

# PIPE PILING

Steel Pipe Piles are designed to transfer structural loads through the foundation to soils below. They range in diameter from less than 6 inches to over 8 feet which gives Pipe Piling the ability to fit a variety of project needs.

If additional length is desired, they can be easily spliced to create piles hundreds of feet in length.

Pipe can be driven open-ended or with plates. If driven with plates, the pipes can then be filled with concrete to create an extra strong pile. However, most often the additional money spent on plates, rebar, and concrete could be better spent on a thicker Pipe Pile.

Pipe Piles are also used in conjunction with Sheet Piles to add lateral stiffness and bending resistance where loads exceed the capacity of sheet piles alone.

*In this section of the catalog, you'll also find information on Pipe Piling accessories such as:*

## PIPE CONNECTORS

Connectors are made to strict standards that form precise, seamless connections between steel Sheet Pile, and other support systems, such as H-Piles, Wide Flange, and Pipe Piling.

## PIPE CUTTING SHOES

Cutting shoes are exceptionally tough heat-treated cast steel shoes with a ledge for driving rather than depending on welds in shear or hardened structural steel reinforcement.

An ***inside cutting shoe*** is needed when maximum friction surrounding the pile is desired. An ***outside cutting shoe*** is preferred when drilling past the tip is required.

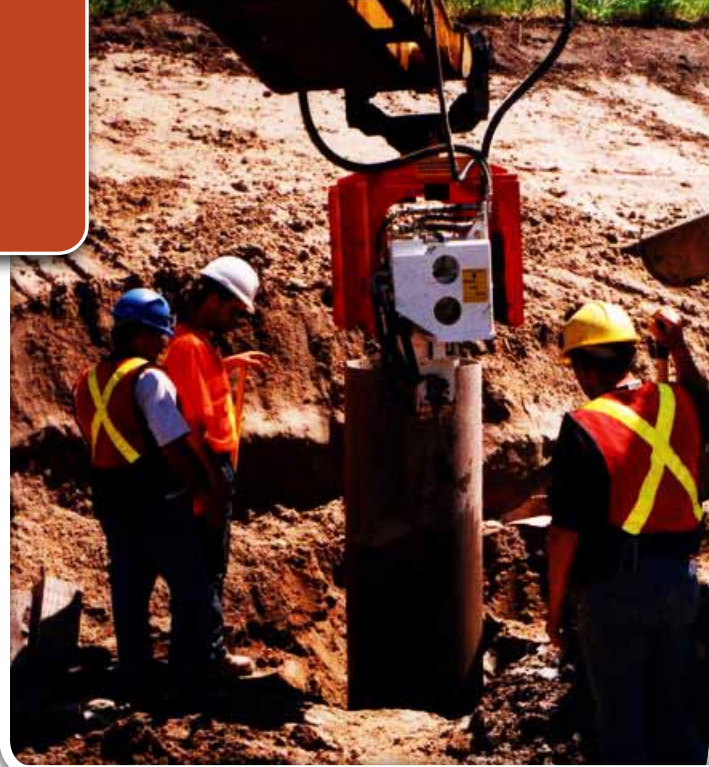
## PIPE POINTS

Pipe points push the soil aside and preserve friction. On boulders or uneven rock, the point distributes the shock load around the perimeter of the pipe rather than concentrating it on a quadrant - as occurs with plate closure.

## PIPE SPLICERS

Driving into the tapered splicer compresses the pipe ends into a friction fit. No welding is required, speeding the job and minimizing the crew and equipment time.

This splicer is especially advantageous where head room is limited and short lengths of pipe must be used. Each addition can be driven right down to the ground line. If uplift capacity is necessary, the splicer can be made weld-fit and pre-attached to the lower length before lifting into the leads. Driving can then be done on the splicer. The next length of pipe is set into the splicer and quickly welded down hand.



## WHEN TO USE PIPE OVER H-PILE?

*Deep foundations are required when shallow soils are not strong enough to support the weight of a structure. Both H-Piles and Pipe Piles can be used in these types of applications.*

*H-Piles are typically classified as point bearing, which means they are most effective when transferring loads through the pile, point to tip (or building to bedrock.)*

*Pipe Piles are most efficient as friction piles, meaning they transfer some of the pressure put on them to the soil around them, through friction.*

*H-Piles rest on a layer of rock below the soil's surface, but depending on the environment and the make-up of the soil, this is not always present. Pipe Piles transfer the weight of the structure they support to the surrounding soil, which means they do not need the support of a bedrock layer.*

*For friction piles to be effective, the soil surrounding the area must be sufficiently uniform in type and density. If this not the case, occasionally contractors rely on a combination of H-Piles and Pipe Piling.*

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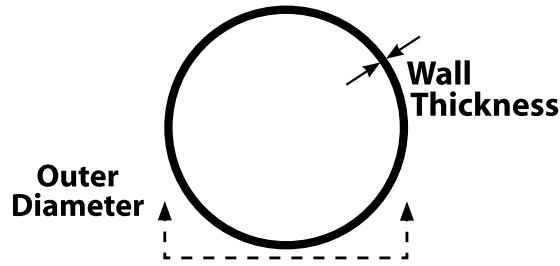
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## PIPE PILING Specifications



### Pipe Weight Calculation

$$LB/FT = (OD-WT) \times WT \times 10.69$$

OD = Outside Diameter ♦ WT = Wall Thickness

R.W. Conklin Steel has a vast inventory of Pipe Piling in all sizes and in all structural grades. Services such as welding and coating are offered as well to help customize your Pipe Piling needs.

