FURNISH A CERTIFIED STATEMENT THAT THE TIP REINFORCEMENT STEEL COMPLIES WITH THE SPECIFICATION REQUIREMENTS INCLUDING CERTIFIED REPORT SHOWING THE CHEMICAL AND PHYSICAL PROPERTIES, AND ROLLING DIRECTION FOR PLATES USED IN THE PREFABRICATED TIPS.

CONNECTION OF TIP REINFORCEMENT TO PILE:

1. BEVEL OUTSIDE OF EACH FLANGE OF THE HP-PILE FOR GROOVE WELD, WHERE TIP REINFORCEMENTS ARE NOT ATTACHED.

2. ATTACH A PILE TIP REINFORCEMENT ON THE SQUARE CUT END OF THE PILE AND HOLD IT IN CLOSE CONTACT AGAINST THE PILE OR TO ACHIEVE THE MINIMUM GROOVE WELD SIZE.

3. THE WELDS SHOWN ARE SUGGESTED ACCEPTABLE GROOVE WELDS. THE CONTRACTOR MAY USE ANY PREQUALIFIED GROOVE WELDS APPROVED BY THE ENGINEER.

4. DO NOT USE FILLER WELD FOR ATTACHING CAST TIP REINFORCEMENT TO HP-PILES.

5. CONNECTION OF TIP REINFORCEMENT TO PILE:

- WITH HP-PILE TO CAST TIPS USING GROOVE WELDS ONLY. MELT SIZE TO BE THE GREATER OF ⅜" OR MINIMUM CAST TIP SIZE RECOMMENDED BY THE TIP MANUFACTURER FOR THE TIP/TIP COMBINATION REQUIRED.
- DENT OUTSIDE OF EACH FLANGE OF THE HP-PILE FOR GROOVE WELD TO PREVENT EXCESS WELDING ON THE SURFACE GROOVE MELT SIZE.
- APPLY A PILE TIP REINFORCEMENT ON THE SQUARE CUT END OF THE PILE AND MELT IT IN CLOSE CONTACT AGAINST THE PILE OR TO ACHIEVE THE MINIMUM GROOVE MELT SIZE.

6. THE VALUES SHOWN HERE CORRESPOND TO THE ACCEPTABLE GROOVE WELD SIZES FOR HP-PILES. THE CONTRACTOR MAY USE ANY PREQUALIFIED GROOVE WELDS APPROVED BY THE ENGINEER.

7. THE DEPARTMENT MAY REJECT THE APPROVED TIP TYPE IF USING UNQUALIFIED FOR A JOB SITE BASED ON QUALITY REPORTS.

**TYPICAL HP-PILE TIP**

**HP-PILE TIP REINFORCEMENT DETAILS**

**CLOSED END PILE**

**OPEN END PILES**

**ALTERNATE DETAIL B**

**PIPE PILE TIP REINFORCEMENT**
**FIELD WELDING NOTES:**

1. Submit a weld procedure specification to the engineer for approval before welding is performed.
2. Use the manual shielded metal arc process with proper classified low hydrogen electrodes to conform to the classification E-7016, E-7018 or E-7028.
3. Dry the electrodes for at least eight hours and keep at a temperature between 450° and 500° prior to use. Redry electrodes if not used within four hours. 
4. Do not weld when cold. Keep the electrodes in a warm area (minimum 70°F) prior to use. 
5. The single bevel groove welds B-U4a or B-U2a are limited to the horizontal welding position only per the AWS Code. 
6. Do not weld when the ambient temperature is below 0°F.
7. Provide wind breaks to protect working areas from direct wind.
8. Do not weld when surfaces are wet or exposed to rain, snow, wind or when welders are exposed to inclement conditions that will hamper good workmanship.

