



Scope of Work, ICE, SEP

Washington
Metropolitan
Area
Transit
Authority

Project Title:

Tie Plates, E-Clips, Screw Spikes

PRN ID: CTRST17049

SOW ICE ID: SOW0000408

1.0 INTRODUCTION

1.1. The Washington Metropolitan Area Transit Authority (WMATA) requires the services of qualified vendors to manufacture and provide tie plates, e-clips, and screw spikes to be used in the system-wide replacement/rehabilitation of mainline and yard track. Contracts will consist of a one-year base and four one-year options.

2.0 CURRENT SCOPE OF WORK

2.1. Manufacture and provide tie plates, e-clips, and screw spikes in accordance with this Statement of Work and the technical specifications contained herein.

2.2. All materials and equipment required for this contract will be the responsibility of the vendor.

3.0 DELIVERABLES

3.1. **Tie Plates** (for Wood Crossties):

3.1.1. Vendor will provide tie plates to accommodate 115 RE running rail, as referenced in this Scope of Work and technical specifications contained herein.

3.1.2. Tie Plates will be a rolled e-clip type, designed for wood crossties.

3.2. **Rail E-Clips:**

3.2.1. Vendor will provide left-hand, rail fastening E-clips, as referenced in this Statement of Work and technical specifications contained herein.

3.3. **Screw Spikes:**

3.3.1. Vendor will provide screw spikes as referenced in this Statement of Work and technical specifications contained herein.

3.3.2. Screw Spikes shall have a rectangular, double-head, gimlet point, for use with spike driving/spike pulling work equipment.

4.0 PERFORMANCE AND ACCEPTANCE CRITERIA

4.1. Vendor will provide tie plates, e-clips, and screw spikes that comply with the technical specifications.

4.2. Vendor will complete all specified tests and inspections prior to shipment.

4.3. Vendor will allow the COTR access to fabrication and testing facilities, upon request.

4.4. Vendor will adhere to the Quality Assurance Program submitted with the proposal package.

5.0 TECHNICAL SPECIFICATIONS

5.1. The technical specifications for the tie plates, e-clips, and screw spikes are presented below:

5.1.1. Tie Plates

1. Example: Pandrol part number TPL-P26M-5.5”.
2. See drawing Attachment A.
3. Manufactured for 115RE 5.5” base to meet or exceed AREMA Manual for Railway Engineering, Chapter 5 specifications.
4. Tie plates shall be canted 40 to 1 inward.
5. Tie plates shall be rolled steel with the raised figures on top of the plate, outside the shoulder, indicating manufacturer and the last two digits of the year rolled.
6. Tie plates shall be smoothed and free from warp and other projections in the surface caused by shearing or punching.
7. The vendor shall submit test reports showing the product complies with the above requirements.

5.1.2. E-Clips

1. Example: Pandrol part number e-2056.
2. See drawing Attachment B modified to e-2056 (left hand) instead of e-2055 (right hand).
3. Spring-wedge type rail clips will not be permitted.
4. Rail clips shall be forged from alloyed steel bars and heat treated to achieve the minimum spring action holding power, as specified herein.
5. Clips must be one piece, threadless and detachable.
6. Holding force shall be generated by spring action.
7. Surface hardness of clips shall be between 44 and 48 HRC.
8. The range of vertical hold down force (toe load) per clip shall be between 2,100 and 3,000 lbs. with a total force range of 4,200 to 6,000 lbs. per rail seat.
9. The minimum static longitudinal slip, when assembled with two clips, shall be 3,000 lbs.
10. The vendor shall submit test reports showing the product complies with the above requirements.

5.1.3. **Screw Spikes**

1. Example: Lewis Bolt & Nut Company part number SSEPR094-0650P.
2. See drawing Attachment C.
3. Manufactured to meet or exceed AREMA Manual for Railway Engineering, Chapter 5 specifications.
4. Made with AISI 1030 steel. 85,000 PSI minimum tensile.
5. The vendor shall submit test reports showing the product complies with the above requirements.

5.2 Applicable References

- A. Association of American Railroads (AAR) - Signal Manual
- B. American Railway Engineering and Maintenance-of-Way Association (AREMA)
 1. AREMA Manual for Railway Engineering, latest edition.
 2. AREMA Portfolio of Trackwork Plans
- C. American Society of Testing and Materials (ASTM)
 1. ASTM A36
 2. ASTM A66
 3. ASTM A325
 4. ASTM D257
 5. ASTM D395
 6. ASTM D412
 7. ASTM D471
 8. ASTM D518
 9. ASTM D570
 10. ASTM D573
 11. ASTM D695
 12. ASTM D1149
 13. ASTM D1229
 14. ASTM D2240
- D. National Electrical Manufacturers Association (NEMA)
 1. NEMA LI 1 Industrial Laminated Thermosetting Products
- E. American Institute of Steel Construction
 1. Manual of Steel Construction.

