for forty-foot (40') joints.
- (f) Bottom boards are spaced at seven (7) or eight (8) equidistant locations for fifty-foot (50') joints depending on bundling cart and plant.

3. Top Boards

- (a) Top boards may be used to increase the stability of 3" to 8" soft bundles. Top boards are used at manufacturer's discretion or at the customer's request.
- (b) Top boards are placed on each end of the bundle, in line with the end bottom board. (Optional middle top boards are acceptable)
- (c) Top boards may be constructed of 2" X 6" boards. The thickness of the top board should not exceed the thickness of the bottom board. Hardwood or softwood is acceptable.
- (d) The top board length requirements are summarized below (If needed)

IPS Pipe Size	Board Thickness	Minimum Length	Maximum Length
3"	Approximately 1.5"	46"	48"
4"	Approximately 1.5"	46"	48"
5" (5.375")	Approximately 1.5"	44"	46"
5" (5.563")	Approximately 1.5"	46"	48"
6"	Approximately 1.5"	40"	44"
7"	Approximately 1.5"	44"	48"
8"	Approximately 1.5"	42"	44"

DIPS Pipe Size	Board Thickness	Minimum Length	Maximum Length
4"	Approximately 1.5"	44"	46"
6"	Approximately 1.5"	44"	46"

4. Protective Padding:

Protective padding is not required for all non-gas piping series product.

5. Banding:

Each band on a bundle shall be tightened to the same approximate tension.

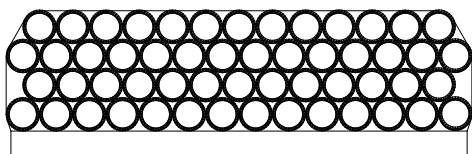
Use at least one (1) 5/8" X .035, (1) 3/4" X .050 polyester banding or (1) 5/8" x .023 steel minimum band per bottom board.

6. Storage:

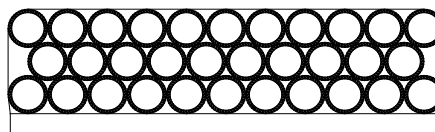
- (a) Soft-side bundles should be aligned. Soft-side bundles must be stacked plumb to prevent leaning. Special care must be taken when staging bundles in storage.

7. Transport:
 - (a) Performance Pipe Transport Strapping Policy establishes minimum requirements regarding the number of trucker straps used by all transportation providers to secure bundles. The policy also contains conditions regarding the tightening of straps after a carrier leaves a Performance Pipe facility.
8. Tarping:
 - (a) All non gas series bundles are subject to smoke tarping upon customer request.
9. End Caps:
 - (a) Place ventilated end caps (or plugs) on all 5100 - 5300 series products or if the customer requests end cap.

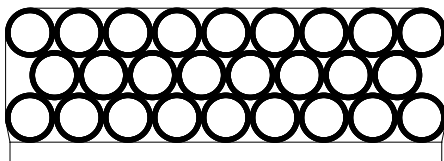
IPS – Soft Sided Bundles (Examples)



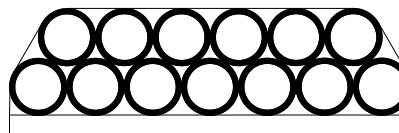
3" IPS
54 Joints Per Bundle



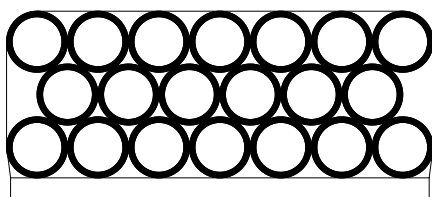
4" IPS
32 Joints Per Bundle



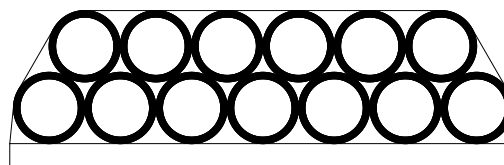
5" IPS
26 Joints Per Bundle



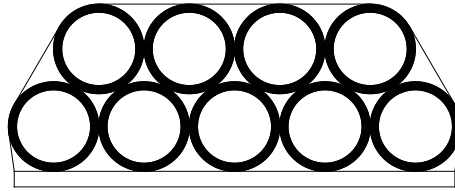
6" IPS (DR 5 - 9)
13 Joints Per Bundle



6" IPS (DR 11-19)
20 Joints Per Bundle

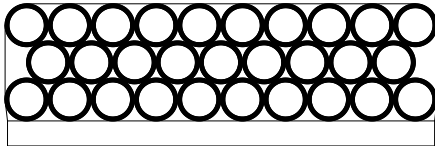


7" IPS
13 Joints Per Bundle

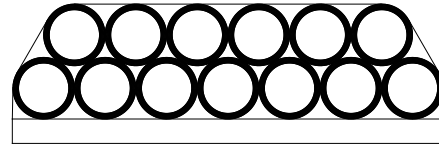


8" IPS (DR 5 – 9.0)
9 joints per bundle

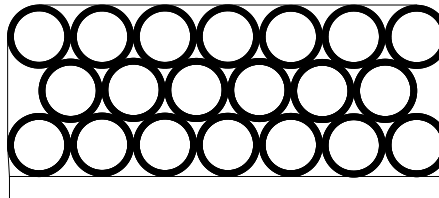
DIPS – Soft Sided Bundles (Examples)