Pipe Piling is designed to transfer structural loads throughout the foundation into the ground, providing superb frictional load resistance. Pipe Piling also coincides with the sheet piles to provide support and added bending resistance.

## ERW PIPE PILING

		WALL THICKNESS (IN.)								
		0.1880	0.219	0.2500	0.312	0.3750	0.438	0.5000	0.625	0.750
OUTSIDE DIAMETER (IN.)	lbs/ft	16.96	19.68	22.38	27.73	33.07	38.33	43.43		
	8.625	21.23	24.65	28.06	34.81	41.59	48.28	54.79		
	10.75	25.25	29.34	33.41	41.48	49.61	57.65	65.48		
	12.75	27.76	32.26	36.75	45.65	54.62	63.50	72.16		
	14	31.78	36.95	42.09	52.32	62.64	72.86	82.85	102.72	
	16		41.63	47.44	58.99	70.65	82.23	93.54	116.09	
	18			52.78	65.66	78.67	91.59	104.23	129.45	
	20			63.47	79.01	94.71	110.32	125.61	156.17	186.41
24										

## DSAW PIPE PILING

		WALL THICKNESS (IN.)						
		0.3120	0.3750	0.5000	0.6250	0.7500	0.8751	1.000
OUTSIDE DIAMETER (IN.)	lbs/ft	79.01	94.71	125.61	156.17	186.41		
	24	85.68	102.72	136.30	139.54	202.44		
	26	92.35	110.74	146.99	182.90	218.48	253.72	
	28	99.02	118.76	157.68	196.26	234.51	272.43	
	30	105.69	126.78	168.37	209.62	250.55	291.14	
	32	112.36	134.79	179.06	222.99	266.58	309.84	
	34		142.81	189.75	236.35	282.62	328.55	
	36		150.83	200.44	249.71	298.65	347.26	
	38		158.85	211.13	263.07	314.69	365.97	
	40		166.86	211.82	276.44	330.72	384.67	438.29
42		174.88	232.51	289.80	346.76	403.38	459.67	
44		182.90	243.20	303.16	362.79	422.09	481.05	
46		190.92	253.89	316.52	378.83	440.80	502.43	
48								

Other wall thicknesses available. Please contact us for more information.

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# PZ/PZC + PIPE CONNECTORS

## Specifications

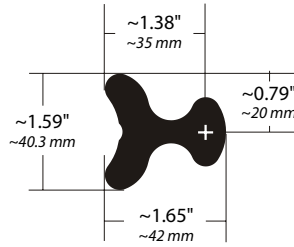
WOM/WOF

**WEIGHT**  
~ 6.50 lb/ft

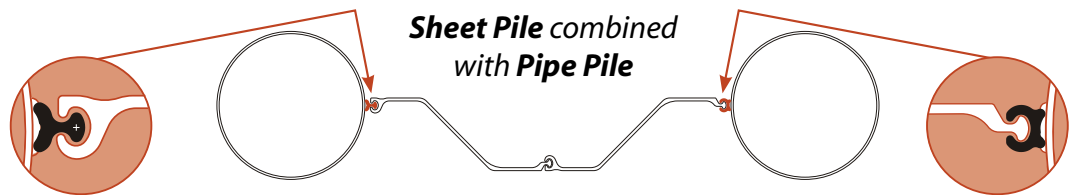
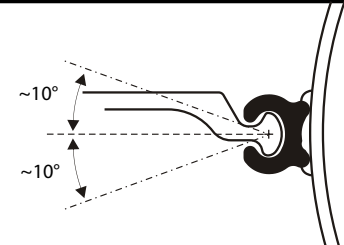
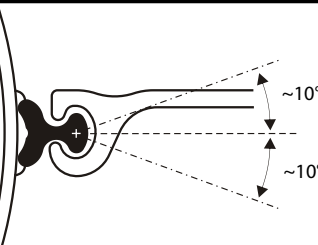
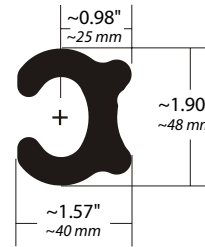
**WORKS WITH**  
**PZ:** 22, 27, 35, 40  
**PZC:** 12, 13, 14, 17,  
18, 19, 25, 26, 28

