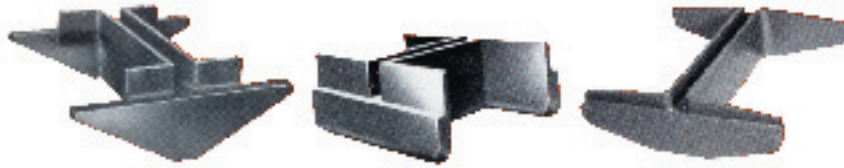


- **Pruyn Points**
- **Champion Splicer**
- **Open-End Cutting Shoes**
- **Conical Point**
- **Advance Splicer**
- **Drive-Tite Boot**
- **Rival Boot & Arrow Point**
- **Sheet Pile Protectors**

Pruyn Points



The first Pruyne Points were large and heavy. Observation and tests indicated that more compact and lighter points satisfactorily tied the flanges and web of the H into a strong unit and protected the corners from start of progressive damage. The HP-75600 (and later the companion HARD-BITE® 77600) was developed to provide one and one-half times the area of the H at only a half-inch of penetration into rock. The objective is to reduce the bearing to 8,000 psi on rock where 12,000 psi is permitted on the steel. The full bearing area of the 75600-77600 configuration is twice that of the steel, except for the very heaviest H-sections. This assures a cost efficient pile in any location.

For deeper penetration into shale and the like, APF has the slimmer configuration Pruyne Point 75750 and the companion HARDBITE® 77750, with integral cutting teeth. Many thousands of these APF dependable cast steel points have been driven in all types of soils under widely varying conditions.

The square-edge, robust Pruyne Point HP-75500 is available for special needs and unusual conditions. It has been used successfully as a driving head as well as to protect the point of the pile.

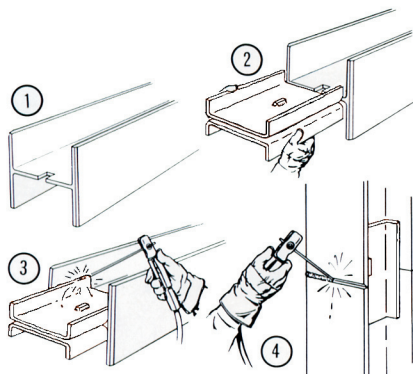
Champion Splicer



An important accessory for long H-piles is the Champion Splicer. It is a pair of U-shaped units with flared ends that slip on easily and fit tightly into the two sides of the H. A notch is cut into the web of one pile section and the splicer slipped on to the pile; it may have to be tapped on with a sledge for it is designed to fit closely. A short fillet weld is made to the flanges near the corners of the splicer. The top section of the pile must have the flanges scarfed for an efficient weld. The length of pile to be added is quickly positioned by this arrangement and held firmly. Additional weld at the opposite corners and across the flanges can be made later without delaying the driving rig and crew.

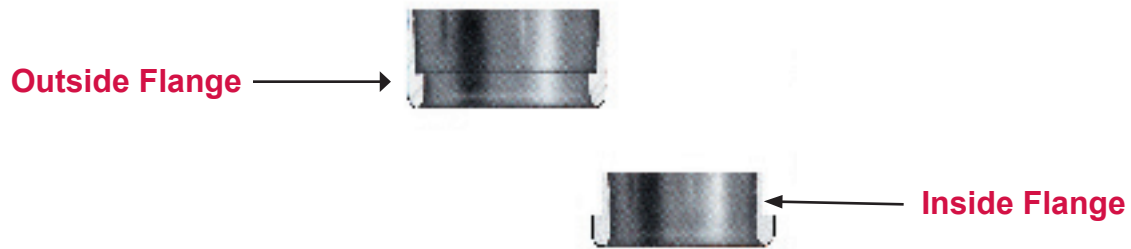
This splicer has been tested at Lehigh University (Fritz Lab) and shown to provide full strength in bending (as required by the AASHTO Bridge specifications). *

Details of Assembly



- 1) With the pile on the ground, scarf the outside edge of each flange, of the H and torch cut a $\frac{7}{8}$ in. by 2- $\frac{1}{2}$ in. notch in the web.
- 2) Force splicer on H to one-half of length. Make $\frac{5}{16}$ x 2- $\frac{1}{2}$ in. fillet weld near each corner. (Splicer can be put on the driven length.)
- 3) Set length to be added in position. Dieformed tapers provide for quick entry and close positioning.
- 4) Make $\frac{5}{16}$ in. (or heavier) partial penetration groove weld along the full width of each flange and a fillet weld at each remaining corner.

