

## Packaging Information – IPS-DIPS Strip Loads with Chocks

### PERFORMANCE PIPE IPS PRODUCTS - STRIP LOADS W / CHOCKS

SIZE	TYPE	PIPE OD	LAYER PER TRUCK 40' / 50' / 53'	JOINTS PER LAYER	JOINTS PER TRUCK 40' / 50' / 53'	DR	FEET PER TRUCK 40'	FEET PER TRUCK 50'	FEET PER TRUCK 53'
18" (Note 1)	IPS	18"	4 / 4 / 3	5 / 5* / 5	20 / 17 / 15	7	800'	850' #	795'
			5 / 4 / 3	5* / 5* / 5	22 / 17 / 15	7.3	880' #	850'	795'
			5 / 4 / 4	5	25 / 20 / 20	9	1,000'	1,000'	1,060' #
			5	5 / 5 / 5*	25 / 25 / 23	11	1,000'	1,250' #	1,219'
			5	5 / 5 / 5*	25	13.5 – 41	1,000'	1,250'	1,325'
20"	IPS	20"	4 / 3 / 3	5* / 5* / 5*	17 / 13 / 13	7	680' #	650'	689' #
			4 / 3 / 3	5* / 5* / 5*	18 / 13 / 13	7.3	720' #	650'	689'
			4 / 4 / 3	5 / 5* / 5	20 / 17 / 15	9	800'	850' #	795'
			4	5 / 5 / 5*	20 / 20 / 18	11	800'	1,000' #	954'
			4	5	20	13.5 – 41	800'	1,000'	1,060'
22"	IPS	22"	4 / 3 / 3	4 / 4* / 4*	12 / 10 / 10	7	480'	550'	530'
			4 / 3 / 3	4 / 4* / 4*	14 / 11 / 11	7.3	560'	550'	583' #
			4 / 4 / 3	4 / 4* / 4	16 / 14 / 12	9	640'	700' #	636'
			4	4	16 / 16 / 16	11	640'	800'	848' #
			4	4	16	11 – 41	640'	800'	848'
24" (Note 1)	IPS	24"	3 / 2 / 2	4	12 / 8 / 8	7	480' #	400'	424'
			3 / 2 / 2	4 / 4* / 4	12 / 10 / 8	7.3	480'	500' #	424'
			4 / 3 / 3	4	14 / 12 / 11	9	560'	600' #	583'
			4 / 4 / 3	4	16 / 14 / 12	11	640'	700' #	636'
			4	4	16	13.5	640'	800'	848' #
			4	4	16	15.5 – 41	640'	800'	848'
26"	IPS	26"	3	3	9	9 - 41	360'	450'	477'
28"	IPS	28"	3 / 2 / 2	3* / 3 / 3	8 / 6 / 6	7	320'	300'	318'
			3	3 / 3* / 3*	9 / 8 / 8	9	360'	450' #	424' #
			3	3	9	11 - 41	360'	450'	477'
30"	IPS	30"	2 / 2 / 2	3	6 / 6 / 6	7.3	240'	300'	318' #
			3 / 2 / 2	3	9 / 6 / 6	9	360'	300'	318'
			3	3	9 / 9 / 8	11	360'	450' #	424'
			3	3	9	13.5 - 41	360'	450'	477'
32" (Note 1)	IPS	32"	3 / 2 / 2	3	8 / 6 / 6	9	320'	300'	318'
			3 / 3 / 2	3	9 / 8 / 6	11	360'	400' #	318'
			3	3	9	13.5	360'	450'	477' #
			3	3	9	15.5 - 41	360'	450'	477'
34"	IPS	34"	2 / 1 / 1	3	6 / 3 / 3	7	160' #	150'	159'
			2	3 / 3* / 3*	6 / 5 / 5	9	240'	250'	265'
			2	3	6	11 - 41	240'	300'	318'
36"	IPS	36"	2	2	4	9 - 41	160'	200'	212'
42"	IPS	42"	2	2	4	11 - 41	160'	200'	212'
48"	IPS	48"	2	2	4	15.5 - 41	160'	200'	212'
54"	IPS	54"	1	2	2	15.5 - 41	80'	100'	106'