**STEEL GRADE**  
ASTM Grade 50 (or better)

**WOM**



**WOF**



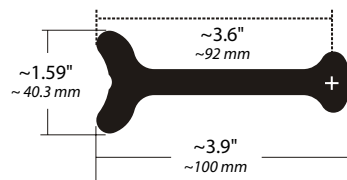
WOM-XL/WOF-XL

**WEIGHT**  
~ 6.50 lb/ft

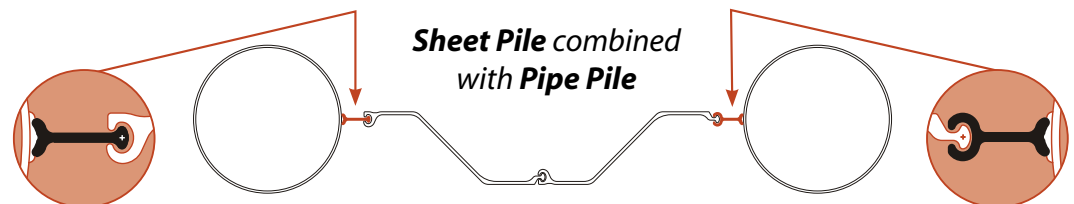
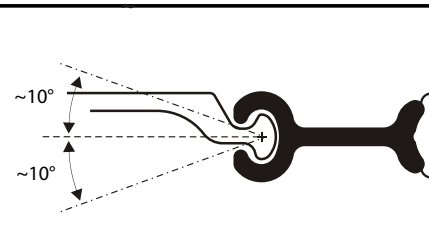
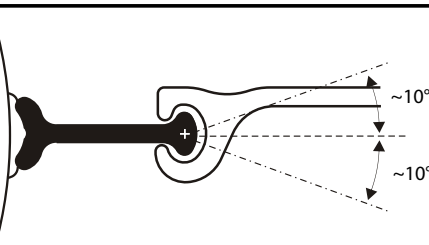
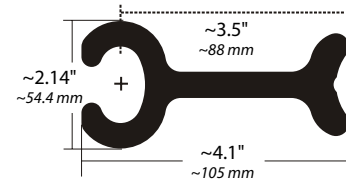
**WORKS WITH**  
**PZ:** 22, 27, 35, 40  
**PZC:** 12, 13, 14, 17,  
18, 19, 25, 26, 28

**STEEL GRADE**  
ASTM Grade 50 (or better)

**WOM-XL**



**WOF-XL**



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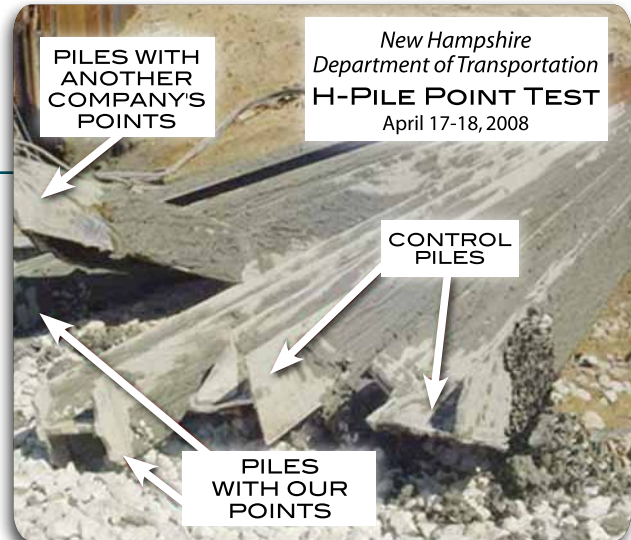


## PIPE PILING POINTS

*Specifications*

### A CASE STUDY: PILING POINTS

The New Hampshire Department of Transportation conducted a comprehensive H-pile point test in Rochester, NH on April 17-18, 2008. The test involved driving and pulling a total of fifteen 12" x 53" H-piles. There were three control piles driven without pile points, and twelve piles driven with four different H-pile points (three piles for each design). Our 12" Hard-Bite Model 77600-B-30 65/35 was used for this test. All the piles were driven utilizing a pile driving monitoring device.



When all three control piles were pulled, it showed they sustained significant damage, even though the monitoring device registered no damage to the piles while driving. Also, one H-pile with another company's piling point attached, resulted in total pile failure. However, all three piles with our pile points attached, completely protected the piles even under the most extreme driving stresses.

Over the past 50 years, APF H-pile points have been independently tested and also tested by various state and federal agencies proving their effectiveness to protect the pile while driving and provide a sound undamaged pile.

- ✓ Damage, which has occurred during pile driving, often cannot be detected from the surface.
- ✓ If you are driving H-piles, we have a point that can save you trouble, time, and money.
- ✓ Having no bad piles means avoiding re-designing and the costly interruption even one rejected pile can create. Protect the dependability of the installation, as well as the owner and contractor in controlling costs.

### PILING POINTS: FILL A NEEDED

*Piling Points  
are a good  
"Insurance  
Policy"*

- ✓ Our rugged points will cut through difficult strata allowing deep seating of the pile.
- ✓ Pulling of test piles often leads to surprising evidence of unpredicted failures in unprotected piles and even those re-inforced by methods other than our steel points.
- ✓ Stresses permitted on steel have increased and design loads have become heavier, it is more essential than ever that every pile reach bearing depth in good condition.