5.3 Quality Assurance

5.2.1 The vendor must submit its Quality Assurance Program to the Authority as part of the vendor's bid package.

5.2.2 The vendor shall submit test reports showing the product complies with the technical specifications.

5.4 Submittals

- A. Quality Assurance Program to be submitted with vendor's proposal
- B. Test reports and certificates of product conformance to be submitted no less than (21) calendar days prior to the first delivery date in the schedule to the WMATA Contracting Officer's Technical Representative (COTR).
- C. Shop drawings for fabrication of the tie plates, e-clips, and screw spikes to be submitted no less than (21) calendar days prior to the first delivery date in the schedule to the WMATA Contracting Officer's Technical Representative (COTR).

6.0 PERFORMANCE SCHEDULES – Delivery of tie plates, e-clips, and screw spikes must take place within 60 days of each order. A 48-hour notice shall be given to WMATA prior to each delivery.

7.0 LOCATION OF WORK AND ANY CONSTRAINTS

7.1. All materials for this contract will be delivered to:

WMATA Auth Road Material Storage Facility
4305 Auth Place
Suitland, MD 20746

WMATA Industrial Road Material Storage Facility
6851 Industrial Road
Springfield, VA 22151

Alternate locations within the WMATA rail system (DC, MD, VA)

Hours of delivery will be between 7:00 am and 2:00 pm Monday through Friday, exclusive of legal holidays in the Washington, DC area. The Vendor shall notify WMATA of material deliveries (48) hours in advance. The supplier shall contact Ms. Kimberly Hammond at (202) 253-4127 for instructions.

7.2. Shipping/Packaging for Tie Plates, Screw Spikes, and Rail E-clips:

7.2.1. Tie Plates, Screw Spikes, and Rail E-clips will be packaged, and of sufficient weight, to allow unloading by a standard forklift.

7.2.2. Materials will be packaged securely to avoid shifting during transportation/unloading.

7.2.3. All deliveries must include a detailed Bill of Lading.

7.3. WMATA staff will inspect track material deliveries upon receipt. The Vendor will replace defective track materials within (14) calendar days of rejection notice when they are damaged, or if they do not meet specifications. WMATA will not incur any additional cost for replaced track materials.

TIE PLATE

SPECIFICATIONS:

- Rolled to AREMA material specifications.
- Palletizing available at 100 plates per pallet
- Can be shipped loose in gondola or dump truck

TPL-P2-6" - approximate weight as punched 25.2 lbs.

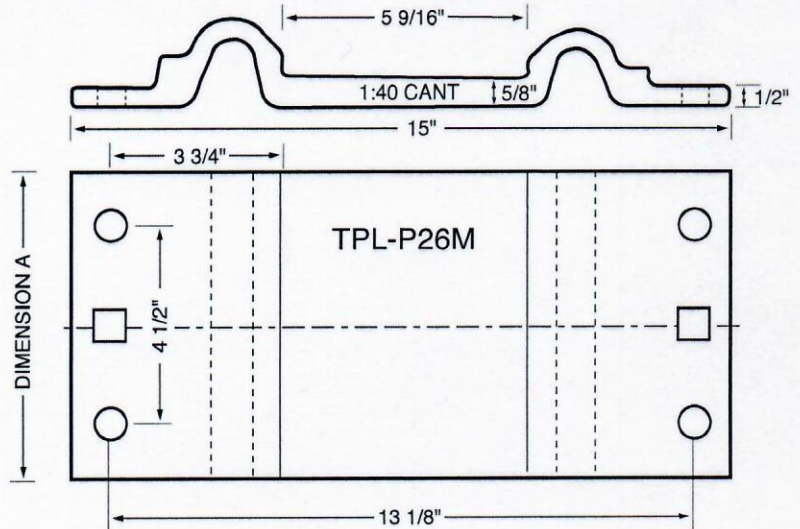
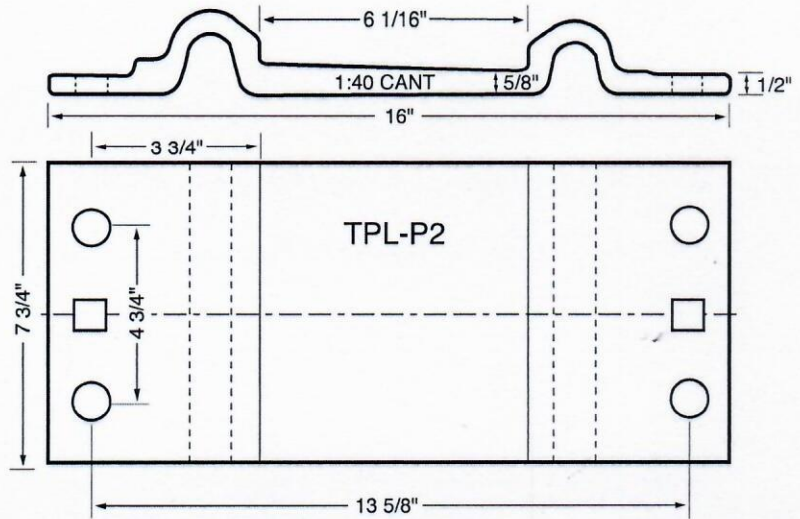
CONVENTIONAL PUNCHING