**(Note 1)** - For plants shipping to states with a 13' 6" height requirement, on 18" IPS shipments use 2x6 lumber on loads with 5 layers of product. Use the standard 4x4 lumber on loads with 4 layers or less. On 24" IPS shipments use 2x6 lumber on loads with 4 layers of product. Use the standard 4x4 lumber on loads with 3 layers or less. Plants shipping 24" to states with a 14' height restriction may use all 3x4 lumber when putting a fourth layer on the truck. 32" pipe may exceed the height restrictions

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unless the trailer height is 55.5" or below depending on the thickness of the bottom board utilized. Using a drop deck trailer is also an option for 40' joints. As an option when shipping 18", 24" and 32" IPS, loads with noted height concerns, it's permissible to have some layers that utilize 2x6 lumber, some layers that use 3x4 lumber, and/or some layers that use 4x4 lumber to ensure the load height does not exceed legal height limits. # - Indicates load will require equipment capable of handling a 47,000 lb. load for listed footage.

\* - top layer has a different # of joints, see footage per truck

### PERFORMANCE PIPE DIPS PRODUCTS - STRIP LOADS W / CHOCKS

SIZE	TYPE	PIPE OD	LAYER PER TRUCK 40' / 50'/53'	JOINTS PER LAYER 40' / 50'/53'	JOINTS PER TRUCK 40' / 50'/53'	DR	FEET PER TRUCK 40'	FEET PER TRUCK 50'	FEET PER TRUCK 53'
16" (Note 1)	DIPS	17.40"	5	5	25/22/20	9	1,000'	1,100'	1,060
			5	5	25/25/24	11	1,000'	1,250'	1,272
			5	5	25	13.5 - 26	1,000'	1,250'	1,325
18"	DIPS	19.50"	4	5	20 /18/17	9	800'	900' #	901 #
			4	5	20	11	800'	1,000'	1,060' #
			4	5	20	13.5 – 26	800'	1,000'	1,060'
20"	DIPS	21.60"	4	4	16/14/13	9	640'	700'	689'
			4	4	16	11 – 26	640'	800'	848'
24"	DIPS	25.80"	3	3	9	9 - 26	360'	450'	477'
30" (Note 1)	DIPS	32.00"	3	3*/3/3	8/6/6	9	320'	300'	318'
			3/3/2	3/3*/2	9/8/6	11	360'	400' #	318'
			3	3	9	13.5 - 26	360'	450'	477' #
36"	DIPS	38.30"	2	2	4	11 – 17	160'	200'	212'

(Note 1) – For plants shipping to states with a 13' 6" height requirement, on 16" DIPS shipments use 2x6 or 3x4 lumber on loads with 5 layers of product. Use the standard 4x4 lumber on loads with 4 layers or less. 30" pipe may exceed the height restrictions unless the trailer height is 55.5" or below depending on the thickness of the bottom board utilized. Using a drop deck trailer is also an option for 40' joints. As an option, when shipping 16" and 30" DIPS, a load with noted height concerns, it's permissible to have some layers that utilize 2x6 lumber, some layers that use 3x4 lumber, and/or some layers that use 4x4 lumber to ensure the load height does not exceed legal height limits.

# - Indicates load will require equipment capable of handling a 47,000 lb. load for listed footage.

\* - top layer is a 2 joint layer

### STRIP LOADS W/CHOCKS PACKAGING STANDARDS

1. Lumber "Saddles" between layers:
  - A. For shipment of strip loads 18" OD through 54" OD – IPS and 16" through 30" - DIPS.
    - (1) Saddle Construction:
      - (a) 4 x 4 lumber is required for strip loads with the exceptions as listed in the **Notes** in the charts above. Deviations from this requirement must be approved by submitting the E.10 Deviation Request Form in the Packaging Manual. Chocks used to construct saddles shall be of similar dimension and quality of the stringer. (Note: 4" x 4" boards have an actual thickness of

## Packaging Information – IPS-DIPS Strip Loads with Chocks

approximately 3.5", 3x4's 2.5" and 2x6's 1.5" Inspect each stringer thoroughly before use. Do not use lumber of excessive disease, rot, burn, bug damage, mold, etc...

- (b) Nail chocks to stringer at distances provided on the following pages. The distance between chocks shall be determined by size of pipe being loaded.

- (c) "Half saddles" have chocks on one side of stringer.



- (d) "Saddles" have chocks on both sides of stringer.