4" DIPS
29 joints Per bundle



6" DIPS (DR 9)
13 joints Per bundle



6" DIPS (DR's 11 – 21)
20 Joints per bundle

Performance Pipe Bundle Packaging Standards
IPS – Soft Sided Bundle Pattern
(20, 40' & 50' Joints)

Size	Pipe OD	Bundle Style	Bundle Height (Note 2)	BTM Board Length (Note 1)	Joints Per Bundle	Bundles Per Truck 20'/40'/50'	Bundle pattern	DR	Feet Per 20' Bundle	Feet Per 40' Bundle	Feet Per 50' Bundle
3"	3.500"	Soft	14.093"	48"	54	14 / 7 / NA	14/13/14/13	5	1,080'	2,160'	N/A
			14.093"	48"	54	20 / 10 / NA	14/13/14/13	7	1,080'	2,160'	N/A
			14.093"	48"	54	24 / 12 / NA	14/13/14/13	9	1,080'	2,160'	N/A
			14.093"	48"	54	28 / 14 / NA	14/13/14/13	11-19	1,080'	2,160'	N/A
4"	4.500"	Soft	13.794"	48"	32	15 / 7 / 6	11/10/11	5	640'	1,280'	1,600'
			13.794"	48"	32	21 / 10 / 8	11/10/11	7	640'	1,280'	1,600'
			13.794"	48"	32	25 / 12 / 10	11/10/11	9	640'	1,280'	1,600'
			13.794"	48"	32	28 / 14 / 12	11/10/11	11	640'	1,280'	1,600'
			13.794"	48"	32	28 / 14 / 14	11/10/11	13.5-19	640'	1,280'	1,600'
5"	5.375"	Soft	16.185"	48"	26	13 / 6 / 5	9/8/9	5	520'	1,040'	1,300'
			16.185"	48"	26	18 / 9 / 7	9/8/9	7	520'	1,040'	1,300'
			16.185"	48"	26	22 / 11 / 8	9/8/9	9	520'	1,040'	1,300'
			16.185"	48"	26	24 / 12 / 10	9/8/9	11	520'	1,040'	1,300'
			16.185"	48"	26	24 / 12 / 12	9/8/9	13.5-19	520'	1,040'	1,300'
5"	5.563"	Soft	16.699"	48"	26	12 / 6 / 5	9/8/9	5	520'	1,040'	1,300'
			16.699"	48"	26	16 / 8 / 6	9/8/9	7	520'	1,040'	1,300'
			16.699"	48"	26	20 / 10 / 8	9/8/9	9	520'	1,040'	1,300'
			16.699"	48"	26	24 / 12 / 9	9/8/9	11	520'	1,040'	1,300'
			16.699"	48"	26	24 / 12 / 11	9/8/9	13.5	520'	1,040'	1,300'
			16.699"	48"	26	24 / 12 / 12	9/8/9	17-19	520'	1,040'	1,300'
6"	6.625"	Soft	13.862"	42"	13	18 / 9 / 7	7/6	5	260'	520'	650'
			13.862"	42"	13	23 / 11 / 9	7/6	7	260'	520'	650'
			13.862"	42"	13	28 / 14 / 11	7/6	9	260'	520'	650'
			19.599"	42"	20	20 / 10 / 9	7/6/7	11	400'	800'	1,000'
			19.599"	42"	20	20 / 10 / 10	7/6/7	13.5-19	400'	800'	1,000'
7"	7.125"	Soft	14.795"	48"	13	15 / 7 / 6	7/6	5	260'	520'	650'
			14.795"	48"	13	20 / 10 / 8	7/6	7	260'	520'	650'
			14.795"	48"	13	24 / 12 / 11	7/6	9	260'	520'	650'
			14.795"	48"	13	24 / 12 / 12	7/6	11-19	260'	520'	650'
8"	8.625"	Soft	18.594"	42"	9	14 / 7 / 6	5/4	5	180'	360'	450'
			18.594"	42"	9	20 / 10 / 8	5/4	7	180'	360'	450'
			18.594"	42"	9	20 / 10 / 10	5/4	9	180'	360'	450'

Note 1 : Figure is also the top board length if one is required.

Note 2 : Bundle height determine using 1 1/2" thick boards.

Performance Pipe Bundle Packaging Standards
DIPS – Soft Bundle Patterns
(20', 40' & 50' Joints)

Size	Pipe OD	Bundle Style	Bundle Height (Note 2)	BTM Board Length (Note 1)	Side Board Length	Joints Per Bundle	Bundles per Truck 20'/40'/50'	Bundle Pattern	DR	Feet Per 20' Bundle	Feet Per 40' Bundle	Feet Per 50' Bundle
4"	4.800"	Soft	14.614"	46"	N/A	29	24 / 12 / 9	10/9/10	9	580'	1,160'	1,450'
			14.614"	46"	N/A	29	28 / 14 / 11	10/9/10	11	580'	1,160'	1,450'
			14.614"	46"	N/A	29	28 / 14 / 14	10/9/10	13.5	580'	1,160'	1,450'
6"	6.900"	Soft	14.375"	46"	N/A	13'	26 / 13 / 10	7/6	9	260'	520'	650'
			20.360"	46"	N/A	20'	20 / 10 / 8	7/6/7	11	400'	800'	1,000'
			20.360"	46"	N/A	20'	20 / 10 / 10	7/6/7	13.5-21	400'	800'	1,000'

Note 1 : Figure is also top board length if one is required.

Note 2 : Bundle height determine using 1 1/2" boards.