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## PIPE PILING POINTS

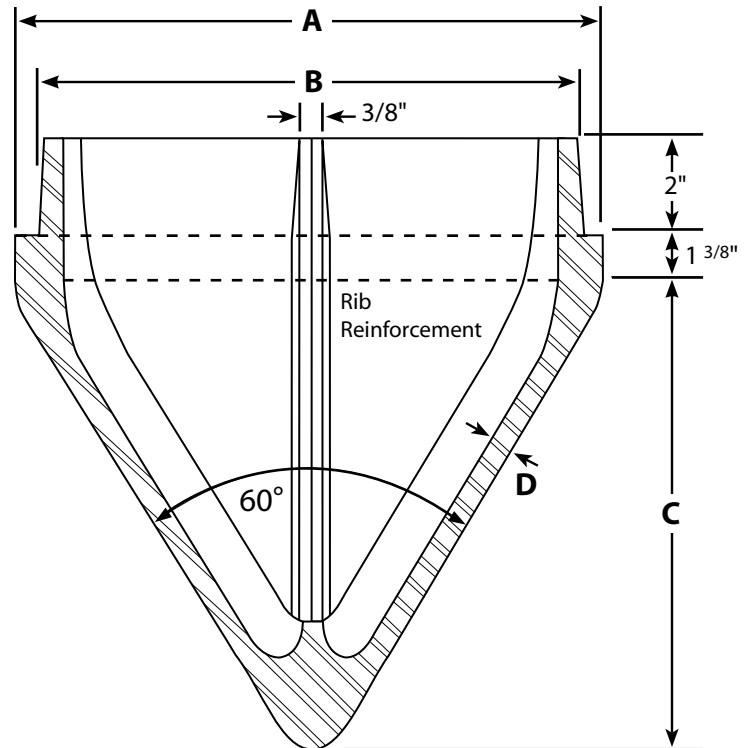
### Specifications

## CONICAL PILING POINT

### P-13006 INSIDE FLANGE

*Ribbed 60° Point*

Conical points are used to help improve penetration and evenly distribute the load over the end of the pipe. A built-in weld prep makes point attachment easy and less time consuming.



	A	B	C	D
8 <sup>5</sup> / <sub>8</sub>	8 <sup>3</sup> / <sub>4</sub> "	7 <sup>1</sup> / <sub>2</sub> "	7 <sup>1</sup> / <sub>8</sub> "	1/2"
9 <sup>5</sup> / <sub>8</sub>	9 <sup>3</sup> / <sub>4</sub> "	7 <sup>1</sup> / <sub>2</sub> "	7 <sup>1</sup> / <sub>8</sub> "	1/2"
10 <sup>3</sup> / <sub>4</sub>	10 <sup>7</sup> / <sub>8</sub> "	9 <sup>3</sup> / <sub>4</sub> "	9"	1/2"
12	12 <sup>1</sup> / <sub>8</sub> "	11"	10 <sup>3</sup> / <sub>8</sub> "	1/2"
12 <sup>3</sup> / <sub>4</sub>	12 <sup>7</sup> / <sub>8</sub> "	11 <sup>3</sup> / <sub>4</sub> "	10 <sup>3</sup> / <sub>4</sub> "	1/2"
13 <sup>3</sup> / <sub>8</sub>	13 <sup>1</sup> / <sub>2</sub> "	11 <sup>11</sup> / <sub>16</sub> "	11 <sup>3</sup> / <sub>8</sub> "	1/2"
14	14 <sup>1</sup> / <sub>8</sub> "	13"	11 <sup>13</sup> / <sub>16</sub> "	9/16"
16	16 <sup>1</sup> / <sub>8</sub> "	15"	13 <sup>1</sup> / <sub>2</sub> "	9/16"
18	18 <sup>1</sup> / <sub>8</sub> "	17"	15 <sup>1</sup> / <sub>4</sub> "	5/8"
20	20 <sup>1</sup> / <sub>8</sub> "	19"	17"	5/8"
22	22 <sup>1</sup> / <sub>8</sub> "	21"	18 <sup>7</sup> / <sub>8</sub> "	5/8"
24	24 <sup>1</sup> / <sub>8</sub> "	23"	20 <sup>3</sup> / <sub>8</sub> "	5/8"

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## PIPE PILING POINTS

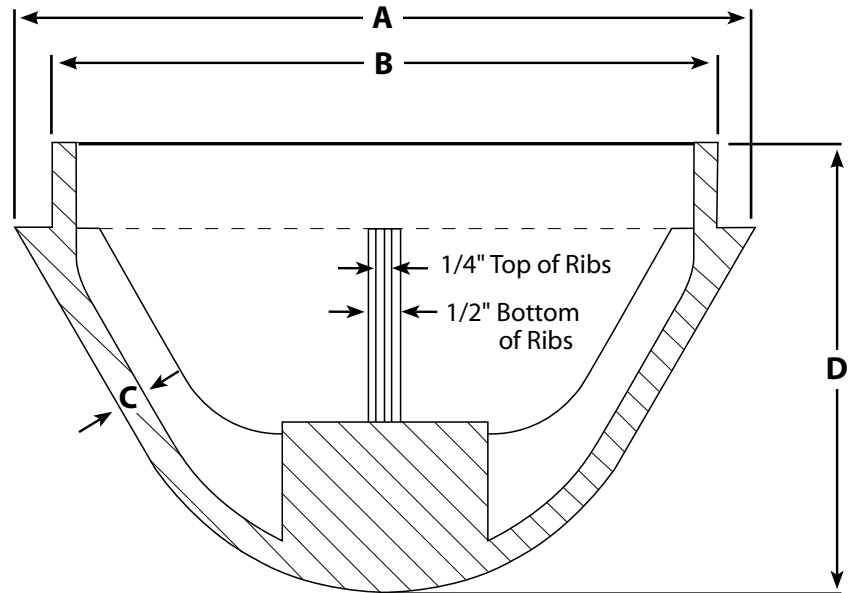
### Specifications

## CONICAL PILING POINT

### P-14006 INSIDE FLANGE

*Ribbed 60° Point*

Conical points are used to help improve penetration and evenly distribute the load over the end of the pipe. A built-in weld prep makes point attachment easy and less time consuming.



