H-PILING

H-Piles are often driven into the ground and used for deep foundations to support structures in commercial construction, such as buildings and bridges. They are also used for: heavy highway, public works, marine, and industrial applications. Due to their strength, they can be utilized for driving in soil conditions that other piling would have difficulty penetrating. The durability of these steel columns work well for applications in areas that are that are prone to earthquakes or other natural disasters.

H-Piles are also commonly used for "soldier pile and lagging" construction where steel piles and timber are used for earth retention.

R.W. Conklin Steel stocks a wide variety of domestically produced H-Pile available in single lengths or multiple truckloads. H-Pile is available in 8, 10, 12, and 14 inch sections in lengths up to 100 feet. For the first time in nearly 100 years, steel mills are producing new sizes of H-pile — 16 and 18 inch. These new sizes have almost doubled the load capacity which is key to the engineering specifics desired in new projects. Ashraf Elsayed of Hall, Blake & Associates, who helped test the piles, says "They can carry more load while also meeting building codes that call for compact sections."

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

H-PILE SPLICERS

H-Pile Splicers are used to help with alignment of H-Piles. Splicers also significantly provide an additional weld area when splicing.

The time required to make the H-Pile splices can equal or exceed pile driving time. Pile Splicers substantially reduce splicing time in two ways. First, H-Pile alignment is quick and easy as the splice also serves as the welding template. The H-Pile splicers slip over the driven H-Pile section and the new section easily slides into the top of the H-Pile splicer providing quick and accurate alignment. Second, welding time is greatly reduced — often by up to 75% as only a fraction of the weld is required.

H-PILE POINTS

The load bearing capacity of driven steel H-Piles can be greatly reduced if the H-Piles are damaged during driving due to impact with rocks, boulders, rubble or other obstructions. H-Pile points provide the pile a tip, which minimizes this type of damage. H-Pile points increase the bending strength of pile flanges and web from 2 to 6 times thereby helping insure that the pile reaches final bearing in position and in good condition.

Our H-Pile Points are made of low-alloy cast steel, allowing the piling points to absorb more impact than similar H-Piling Points. They also have a pre-beveled tip, eliminating any kind of pile end preparation. Welding is easy with a weld-prep built into the casting, saving time and money. There is 5/16" groove weld across each flange making it unnecessary to weld the web or any inside flanges.



NEW H-PILE SIZES:

HOW ARE ARE THEY USEFUL?

"As you get into larger structures, taller buildings, heavier loads, where a column would have a 15-pile cluster, now it might take only 10. They drive great, too. You can put big hammers to them and they hold up really well. You can drive through hard clay and dense silts and get to rock so you get to use the majority of the available strength of the steel."

Michael Wysockey,
President of Thatcher Foundations
Describing the benefits of using

the new H-Pile sizes

TO READ MORE ON NEW H-PILE SIZES, VISIT:

http://www.modernsteel.com/ SteelInTheNews/

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H-PILING Specifications

H-Piling is used in a variety of construction projects including, heavy highway, public works, marine, industrial, and more. We stock a wide variety of domestically produced H-Pile available in single lengths or multiple truckloads. H-Pile is available in 8, 10, 12, 14, 16 and 18-inch sections, and in lengths over 100 feet.

