BELL SYSTEM PRACTICES
Outside Plant Construction and Maintenance

SECTION G52.176.1
Issue 3, December, 1953
AT&T Co Standard

ALPETH AND STALPETH CABLES
GENERAL

Contents **Page**

1. GENERAL

1.01 This section covers general information pertaining to the use of alpeth and stalpeth sheath cables in aerial exchange plant. This section replaces Section G52.176.1, Issue 2, Alpeth Cable. It includes information on stalpeth sheath cables. It also includes precautions to be observed at railroad crossings and when cutting polyethylene sheath cables to avoid the hazard of electric shock. Placing and supporting information previously covered in the alpeth cable section is now covered in the sections on placing aerial cable and the arrangement of supports.

1.02 Except as otherwise provided for in this section or in the detail plans, the standard practices applying generally to outside plant construction of lead sheath exchange aerial cable plant also apply when alpeth and stalpeth sheath cables are used.

1.03 Alpeth cable has an outer jacket of polyethylene and an inner jacket of aluminum.

1.04 Stalpeth cable has an outer jacket of polyethylene, an intermediate steel jacket and an inner jacket of aluminum.

1.05 Both alpeth and stalpeth cables weigh considerably less than comparable lead sheath cables.

1.06 Use alpeth and stalpeth cables at railroad crossings **only** when specified on the detail plans. Because of the relatively low melting point of the polyethylene jacket these cables may be damaged by exposure to the high stack temperatures of steam or diesel locomotives. Locations such as stations, yards, switching points, block signals, etc., should be avoided.

2. SUSPENSION STRAND

2.01 The sizes of strand, the strand stringing tensions and the maximum average span length to be used for **alpeth and stalpeth cables having copper conductors** are the same as for **equivalent weights** of lead covered cables. The resulting sags for these cables lashed to properly tensioned suspension strand are the same as for **equivalent weights** of lead sheath cables.

2.02 The sizes of strand, the strand stringing tensions and other placing information to be used for **alpeth and stalpeth sheath aluminum conductor cables** are covered in the sections on cable sizes and strand tensions for aluminum conductor cables.

2.03 **Strand Continuity:** Where the continuity of the suspension strand is broken (such as at corners where the strand is dead-ended in both directions on guy bolts), bridge the gap between the two strands with a bond consisting of No. 6 ground wire, or strand of the same size as the suspension strand.

3. PRECAUTIONS WHEN CUTTING

3.01 A sizeable electric charge can be produced on the metal jacket of an isolated aerial alpeth or stalpeth sheath cable due to friction between the polyethylene jacket and the cable feeding tube and other equipment while the cable is being placed.

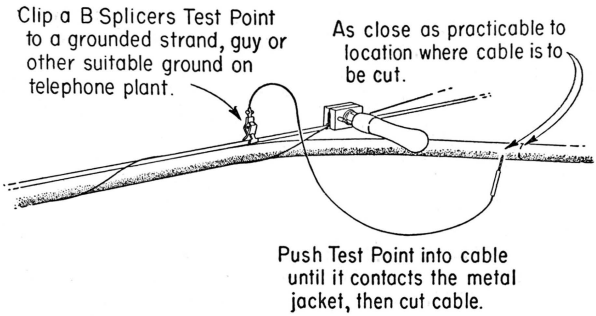
3.02 The discharge current is at times sufficient to produce an uncomfortable shock when body contact is made between the inner metal jacket of the cable and the strand or other ground.

3.03 Due to leakage to the strand, the charge will normally be reduced to a negligibly small value within 6 hours after placing. However, when it is necessary to cut or otherwise expose the metal jacket of an alpeth or stalpeth cable within the day of placing, or at any time when doubt exists as to its charged condition, ground the metal jacket before cutting through the outer polyethylene jacket and maintain the ground during the cutting operation.

3.04 To ground the cable proceed as follows:

(1) Clip a B Splicers Test Point to a grounded strand, guy or other suitable ground on telephone plant near the point where the cable is to be cut.

(2) Push the test point through the polyethylene jacket to make contact with the metal jacket. This puncture should be made as close to the cutting location as practicable.



(3) Cut the cable, remove the test point and seal the end with tape, making sure to cover the sheath puncture with tape.

3.05 As an alternative, the cutting tools may be connected to a grounded strand or other suitable ground with lashing wire, test clips, or the like and the cable discharged during cutting. Rubber gloves should be worn during this operation.

3.06 The strand of a prelashed cable is usually not grounded at the time the cable is to be cut, and must be grounded temporarily at some point along the line.

4. ELECTRICAL PROTECTION

4.01 Protector mountings are required for alpeth and stalpeth sheath cables under the same conditions that apply to lead covered cables.

4.02 Place protector mountings at locations specified in the detail plans. Install the ground wire and connect it to the strand.

5 MECHANICAL PROTECTION

5.01 The recommendations contained in the section pertaining to Mechanical Protection for lead covered cables also apply when alpeth and stalpeth cables are used.