		A	B	C	D
PIPE OUTSIDE DIAMETER	10 <sup>3</sup> / <sub>4</sub>	10 <sup>7</sup> / <sub>8</sub> "	9 <sup>7</sup> / <sub>16</sub> "	1/2"	6 <sup>1</sup> / <sub>2</sub> "
	12	12 <sup>1</sup> / <sub>8</sub> "	10 <sup>7</sup> / <sub>8</sub> "	1/2"	7 <sup>1</sup> / <sub>2</sub> "
	12 <sup>3</sup> / <sub>4</sub>	12 <sup>7</sup> / <sub>8</sub> "	11 <sup>5</sup> / <sub>8</sub> "	1/2"	6 <sup>1</sup> / <sub>2</sub> "
	13 <sup>3</sup> / <sub>8</sub>	13 <sup>1</sup> / <sub>2</sub> "	11 <sup>11</sup> / <sub>16</sub> "	1/2"	6 <sup>1</sup> / <sub>2</sub> "
	14	14 <sup>1</sup> / <sub>8</sub> "	13"	1/2"	6 <sup>1</sup> / <sub>2</sub> "
	16	16"	14 <sup>3</sup> / <sub>4</sub> "	1/2"	6 <sup>1</sup> / <sub>2</sub> "
	18	18 <sup>1</sup> / <sub>8</sub> "	17"	1/2"	6 <sup>1</sup> / <sub>2</sub> "

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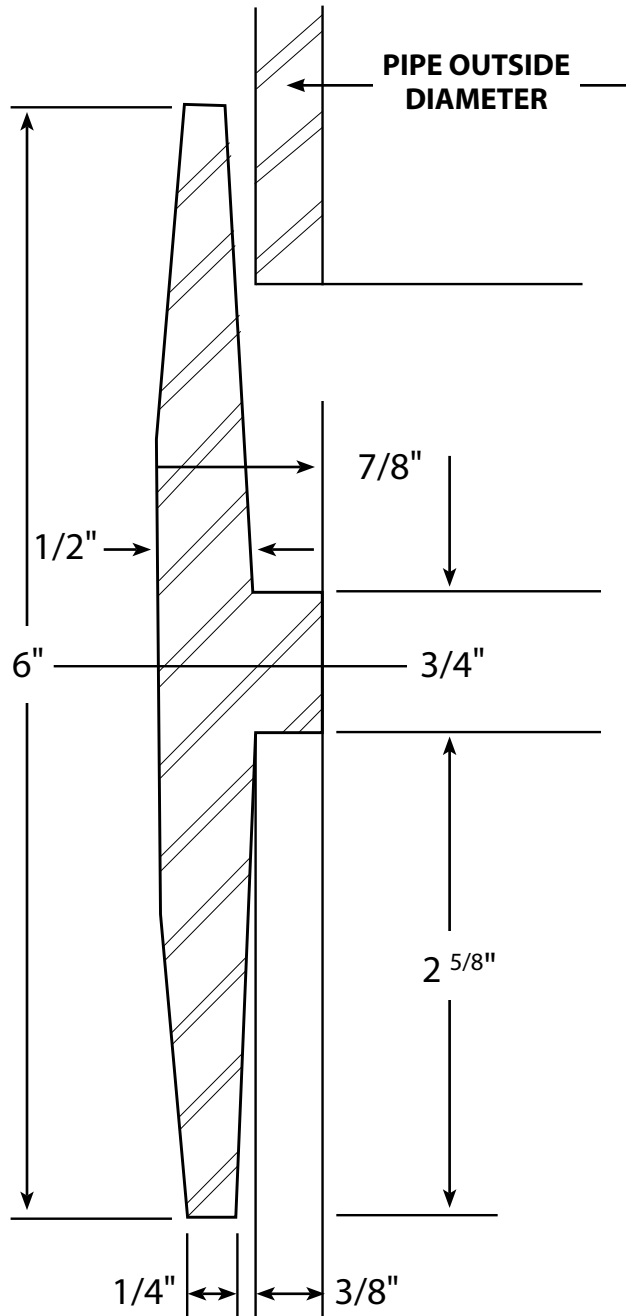
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## PIPE PILING SPLICERS

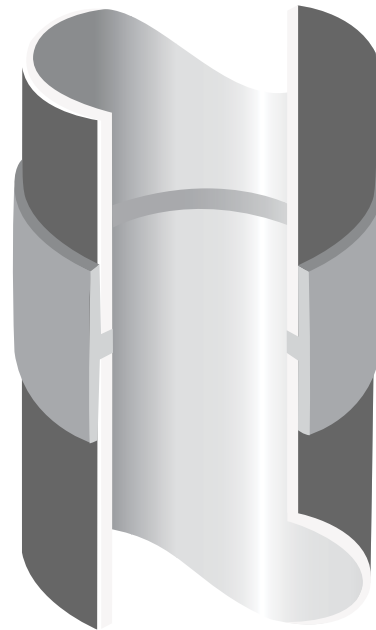
*Specifications*



Section through pipe and splicer before driving.

## DRIVE-FIT SPLICER SLEEVE

Pipe Piling splicers are available in all pipe sizes. Pipe splicers help ease alignment of pipe and drive fit with no welding required.