THICKNES		-Web Thickness			THICKNESS		ELASTIC PROPERTIES							
		WEIGHT	ARFA	DEPTH	FLANGE	FLANGE	WFR	COATING	AXIS X-X		X	А	XIS Y-۱	(
					WIDTH			AREA	1	S	r	1	S	r
		lb/ft (kg/m)	in² (cm²)	in (mm)	in (mm)	in (mm)	in (mm)	ft²/ft (m²/m)	in⁴ (cm⁴)	in ³ (cm ³)	in (cm)	in⁴ (cm⁴)	in³ (cm³)	in (cm)
	HP 8″ HP 200 mm	36 54	10.6 68.4	8.02 204	8.155 207	0.445 11.3	0.445 11.3	3.92 1.19	119 4950	29.8 487	3.36 8.53	40.3 1680	9.88 162	1.95 4.60
	HP 10″	42 63	12.4 <i>80.0</i>	9.70 246	10.075 256	0.420 10.7	0.415 10.5	4.83 1.47	210 8740	43.4 711	4.13 10.5	71.7 2980	14.2 233	2.41 6.12
	HP 250 mm	57 85	16.8 108	9.99 254	10.225 260	0.565 14.4	0.565 14.4	4.91 1.50	294 12200	58.8 969	4.18 10.6	101 4200	19.7 323	2.45 6.22
		53 79	15.5 100	11.78 299	12.045 <i>306</i>	0.435 11.0	0.435 11.0	5.82 1.77	393 16400	66.9 1090	5.03 12.8	127 5290	21.1 346	2.86 7.26
	HP 12″	63 94	18.4 119	11.94 303	12.125 308	0.515 13.1	0.515 13.1	5.86 1.79	472 19600	79.1 1290	5.06 12.9	153 6370	25.3 415	2.88 7.32
	HP 310 mm	74 110	21.8 141	12.13 308	12.215 310	0.610 15.5	0.605 15.4	5.91 180	569 23700	93.8 1530	5.11 13.0	186 7740	30.4 498	2.92 7.42
		84 125	24.6 159	12.28 312	12.295 312	0.685 17.4	0.685 17.4	5.97 1.82	650 27100	106 1730	5.14 13.1	213 <i>8870</i>	34.6 567	2.94 7.47
ZE	HP 14″ HP 360 mm	73 109	21.4 138	13.61 346	14.585 370	0.505 12.8	0.505 12.8	6.96 2.12	729 30300	107 1770	5.84 14.8	261 10900	35.8 587	3.49 <i>8.86</i>
S Z		89 132	26.1 168	13.83 351	14.695 373	0.615 15.6	0.615 15.6	7.02 2.14	904 37600	131 2150	5.88 14.9	326 13600	44.3 726	3.53 <i>8.97</i>
		102 <i>152</i>	30.0 194	14.01 356	14.785 376	0.705 17.9	0.705 17.9	7.06 2.15	1050 43700	150 2480	5.92 15.0	380 15800	51.4 <i>842</i>	3.56 9.04
Ц Ц		117 174	34.4 222	14.21 361	14.885 378	0.805 20.4	0.805 20.4	7.12 2.17	1220 50800	172 2830	5.96 15.1	443 18400	59.5 975	3.59 9.12
S		88 131	25.8 167	15.33 389	15.665 398	0.540 13.7	0.540 13.7	7.52 2.29	1112 46295	145 2378	6.56 16.7	347 14425	44.0 725	3.66 9.31
		101 151	29.8 192	15.50 394	15.750 400	0.625 15.9	0.625 15.9	7.56 2.30	1297 53978	167 2742	6.60 16.8	408 16971	52.1 848	3.70 9.40
	HP 16″	121 181	35.7 230	15.75 400	15.875 403	0.750 19.1	0.750 19.1	7.62 232	1578 65675	200 3283	6.65 16.9	501 20859	63.1 1035	3.75 9.52
	HP 410 mm	141 211	14.7 269	16.00 406	16.000 406	0.875 22.2	0.875 22.2	7.69 2.34	1871 77859	234 3832	6.70 17.0	599 24923	75.2 1227	3.79 9.63
		162 242	47.7 308	16.25 413	16.125 410	1.000 25.4	1.000 25.4	7.75 2.36	2175 90542	268 4387	6.75 17.2	701 29167	87.0 1424	3.83 9.74
		183 272	53.8 347	16.50 419	16.250 413	1.125 28.6	1.125 28.6	7.81 2.38	2492 103738	302 4951	6.81 17.3	807 33595	99.0 1628	3.87 9.84
		135 202	39.8 257	17.50 445	17.750 451	0.750 19.1	0.750 19.1	8.54 2.60	2196 91423	251 4114	7.43 18.9	700 29143	78.8 1293	4.19 <i>10.7</i>
	HP 18″	157 234	46.2 298	17.74 451	17.870 454	0.870 22.1	0.870 22.1	8.60 2.62	2583 107516	291 4772	7.48 19.0	829 34512	93.0 1521	4.24 10.8
	HP 460 mm	181 269	53.2 343	18.00 457	18.000 457	1.000 25.4	1.000 25.4	8.66 2.64	3017 125579	335 5493	7.53 19.1	974 40545	108.1 1774	4.28 10.9
		204 304	60.0 387	18.25 464	18.125 460	1.125 28.6	1.125 28.6	8.73 2.66	3450 143598	378 6196	7.58 19.3	1119 46585	123.0 2024	4.32 11.0

All calculations and information should be double-checked by a qualified enginee

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H-PILE 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 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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H-PILE PILING POINTS Specifications

HARD-BITE POINT

НР 7780-В & НР 77750-В



Installation Instructions

- 1.) Fit point onto the end of a square cut pile end.
- **2.)** Weld point to the pile in either flat or vertical position using E70XX electrodes.
- **3.)** Weld across full width of flange following chart below for minimum size weld.