**GENERAL NOTES:**

- Use the manual shielded metal arc process with proper classified low hydrogen electrodes to conform to the classification E-7016, E-7018 or E-7028.
- Dry the electrodes for at least eight hours and keep at a temperature between 450° and 500° prior to use. Redry electrodes if not used within four hours.
- Do not weld when the ambient temperature is below 0°F.
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**PLATE NOTES:**

1. Do not allow file splices on any portion of the plate to be in contact with the pile or pile cap. 
2. Provide a welded plate with material same as file welded plate. 
3. Let weld cool to ambient temperature before opening splice. 
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5. Splice may develop the full yield strength of the plate in bending and tension. 
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**COMMONWEALTH OF PENNSYLVANIA**

**DEPARTMENT OF TRANSPORTATION**

**BUREAU OF PROJECT DELIVERY**

**STANDARD**

**STEEL PILE TIP REINFORCEMENTS & SPLICES**

**RECOMMENDED MAY 2013**

**BC-757M**

**SHEET 2 OF 3**

**HP-PILE SPLICE DETAILS**

**POSITIONING DETAILS**

**PLANE - HP PILE WITH CLAMPS**

**SECTION D-D**

**SHEeted USING CLAMPS TO MISMATCH PILE DURING WELDING**

**SECTION C-C**

**SPLICE LOCATIONS REQUIREMENTS.**

- Refer to Sec. 1005.2(c) of Pub. 408 for position of the pile in bearing and bending. 
- Split length to be ground smooth and flush with web cope. 
- Do not weld when the ambient temperature is below 0°F. 
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- Do not weld when surfaces are wet or exposed to rain, snow, wind or when welders are exposed to inclement conditions that will hamper good workmanship.

**WEB COPE AND BACK-UP PLATE DETAILS**

**NOTE:**

- End of weld to be ground smooth and flush with web cope.
- Do not weld when the ambient temperature is below 0°F.
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PILE SHELL

CUT THIS END OF SHELL TO A CONFIGURATION SUCH THAT THE FILLET WELD ALONG THE CUT EDGE TO HAVE A TOTAL LENGTH NOT LESS THAN 6 TIMES THE DIAMETER OF THE SHELL.

STANDARD STEEL PILE TIP REINFORCEMENTS & SPLICES

NOTE:
1. DO NOT ALLOW PILE SPLACING ON ANY PORTION OF PILE THAT IS TO REMAIN EXPOSED IN COMPLETED STRUCTURE.
2. PROVIDE SPLICER SLEEVE MATERIAL SAME AS PILE MATERIAL.
3. USE EITHER THE SPLICER SLEEVE OR "ALL WELDED ALTERNATE".
4. LET WELDS COOL TO AIR TEMPERATURE BEFORE DRIVING PILES.
5. SPLICE MUST DEVELOP THE YIELD STRENGTH OF THE PILE IN BEARING AND BENDING.
6. REFER TO SEC. 1005.2(b) OF PUB. 408 FOR SPLICE LOCATION REQUIREMENTS.

PIPE PILE SPLICE DETAILS

ELEVATION - SPLICE USING ALL WELDED ALTERNATE

ELEVATION - SPLICE (USING SPLICER SLEEVE)

SECTION F-F

SECTION G-G

DETAIL C

DETAIL D

CALL OUT SHEET 3 OF 3

FLUTED TUBE SPLICE DETAIL

* * *

PIECE SHELL

BACKING RING

MACHINE FLAT

BACKING PLATE

NOTE:

IF PIPE WALL THICKNESS EXCEEDS ', USE WELD SIZE BASED ON ROOT OPENING.

INCREASE WELD SIZE BASED ON ROOT OPENING.

ALL DIMENSIONS ARE MINIMUM.

SEE DETAIL D BASED ON ROOT OPENING.

NOTE:

INCREASE WELD SIZE BASED ON PIPE WALL THICKNESS.

BACKING RING TO BE CUT FROM SAME PILE SIZE AS IS BEING SPLICED.

CUT AND BEND SECTION F-F USING ALL WELDED ALTERNATE

SPLICED SECTION G-G USING SPLICER SLEEVE

DETAIL B-U2a OR B-U4a SHOWN ON SHEET 2 OF 3.

NOTE C:

PIPE PILE NOT SHOWN FOR CLARITY.

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