- (e) Dunnage may be banded to the pipe in the plant in order to help with product movement from the plant to the yard. It is acceptable to leave the boards attached to the pipe for shipment. **When loading the truck a minimum of three stringers with chocks on 40' jts & 4 stringers with chocks on 50' jts, must be placed between the pipe layers.** If required, stringers may be placed between the bottom layer and flatbed to ensure fork clearance. If possible it is preferred to add chocks to the dunnage when pipe is packaged in the plant. Boards on in plant packaged product must be the same thickness as the stringers with chocks.

- (2) End Caps:

- (a) End caps / inserts will not be placed on any product above 12". Any caps/ inserts used on product above 12" must be approved through our deviation process, located in the Packaging Manual under **E.10 Deviation Request Form**.

- (3) Saddle Placement and Pipe Loading:

- (a) Place minimum of four half saddles equidistant on bed of trailer. **Note: When packaging off the end of the line add two half saddles at the time of shipment with the same width and thickness of the dunnage used in packaging.** (When the top layer has joints that are not lined up centerline to centerline with the pipe on the layer below it, then a minimum of eight saddles are required for the top layer.)
- (b) Load appropriate amount of pipe or banded pipe on top of saddles. Amount of pipe per layer depends on size of pipe. Per Performance Pipe Mixed Load Policy in this manual, all joints on one layer will possess same OD unless top layer.
- (c) NO SINGLE PIPE WILL BE ALLOWED ON TOP OF A STRIP LOAD.**
- (d) Place minimum of four full saddles on top of first layer of pipe. Locate directly above the half saddles under first pipe layer. **Note: When packaging off the end of the line will add two half saddles at the time of shipment with the same width and thickness of the dunnage used in packaging.)**
- (e) Repeat steps (b) and (c) until truckload quantity is loaded. Load to not exceed 13' 6" (or 14' in areas where it is legal height) from the ground.

- (4) Pipe Stakes:

- (a) The use of pipe stakes is not required on strip loads including 54" pipe shipments. It is recognized, however, that some customers may request pipe stakes be used on the sides of their strip loads.

## Packaging Information – IPS-DIPS Strip Loads with Chocks

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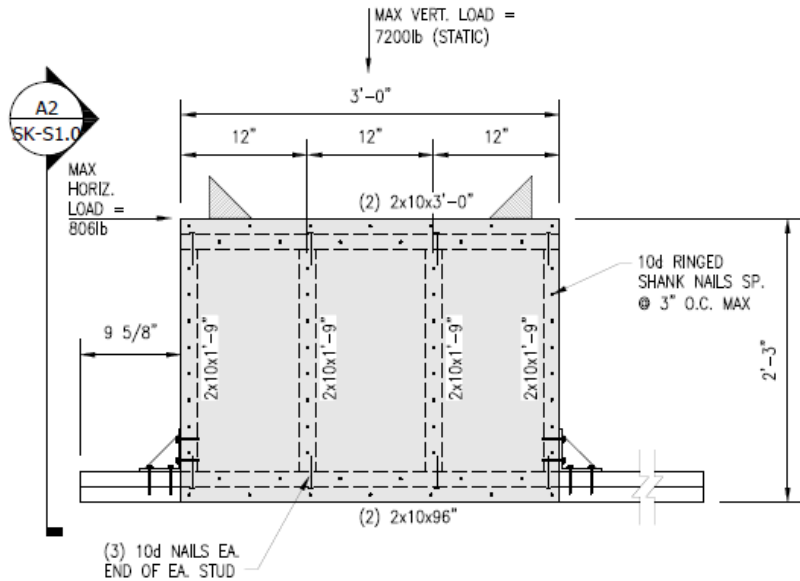
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- (b) Pipe stakes to be cut from 2" OD steel or iron pipe. Crimp one end to allow fit into standard trailer stake pocket. Stake to be no longer than 8'6" once firmly in stake pocket. Stake to be free of excessive corrosion and/or rust that will affect its strength.  
Bands:
  - (c) If load utilizes stakes: 1" x .050 polyester are at plants discretion but not required.
- (5) If load does not utilize stakes: Band every layer (two or three joints) at three equidistant locations. (Protective padding not required) If packaging in plant place bottom boards spaced at six (6) equidistant locations for forty-foot (40') and spaced at seven (7) for (50') joints. Use 1" x 0.050 polyester strapping.
- (6) Transport:
  - (a) Performance Pipe Transport Strapping Policy establishes minimum requirements regarding the number of trucker straps used in all transportation providers to secure strip loads w/ chock shipments. The policy also contains conditions regarding the tightening of straps after a carrier leaves a Performance Pipe facility.
- (7) Cradles:
  - (a) Special pipe cradles are required when shipping two (2) 54" joints. Thirty-nine (39') to forty-five (45') foot joints will require five (5) cradles. Forty-six (46') foot and greater joints will require six (6) cradles. A proportionate number of cradles will be required for joints thirty-eight feet or less. Cradles will be equally spaced along the joints and never less than three cradles.
  - (b) Joint weight due to DR may require more cradles see (54" Stand capacity chart based on DR) for guidance, located in packaging manual.
  - (c) Due to availability, some plants may need to substitute Hemlock fir or Douglas fir boards in place of Yellow pine #2 in construction of the cradle.