Diameter at this point (1" from each end) is approximately equal to pipe outside diameter (to allow for drive-fit.)

<b>PIPE OUTSIDE DIAMETER</b>	7 5/8"	8"	8 5/8"	9 5/8"
	10"	10 3/4"	12"	
	12 3/4"	14"	16"	
	18"	20"	24"	

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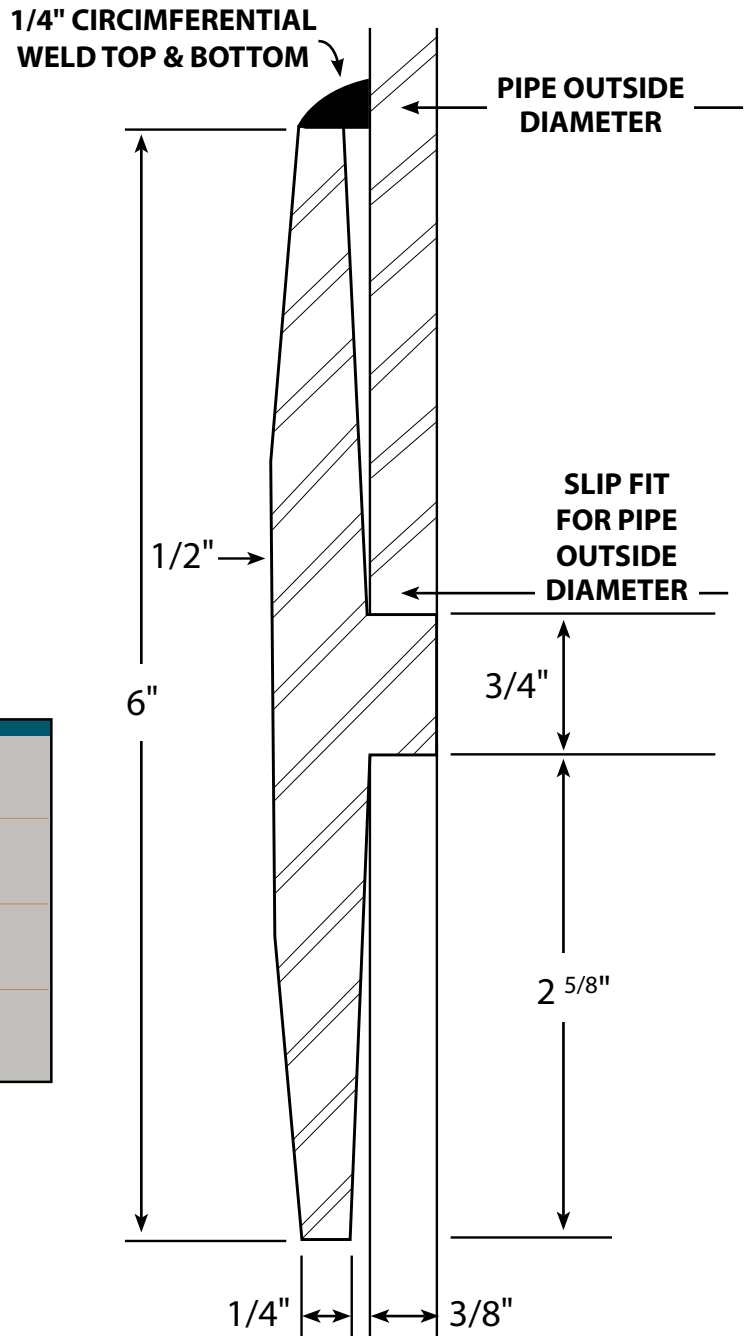
## PIPE PILING SPLICERS

*Specifications*

### WELD-FIT SPLICER SLEEVE

Pipe Piling splicers are available in all pipe sizes.

PIPE OUTSIDE DIAMETER	7 5/8"	8"	8 5/8"	9 5/8"
	10"	10 3/4"	12"	
	12 3/4"	14"	16"	
	18"	20"	24"	



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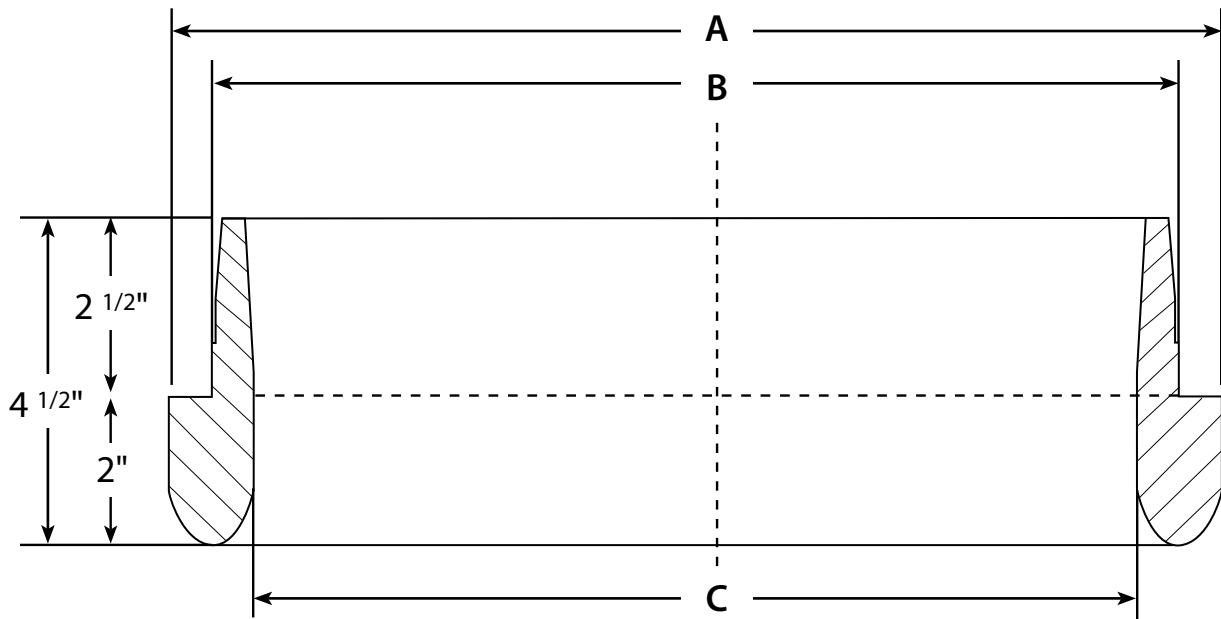
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## PIPE PILING CUTTING SHOES