6" Rail Base	
Part Number	
TPL-P1-6"	7 3/4" x 16" w/6, 11/16" square holes
TPL-P2-6"	7 3/4" x 16" w/4, 1" round holes and 2, 11/16" square holes
5 1/2" Rail Base	
TPL-P26M-5.5"	7 3/4" x 15" w/4, 1" round holes and 2, 11/16" square holes
100 RB (100-8) Rail	
TPL-P54RB	7" x 15 3/16" w/6 1 1/16" round holes

Other sizes and hole punching may be available.

TPL-P26M-5.5" - approximate weight as punched 23.4 lbs.

NOTE: Standard punching shown. Square holes are 11/16". Round hole punching available up to 1 5/32" maximum. 1" most common.



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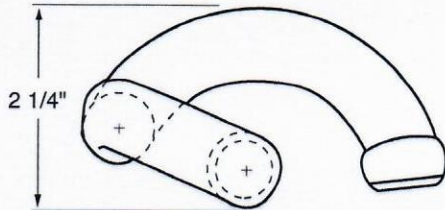


9/13 .5M In the interests of product improvement, Pandrol reserves the right to change the specifications contained herein at any time without prior notice.

Attachment A to SOW

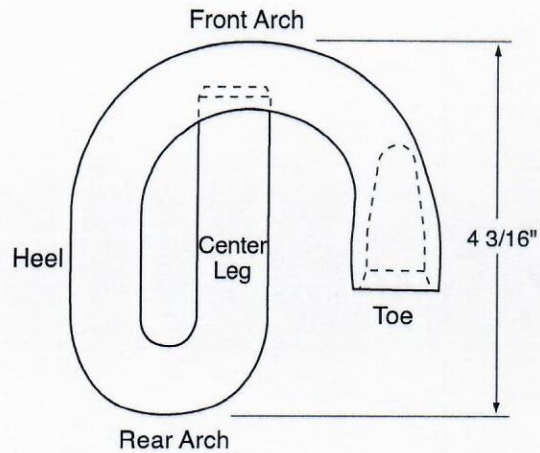
SPECIFICATIONS:

- Made from high spring steel alloy
- Bar Diameter: 20mm
- Approximate Shipping Weight: 1.7 lbs.
- Normally packed 25 per bag
- P/N ECL-2055 (right hand)
- P/N ECL-2056 (left hand)
- P/N ECL-2009L (Canada)

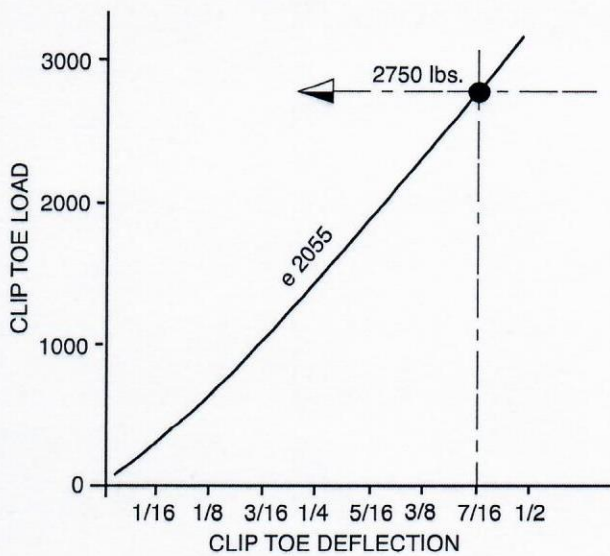


The 'e' clip design utilizes the toe to bear on the rail base. The toe is flattened to provide a large bearing area on the rail or insulator.

Clip	'e' 2055
Bar Diameter	20 mm
Nominal Toe Load	2,750 lbs
Working Deflection	7/16"
Nominal Rail Seat	
Clamping Force	5,500 lbs
Surface area in contact with insulator or rail	.82 sq. in.