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**A1**  
SK-1.0

**PIPE SHIPPING SUPPORT ELEVATION.**

1"=1'-0"

**NOTE:**

- USE SOUTHERN YELLOW PINE #2
- CLEATS SHOWN ARE 3 HT DUN STAMPED CHOCKS DESIGNED & PROVIDED BY OTHERS.
- 54"Ø HDPE PIPE IS 12,300# & SUPPORTED IN (6) LOCATIONS FOR VERTICAL LOAD OF 2050lb @ EA. LOCATION.

**A2**  
SK-1.0

**PIPE SHIPPING SUPPORT END VIEW**

1"=1'-0"

15/32" MIN. THICKNESS OSB  
EXTERIOR EXPOSURE GLUE

2x10

SIMPSON HGA10 W/  
(8) 1/4"x1 1/2" SDS


(3) 10d NAILS EA.  
END OF EA. STUD,  
SEE A1/SK-S1.0

SOUTH CAROLINA  
REGISTERED PROFESSIONAL ENGINEER  
GEOFFREY GURLEY  
NO. 18322

3.5.2020

SOUTH CAROLINA  
BAILEY and SON  
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No. C00523  
CERTIFICATE OF AUTHORIZATION

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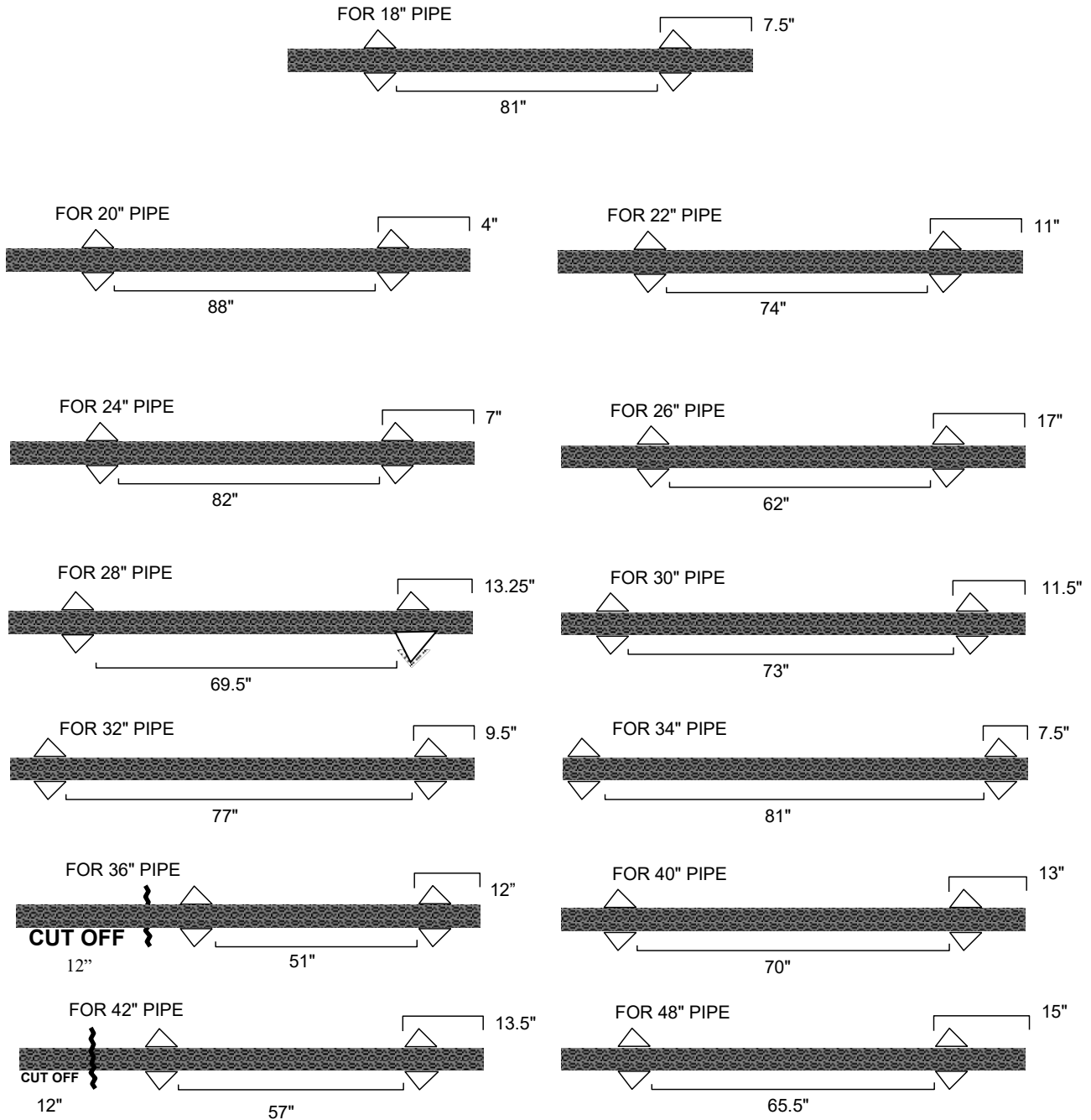