Open-End Cutting Shoes



Pipe can be used efficiently for structural support. Piles installed open-end to rock, cleaned out and resealed by further driving, then filled with concrete are allowed high loading under most codes. Use of a cutting shoe protects the pipe end and makes it practical to use a thinner wall pipe. The APF cutting shoe is exceptionally tough cast steel with a ledge for driving rather than depending on welds in shear on hardened structural steel reinforcement. The outside cutting shoes, 0-14000, is almost always the choice; drilling can be done through it without obstruction. An inside cutting shoe, 0-14001, is also available when maximum friction surrounding the pile is desired.

Conical Point



Conical points are the preferred end closure for pipe piles. The conical shape pushes the earth aside and preserves friction. On boulders or uneven rock, the point distributes the shock load around the periphery of the pipe rather than concentrating it on a quadrant - as occurs with plate closure.

Observation of driving and of driven piles indicates that the 60° configuration for the point is much to be preferred over flatter angles. The inside flanged type P-3006, requires welding. APF's outside flanged P-13000, can be tapered drive-fit for compression fit or slip-fit for welding. Heavy internal ribs assure penetration in any soil.

Advance Splicer



Of special interest for pipe piles is the Advance Splicer. A smoothly tapered bar with a square-edge central ledge is turned into a circle, flash welded and accurately sized to exact shape for most size pipe used for piling. Driving into the taper compresses the pipe ends into a friction fit. This provides as much resistance to lateral forces as normally is needed and has some tension value. No welding is required, speeding the job and minimizing the crew and equipment time.

The Advance 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 welding is necessary, the splicer can be made slip-fit and pre-attached to the lower length before lifting into the leads. Driving can be done on the Advance Splicer. The next length of pipe is set into the splicer and quickly welded down-hand.

The Advance Splicer is successfully used in New Orleans to extend pre-stressed concrete piles. Short pipe ferrules are cast on one end of each pile length; the modified splicer functions as it does on pipe.

Drive-Tite Boot



The economical flat closure for pipe is APF's precision fabricated Drive-Tite Boot. Welding is not required. The accurately shaped heavy metal pan can be tapped on with a sledge so friction will hold it for dragging to the driver. One time users become repeat customers.

Rival Boot & Arrow Point



Timber piles can benefit from protection by a boot or point. The trend to more powerful hammers and heavier design loading may mean that timber will be subjected to damaging blows as it reaches obstructions or end bearing. The Rival Boot covers the entire tip without pointing the pile and is available in different sizes. All that is required is slipping it on the pile and securing it with three nails. The Port Authority of New York and New Jersey has long favored this type of end protection to utilize the full area and strength of the timber.

Arrow Points are the old standby and continue to be available for all sizes of wood piles. Use a size that fully covers the pointed end of the pile. Be sure the point is in axial alignment.

Sheet Pile Protectors



Gaining attention and favor rapidly is the cast steel end protection for steel sheet piles. Of special interest, is the one-piece unit available for Z configurations. It is also available as a straight bar for cutting to fit most domestic or foreign sheet piles.

Value of the Protectors has been proven by piles pulled for reuse after being driven. They attach with a minimum of weld and protect pile ends to prevent tearing and subsequent leakage, which provides maximum salvage. The HARD-BITE[®] Point, HP-77600-HZ, is made for the high section-modulus Arbed interlocking H-sections used for deep cofferdams.

Specifying Pile Protection

A word for designers and specification writers. Tell the estimator what accessories he can use -by sketch or by number - on the plans or in the bid documents. This assists the bidder for pricing and alleviates job site decisions.