*Specifications*

### INSIDE CUTTING SHOE



		A	B	C
PIPE OUTSIDE DIAMETER	10 <sup>3</sup> / <sub>4</sub>	10 <sup>7</sup> / <sub>8</sub> "	9 <sup>3</sup> / <sub>4</sub> "	8 <sup>5</sup> / <sub>8</sub> "
	12 <sup>3</sup> / <sub>4</sub>	12 <sup>7</sup> / <sub>8</sub> "	11 <sup>3</sup> / <sub>4</sub> "	10 <sup>5</sup> / <sub>8</sub> "
	14	14 <sup>1</sup> / <sub>8</sub> "	13"	11 <sup>7</sup> / <sub>8</sub> "
	16	16 <sup>1</sup> / <sub>8</sub> "	15"	13 <sup>7</sup> / <sub>8</sub> "
	18	18 <sup>1</sup> / <sub>8</sub> "	17"	15 <sup>7</sup> / <sub>8</sub> "
	20	20 <sup>1</sup> / <sub>8</sub> "	19"	17 <sup>3</sup> / <sub>4</sub> "
	20-S	20 <sup>1</sup> / <sub>8</sub> "	18 <sup>1</sup> / <sub>2</sub> "	17 <sup>3</sup> / <sub>4</sub> "
	24	24 <sup>1</sup> / <sub>4</sub> "	22 <sup>5</sup> / <sub>8</sub> "	21 <sup>5</sup> / <sub>8</sub> "
	26	26 <sup>1</sup> / <sub>4</sub> "	24 <sup>9</sup> / <sub>16</sub> "	23 <sup>5</sup> / <sub>8</sub> "
	30	30 <sup>1</sup> / <sub>4</sub> "	28 <sup>1</sup> / <sub>2</sub> "	27 <sup>3</sup> / <sub>4</sub> "
	30-S	30 <sup>1</sup> / <sub>4</sub> "	28"	27 <sup>1</sup> / <sub>4</sub> "
	36	36 <sup>1</sup> / <sub>4</sub> "	35"	33 <sup>1</sup> / <sub>2</sub> "
	36-S	36 <sup>1</sup> / <sub>4</sub> "	34 <sup>3</sup> / <sub>8</sub> "	33 <sup>1</sup> / <sub>2</sub> "

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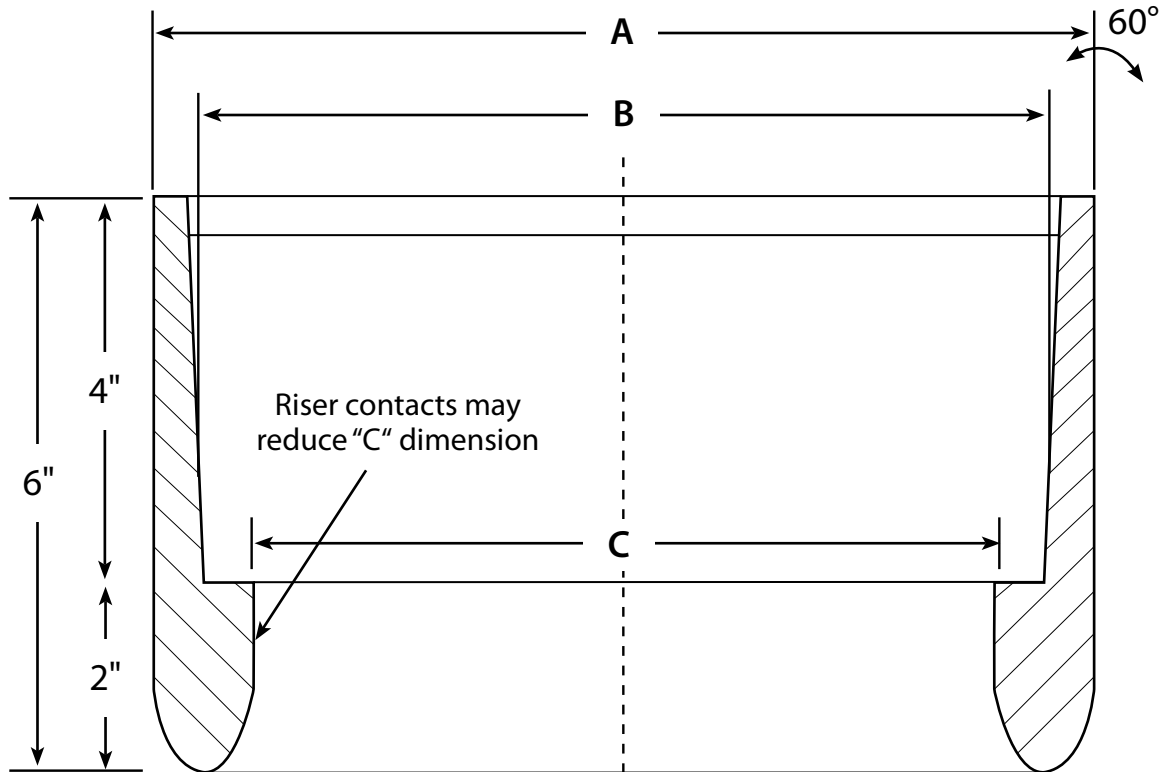
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## PIPE PILING CUTTING SHOES