**Bailey and Son Engineering, Inc**

0	ISSUED FOR CONSTRUCTION	3.5.20	PGG
DRAWN BY: JDH		CHECKED BY: PGG	
<b>PIPE SHIPPING SUPPORT</b>			
PERFORMANCE PIPE 2950 NAZAETH RD. WELLFORD, SC 29385		<b>SK-1.0</b> SHEET 1 OF 1	

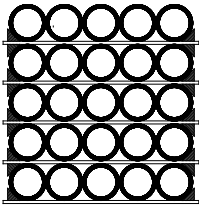
## Packaging Information – IPS-DIPS Strip Loads with Chocks

### IPS STRIP LOAD SADDLE CONSTRUCTION

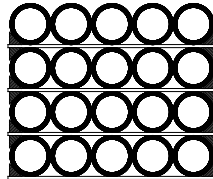


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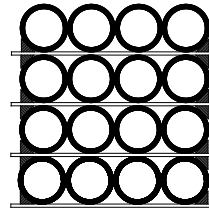
### IPS STRIP LOAD PACKAGE STANDARDS



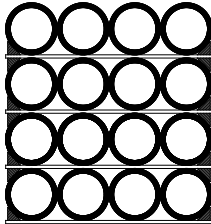
18" – 25 joints  
1,000'/40' 1,250'/50'



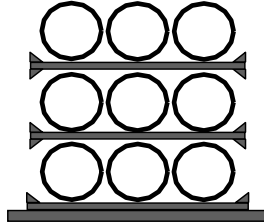
20" – 20 joints  
800'/40' 1,000'/50'



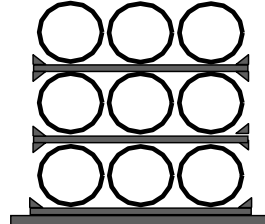
22" – 16 joints  
640'/40' 800'/50'



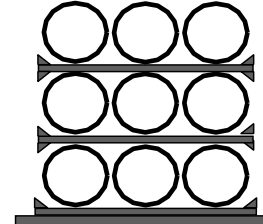
24" – 16 joints  
640'/40' 800'/50'



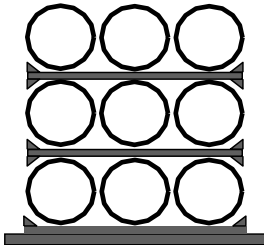
26" – 9 joints  
360'/40' 450'/50'



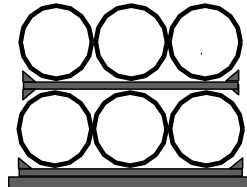
28" – 9 joints  
360'/40' 450'/50'



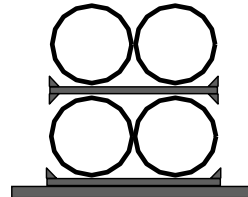
30" – 9 Joints  
360'/40' 450'/50'