		FLANGE THICKNESS	MINIMUM SIZE GROOVE WELD
	HP 14		
1.1	x 117	.805	7/16
N	x 102	.705	3/8
S	x 89	.615	3/8
<u> </u>	x 73	.505	5/16
	HP 12		
-	x 84	.685	3/8
	x 74	.610	3/8

Our H-Piling Points are made of low alloy cast steel, allowing the points to absorb more impact than similar H-Piling Points. They also have a pre-beveled tip, eliminating any kind of pile end preparation.

Welding is easy with a weld-prep built into the casting, saving you time and money.

		A	В	С
MODEL	14" НР 77750-В	1"	1-1/4"	2-3/4"
OINT	12" HP 77750-B	1"	1-5/16"	3"
H-PILE P	7780-В 10" НР 77750-В	3/4" 1"	3/4"	3-1/2"



		FLANGE THICKNESS	MINIMUM SIZE GROOVE WELD
ZE	HP 12 x 63	.515	5/16
С П	x 53	.435	5/16
n,	HP 10	.565	5/16
Ι	x 42	.420	5/16

С

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HARD-BITE POINT

HP 77600-B, HP 77600-B-18# HP 77600-B-30#, HP 77600-B-46#



		А	В	С
	14" HP			
	77600-B	1"	1-1/4"	2-3/4"
	77600-B-46#	1-1/2"	1-3/4"	3"
	77750-B	1"	1"	4"
OD	12" HP			
Σ	77600-B-30#	1"	1-5/16"	3"
Ę	77750-B	3/4"	3/4"	3-1/2"
NIO	7780-B	3/4"	3/4"	3"
	10" HP			
٦L	77600-B	1"	1"	2-1/16"
ц Т	77600-B-18#	1"	1-1/8"	2-3/8"
_	77750-B	3/4"	3/4"	3"
	8" HP			
	77600-B	1-1/16"	1"	1-7/16"

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	HP 14		
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S	x 89	.615	3/8
	x 73	.505	5/16
I-PI	HP 12		
	x 84	.685	3/8
	x 74	.610	3/8



		FLANGE THICKNESS	MINIMUM SIZE GROOVE WELD
	HP 12		
	x 63	.515	5/16
Ľ	x 53	.435	5/16
E SI	HP 10		
Ē	x 57	.565	5/16
<u>n</u>	x 42	.420	5/16
I	HP 8 x 36	.445	5/16

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H-PILE SPLICERS Specifications



H-Pile Splicers are used to help with alignment of H-Piles. Splicers also significantly provide an additional weld area when splicing.



		FLANGE WEB	MINIMUM WELD SIZE	TOTAL INCHES OF WELD*	A (±1/16)	B (±1/16)	C (±1/16)	L (±1/16)
		in	in	in	in	in	in	in
	HP 14							
	x 117	13/16	7/16	50	15/16	2 ^{3/4}	12 7/16	16
	x 102	11/16	7/16	50	15/16	2 ^{3/4}	12 ^{7/16}	16
Ы	x 89	5/8	3/8	49	11/16	2 ^{3/4}	12 7/16	16
Ν	x 73	1/2	3/8	49	5/8	2 ^{3/4}	12 ^{7/16}	16
ິ	HP 13							
Z	x 100 3/4		7/16	46	7/8	2 ^{3/4}	11 7/16	15
2	x 87	11/16	7/16	46	11/16	2 ^{3/4}	11 7/16	15
5	x 73	9/16	5/16	46	5/8	2 ^{3/4}	11 7/16	15
ЭЕ О	x 60	7/16	3/8	46	9/16	2 ^{3/4}	11 7/16	15
	HP 12							
<u> </u>	x 84	11/16	7/16	44	3/4	2 1/2	10 3/4	14
<u>n</u>	x 74	5/8	3/8	44	11/16	2 ^{1/2}	10 ^{3/4}	14
Ŧ	x 63	1/2	3/8	44	5/8	2 1/2	10 3/4	14
_	x 53	7/16	5/16	44	1/2	2 ^{1/2}	10 ^{3/4}	14
	HP 10							
	x 57	9/16	5/16	40	5/8	2	8 3/4	12
	x 42	7/16	5/16	40	1/2	2	8 3/4	12
	HP 8	7/16	5/16	36	1/2	1 3/4	7	10
	X 30	//10	5/10	50	1/2	1 57 .	/	10

Splicer is made from 3/8 inch thick steel. *Includes eight 5/16 inch x 2-1/2 inch fillet welds near corners of splicer.