

REPAIR OF UNDERGROUND CABLE

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1. GENERAL

1.01 This appendix is issued to supplement 632-800-301, Issue 4 and to provide guidelines and formalize the Indiana Bell Telephone Company policies on the methods to be used to repair underground cables where the troubles are located in the section.

1.02 This practice is being reissued to update title changes due to reorganization.

1.03 In no case shall a new cable that is damaged in placing be repaired in the duct. A new section of cable must be placed.

1.04 All cable damage should be repaired in the appropriate manner to restore service as quickly as possible and the cable repair opening should be closed as described in the following paragraphs.

1.05 The type of closure used to repair cable damage will depend upon the extent and nature of the cable damage. If only sheath damage and minor conductor damage is encountered, the cable should be permanently closed with a lead sleeve slightly smaller than the conduit or with B sheath repair sleeving and the conduit permanently repaired as described in the following sections of this practice.

1.06 In instances where the sheath repair closure is larger than the duct, all relevant information shall be forwarded to the Manager-Cable Maintenance and the Manager-Engineering for resolution of the methods used for permanent repairs.

1.07 The Manager-Engineering should provide the type of services provided by the cable, the approximate location of other utilities and any information available on future excavation activities in the immediate area such as a conduit reinforcement project, other utilities placing future services, etc. The forces doing the cable restoration work should provide the location of the repair splice with regards to above ground structures and obstacles such as roads, alleys, utilities, etc., the depth and type of cover and type of surface, size closure used to close the repair openings and the type and extent of support required for the closure. This information will enable the Manager-Cable Maintenance and the Manager-Engineering to determine if additional measures are required. In some instances it may be desirable to replace the cable section. For example, if the damaged cable is scheduled for removal within the next five years as part of a relief project, replacement of the damaged section now with a larger size cable may be economically attractive and should be investigated.

2. SHEATH REPAIR

2.01 All permanent repairs to underground cable in a section should be closed with a lead sleeve as described in BSP 632-800-301 or with a B sheath repair sleeving as described in BSP 644-200-005.

2.02 On lead sheath cables, use a sleeve as small in diameter as possible and wipe thin joints to allow as much clearance in the duct as possible.

2.03 On polyethylene sheathed cable, use a lead sleeve and wrapped joints or B sheath repair sleeving. The lead sleeve and wrapped joint method is described in detail in BSP 633-300-200 for Alpeth and Stalpeth sheaths, and BSP 633-300-206 for PAP, PASP, ARPAP and ARPASP sheaths.

2.04 BSP 633-300-203 provides details for the underground protection for wrapped joints and BSP 633-300-204 provides details for wrapped joints under continuous pressure.

NOTICE

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except under written agreement.

**2.05** Minor sheath defects in working plastic sheath cables should be repaired using the B sheath repair sleeving.

**2.06** In corrosive areas and on cables that have existing corrosion protection, i.e., E sheath, necessary corrosion protection should be applied to the closure as described in BSP 633-020-205.

**2.07** The sheath closure must be properly and solidly supported and protected against movement due to settling of the sub-soil. One method is described in Addendum 633-020-205NB.

### **3. CONDUIT REPAIR**

**3.01** After cable repairs have been completed, all damaged ducts shall be permanently repaired as described in BSP 622-395-300.

**3.02** If it has been impossible to repair the cable sheath as outlined in BSP 632-800-301, Part 6, and a closure larger than the duct is used, special procedures as discussed in Paragraphs 2.06, 2.07 and 3.02 must be taken prior to surface restoration.

**3.03** Ducts containing repair openings that cannot be repaired to be continuous around the repair closure should be plugged on each side of the closure using B Duct Sealer as described in BSP 628-220-204 to prevent erosion of the fill around the structure into the ducts.

**3.04** Even though a repair closure might be supported outside the duct containing the cable, all other vacant and occupied ducts shall be repaired to be continuous throughout the section. In some cases this might require that more of the conduit be exposed in order to splay the ducts around the repair closure.

**3.05** All repaired ducts shall be encased in concrete, but **no** repair closure is to be encased unless the duct containing this closure is made continuous around the closure. **All** repair closures supported outside the duct shall be protected from encasement.

### **4. MARKING CABLE AND RECORDS**

**4.01** All underground cables containing duct splices or sheath repairs shall be marked in both adjacent manholes to show the location of the repair.

**4.02** Sections 632-800-301 and 632-020-101 describe the duct splice tag to be used and method of installing the tag.

**4.03** Accurate measurements and/or sketches shall be made by the supervisor in charge of the repair and forwarded to the Manager-Engineering.

**4.04** The Manager-Engineering shall post the location of the duct splice or sheath repair on the Underground Cable Records as described in BSP 928-113-908NB.