Specifications

### OUTSIDE CUTTING SHOE



	A	B	C
6 5/8	7 3/4"	6 3/4"	5 3/4"
8 5/8	9 3/4"	8 3/4"	7 3/4"
9 5/8	10 3/4"	9 3/4"	8 3/8"
10 3/4	11 7/8"	10 7/8"	9 7/8"
12	13 1/8"	12 1/8"	11 1/8"
12 3/4	13 7/8"	12 7/8"	11 7/8"
14	15 1/4"	14 1/8"	13"
16	17 1/4"	16 1/8"	15"
18	19 3/8"	18 1/8"	16 7/8"
20	21 3/8"	20 1/8"	18 7/8"

	A	B	C
22	23 3/8"	22 1/8"	20 3/4"
24	25 1/2"	24 1/4"	22 7/8"
26	27 3/4"	26 3/8"	24 7/8"
28	29 3/4"	28 3/8"	26 7/8"
30	31 3/4"	30 3/8"	28 7/8"
32	33 3/4"	32 3/8"	30 7/8"
34	35 3/4"	34 3/8"	32 7/8"
36	37 7/8"	36 3/8"	34 7/8"
42	44 1/8"	42 1/2"	40 7/8"

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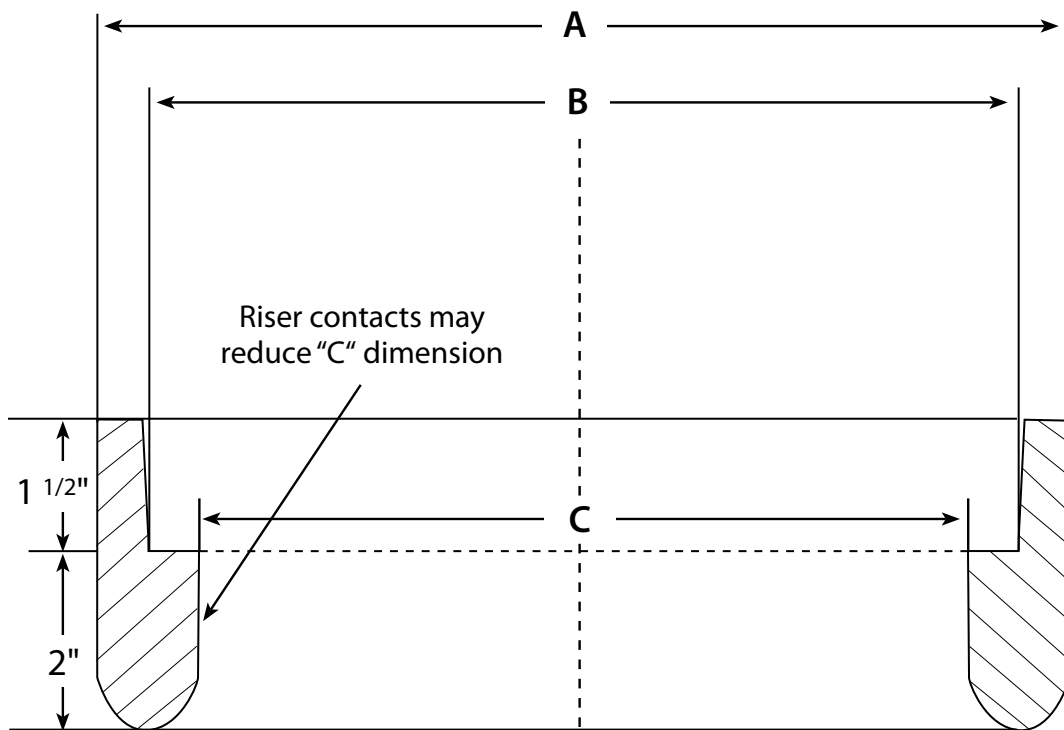
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## PIPE PILING CUTTING SHOES

*Specifications*

### OUTSIDE CUTTING SHOE



		A	B	C
PIPE OUTSIDE DIAMETER	24	25 1/4"	24 1/4"	22 7/8"
	30	31 1/4"	30 1/4"	28 7/8"