Chamfered center leg allows easy setting and driving.



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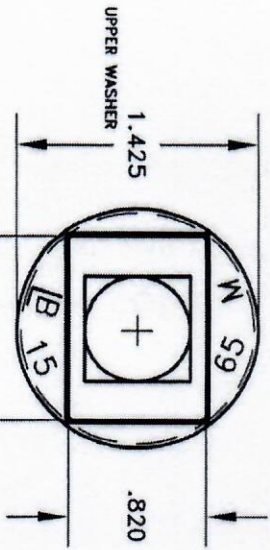
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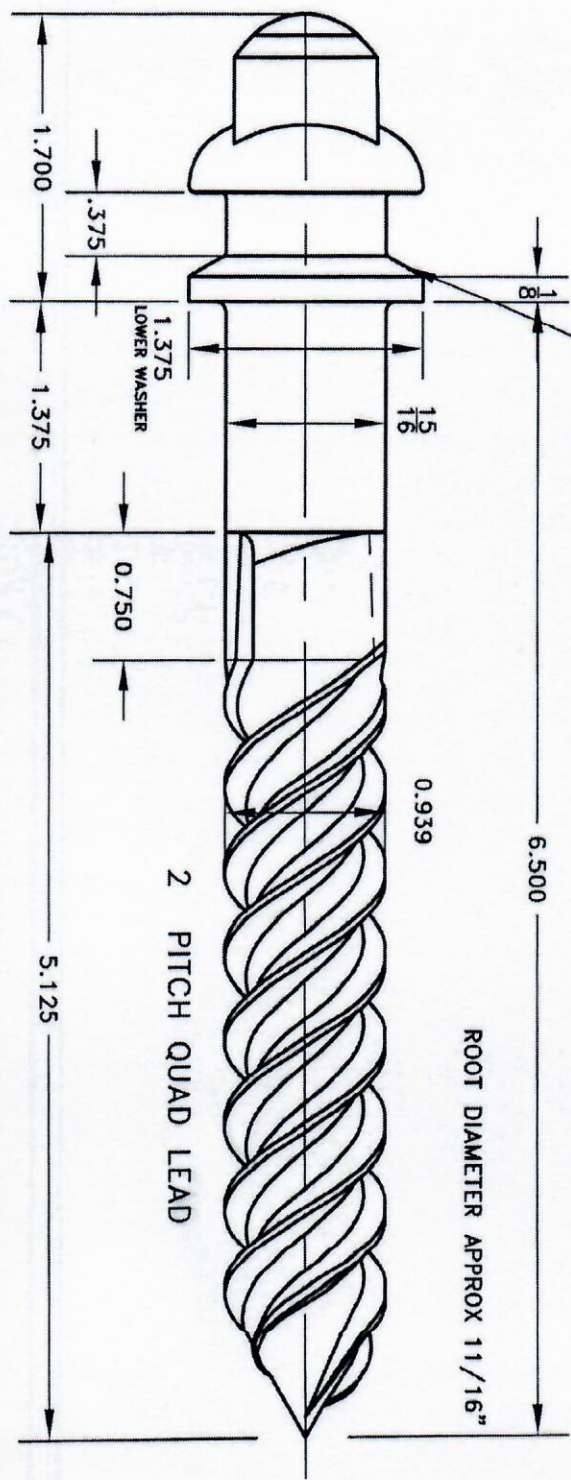
www.pandrolusa.com



LEWIS PART NO: SSEPR094-0650P



"US PAT 6471140"
ON LOWER WASHER



2 PITCH QUAD LEAD

ROOT DIAMETER APPROX 11/16"

INSTALLATION:
PREDRILL WOOD TIES 1/8" DRILL 6" DEEP
MAY BE DRIVEN IN (SPIKE DRIVER, SLEDGE ETC)
OR WITH ROTATING MACHINERY
CONVERSION KITS AVAILABLE FOR NORDCO SPIKERS

U.S. PATENT 6,471,140 & 6,808,120
OTHER U.S. AND INTERNATIONAL PATENTS PENDING

SCALE: FULL	DRAWING NO. SSEPR-MI1	PRODUCT: RECTANGLE HEAD EVERGRIP SCREW SPIKE	DATE: 11/7/12	<p>LEWIS BOLT & NUT COMPANY 30105 Sixth Avenue Junta, CO 81050 (719) 384-5400</p>
TOLERANCES: AS NOTED	DRAWING NO. AISI 1030	85,000 PSI MIN. TENSILE	DRAWN BY: TJA	

Attachment C to SOW