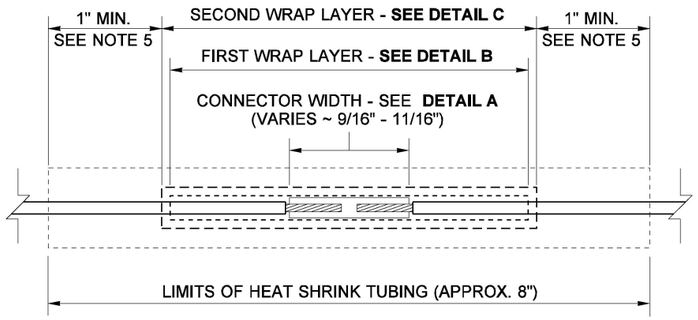
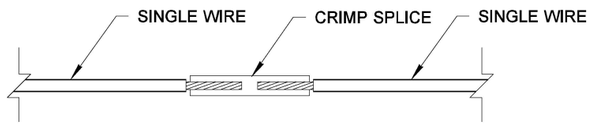
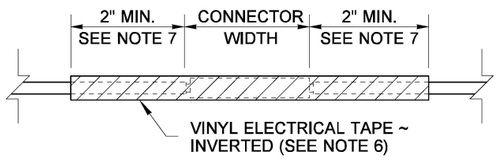


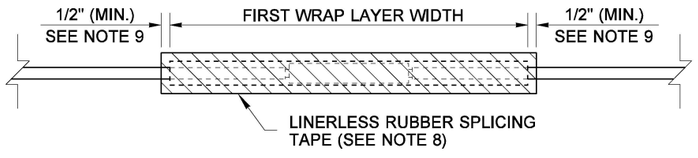
ALUMINUM WIRE INLINE (BUTT) SPLICE DETAIL



DETAIL A - CRIMP CONNECTION (STEP 1)



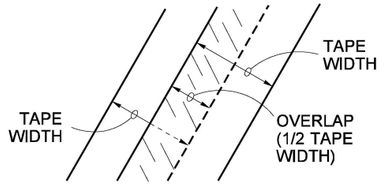
DETAIL B - FIRST WRAP LAYER (STEP 2)



DETAIL C - SECOND WRAP LAYER (STEP 3)

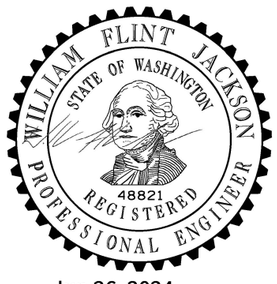
NOTES

1. This method of splicing is for aluminum wire inline (butt) splices located in junction boxes. This method shall not be used for any tap splices, but may be used for inline splicing of aerial aluminum wire.
2. Aluminum wire shall only be spliced to aluminum wire. Aluminum wire shall not be spliced to copper wire.
3. Each splice shall consist of the following:
   a. A crimp (permanent / irreversible) splice (See **Standard Specification Section 9-29.12(1)**).
   b. A layer of electrical tape wrap.
   c. A layer of rubber insulating tape wrap.
   d. Heat shrink tubing (See **Standard Specification Section 9-29.12(3)A**).
4. Exposed conductors and mechanical connector shall be liberally coated with anti-oxidant compound before installing the crimp connection.
5. Heat shrink tubing shall extend no less than one inch beyond the second wrap layer onto the original wire insulation for each wire in the splice.
6. Electrical tape used in splicing applications shall be 3/4-inch wide, be UL listed under UL 510, and be CSA Certified under C22.2 No. 197 (3M Scotch Super 33+ Tape or equivalent).
7. Vinyl electrical tape shall be installed inverted (adhesive side facing out) and extend no less than two inches onto the original wire insulation for each wire in the splice.
8. Linerless rubber splicing tape shall be certified to ASTM D4388 Type II, Type III, or Type V (3M 130C Tape or equivalent).
9. Rubber splicing tape shall extend approximately 1/2-inch beyond the vinyl electrical tape.



TAPE OVERLAP DIAGRAM

EACH SPIRAL LAYER SHALL HAVE AN OVERLAP OF 1/2 OF THE TAPE WIDTH AS SHOWN



Jun 26, 2024

ALUMINUM WIRE INLINE (BUTT) SPLICE DETAILS

STANDARD PLAN J-55.05-00

SHEET 1 OF 1 SHEET

APPROVED FOR PUBLICATION

Mark A Hoines Jun 26, 2024

STATE DESIGN ENGINEER

Washington State Department of Transportation