

BELL SYSTEM PRACTICES
Outside Plant Construction
and Maintenance

SECTION G31.105.1
Issue 1, January, 1958
AT&T Co Standard

OPEN WIRE
GLASS INSULATORS

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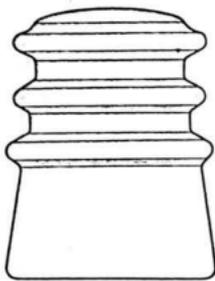
1. GENERAL

1.01 This section describes the different types of glass insulators and provides recommendations concerning their usage. It replaces Section G31.105, Issue 2.

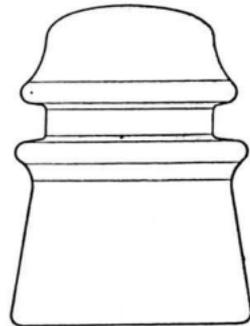
1.02 Select the type of insulator to be used in new work in accordance with the recommendations outlined in this section unless another type is specified on the detail plans or by other instructions. Do not change the type of insulators on existing circuits except as covered in the following or other instructions.

2. TYPES OF INSULATORS AND RECOMMENDED USES

2.01 The different types of insulators to be used in new work are illustrated in the following sketches.



Exchange



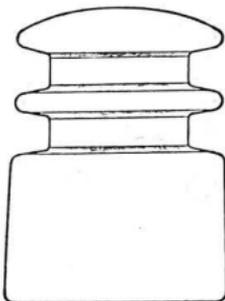
Toll



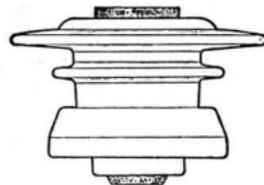
DP



TW



TS



Span Transposition
Bracket Insulator

2.02 The following recommendations should serve as a guide in selecting insulators for **new** work.

Type of Insulator	Where Used
Exchange	Exchange or rural lines where average span length does not exceed 150 feet.
Toll	Exchange or rural lines where average span length exceeds 150 feet.
DP	Exchange or rural lines where average span length exceeds 150 feet. Toll circuits, as specified on detail plans.
TW	In tandem bracket transposed lines of any span length, and on single-insulator transposed exchange or rural lines where span length does not exceed 150 feet.
TS	Carrier toll circuits, as specified on detail plans. When used at locations other than 4-inch point brackets, wire should be tied in lower groove of TS insulator.
Span Transposition Bracket	Span transposition bracket.

3. RECOVERED INSULATORS

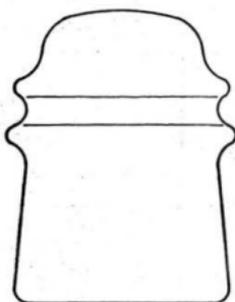
3.01 Recovered insulators should be used for maintenance or for equipping new lines when sufficient quantities are available. Always equip all wires of a pair or group with the same type of insulator at a given pole location. The following recommendations cover such usage.

- (a) Where the insulators are of the type covered in Part 2, they should be used as recommended therein.
- (b) Recovered DP or Toll insulators of the superseded types (Shallow Groove) may be used as substitutes for Exchange insulators.
- (c) CS, CSA, or CSC insulators may be substituted for TS insulators except on 4-inch point brackets.
- (d) Recovered Pony insulators should not be re-used.
- (e) Recovered two-piece Transposition Glass insulators should not be re-used.

3.02 The following sketches show the superseded types of glass insulators.



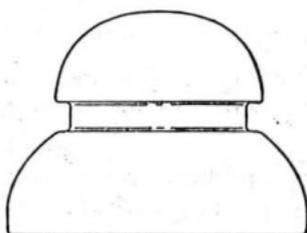
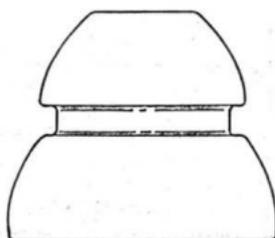
CS, CSA or CSC



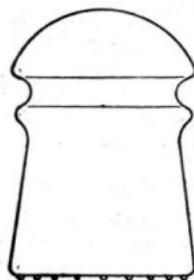
TOLL
(Shallow Groove)



3 5/8 in.
DP
(Shallow Groove)



TRANSPPOSITION GLASS
(Two-Piece)



PONY

4. REPLACEMENT OF INSULATORS

4.01 During any reconstruction work where the line wire is untied throughout the lead the following changes in insulators should be made unless otherwise specified in the detail plans or by other instructions.

- (a) Toll Circuits: Existing Exchange, Pony, Toll (Shallow Groove) or DP (Shallow Groove) insulators should be replaced with DP or TS insulators as appropriate. Toll and CSC to be used only if these are present in salvage stock. If insulators are to be purchased, then use DP or TS insulators as appropriate.
- (b) Exchange and Rural Line Circuits: Existing Pony insulators should be replaced with Exchange, DP, or Toll insulators as appropriate.

5. CIRCUIT CHANGES

5.01 When Exchange or Rural Line Circuits are converted to Toll Circuits, or when the service over such circuits is changed from manual to dial operation, the type of insulator should not be changed at the time the circuit is converted unless specified on the detail plans. However, if any work is done on the line at the time of conversion or thereafter, and such work involves untying the line wire, the insulators should be installed to correspond with the instructions outlined in Part 4 unless otherwise specified.