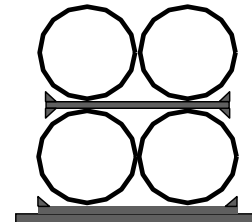
32" – 9 joints  
360'/40' 450'/50'  
(Bed no more than 55" from ground)



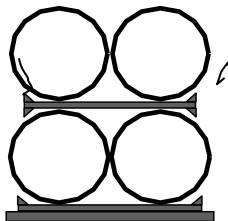
34" – 6 joints  
240'/40' 300'/50'



36" – 4 joints  
160'/40' 200'/50'

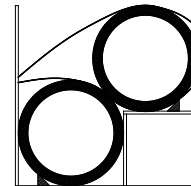


42" – 4 joints  
160'/40' 200'/50'



48" – 4 joints  
160'/40' 200'/50'  
(2x4 stringer on bottom)

**Note:** Joints per load may vary depending on the DR of the pipe being shipped. Maximum weight per truckload is 45,000 pounds.

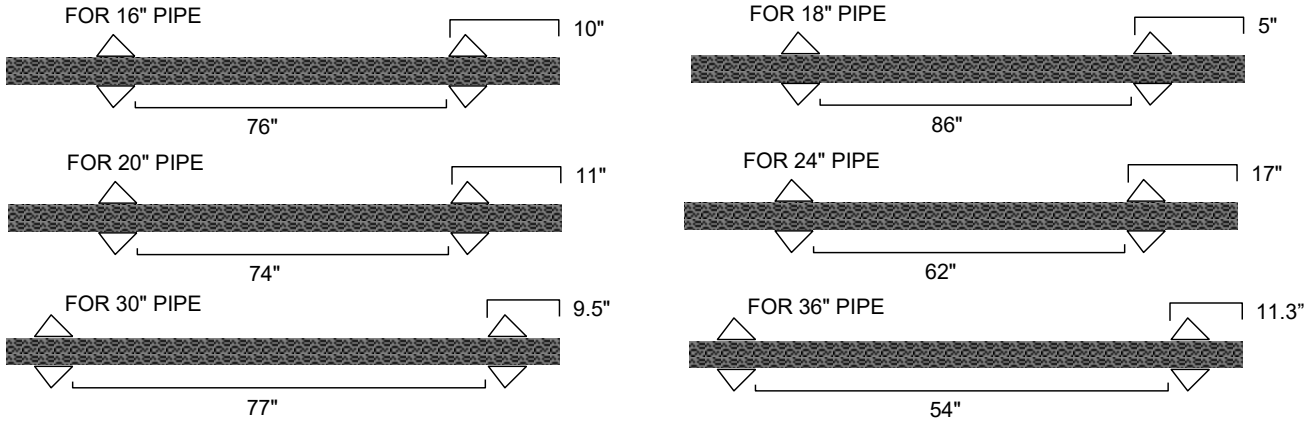


54" – 2 joints  
80'/40' 100'/50'  
102" wide trailer required if using pipe stakes.

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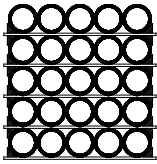
### DIPS

#### STRIP LOAD SADDLE CONSTRUCTION

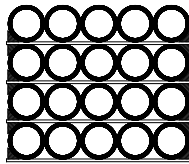


### DIPS

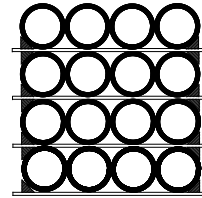
#### STRIP LOAD PACKAGE STANDARDS



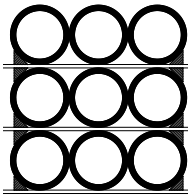
16" DIPS – 25 joints  
1,000'/40' 1,250'/50'



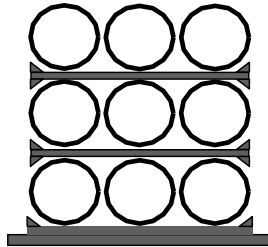
18" DIPS – 20 joints  
800'/40' 1,000'/50'



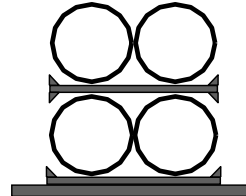
20" DIPS – 16 joints  
640'/40' 800'/50'



24" DIPS – 9 joints  
360'/40' 450'/50'



30" DIPS – 9 joints  
360'/40' 450'/50'



30" DIPS – 9 joints  
360'/40' 450'/50'