

PORCELAIN DISC INSULATORS - INSULATORS PER STRING

| VOLTAGE | TANGENT & JUMPER SUSPENSION STRING | | RUNNING ANGLE SUSPENSION STRING | |
|---------|---------------------------------------|-----------|------------------------------------|-----------|
| | WOOD ARM | STEEL ARM | WOOD ARM | STEEL ARM |
| 35kV | 3 | 4 | 4 | 5 |
| 46kV | 4 | 5 | 5 | 6 |
| 69kV | 5 | 6 | 6 | 7 |
| 115kV | 7 | 8 | 8 | 9 |
| 230kV | 13 | 15 | 14 | 16 |
| 345kV | 18 | 20 | 19 | 21 |


| VOLTAGE | DEAD END STRING | | |
|---------|-----------------|-----------|-------------------|
| | WOOD ARM | STEEL ARM | SUBSTATION BAY |
| 35kV | 4 | 5 | 5 |
| 46kV | 5 | 6 | 6 |
| 69kV | 6 | 7 | 7 |
| 115kV | 9 | 10 | 11 |
| 230kV | 15 | 17 | 18 |
| 345kV | 20 | 22 | 23 |

NOTE:
INSULATOR PER STRING REQUIREMENTS FOR TANGENT AND RUNNING ANGLE STRUCTURES ALSO APPLY TO INDIVIDUAL STRINGS OF INSULATORS USED IN V-STRING APPLICATIONS IN THESE SITUATIONS.

REFER TO TC-01-002 FOR INSULATOR DESIGN CRITERIA

Contact Engineering Standards - Transmission for the creation of new standards and CUs.

Drawing Scale: N/A

| | | | | | | | |
|---|--|------------------------------------|---|-------------------------------|-----------------------|-------------------------|-----------------|
|  | IBERDROLA USA TRANSMISSION CONSTRUCTION STANDARDS MANUAL | | TRANSMISSION INSULATOR INFO PORCELAIN DISC INSULATORS INSULATORS PER STRING | | | | Revision 00 |
| | | | | | | | DATE / /2014 |
| Drwn. By: L.A. Best | Date Dr.: 9/26/2013 | Checked By: Shepard/Becken/Hart | Date Ck.: / /2014 | Approved By: Barry R. Hart | Date App.: / /2014 | TM2.23.TI-01-001 | Sheet 1 |

THIS IS A COMPUTER GENERATED
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ANSIA
8-1/2" X 11"

5-3/4" X 10" PORCELAIN DISC INSULATORS - ANSI CLASS 52-3

| # of DISCS | COMPATABLE UNIT (CU) | WEIGHT (POUNDS) | LENGTH (FEET) |
|------------|----------------------|-----------------|---------------|
| 3 | U*CT-TI-9P-D3-3 | 39 | 1.44 |
| 4 | U*CT-TI-9P-D3-4 | 52 | 1.92 |
| 5 | U*CT-TI-9P-D3-5 | 65 | 2.40 |
| 6 | U*CT-TI-9P-D3-6 | 78 | 2.88 |
| 7 | U*CT-TI-9P-D3-7 | 91 | 3.35 |
| 8 | U*CT-TI-9P-D3-8 | 104 | 3.83 |
| 9 | U*CT-TI-9P-D3-9 | 117 | 4.31 |
| 10 | U*CT-TI-9P-D3-10 | 130 | 4.79 |
| 11 | U*CT-TI-9P-D3-11 | 143 | 5.27 |

10,000# MINIMUM TEST LOAD PROOF
 20,000# MINIMUM M&E RATING
 GLOBAL IUSA MID 30922641
 COLOR: BROWN

CU Type:
 UC_INSO

FOR NYSEG & RGE REPLACEMENT OF EXISTING INSULATOR STRINGS
 THAT ARE GRAY IN COLOR (GLOBAL IUSA MID 30922637):
 USE CU - U*CT-TI-9P-D3-#G
 WHERE '# IS THE QUANTITY OF INSULATORS IN THE STRING.

NOTE: INSULATOR WEIGHTS AND LENGTHS DO NOT INCLUDE OTHER ATTACHMENT
 HARDWARE SUCH AS CLEAVISES, SOCKETS OR LINKS THAT ARE COMMONLY
 USED WITH INSULATORS.

REFER TO TC-01-002 FOR INSULATOR DESIGN CRITERIA

CU Function: U_TL69 for 35kV & 46kV, U_TG69 for 69kV through 344kV,
 U_T345 for 345kV & greater.

For correct CU: substitute 2 for NYSEG, 3 for CMP or 4 for RG&E in place of asterisk (U*_).

Contact Engineering Standards - Transmission for the creation of new standards and CUs.

Drawing Scale: N/A



IBERDROLA USA
 TRANSMISSION
 CONSTRUCTION
 STANDARDS
 MANUAL

TRANSMISSION INSULATOR INFO
 PORCELAIN DISC INSULATORS
 ANSI CLASS 52-3
 FOR 35kV, 46kV, AND 69kV

| | |
|----------|---------|
| Revision | 00 |
| DATE | / /2014 |

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|-----------|-----------|---------------------|-----------|---------------|------------|---------------------|---------|
| Drwn. By: | Date Dr.: | Checked By: | Date Ck.: | Approved By: | Date App.: | TM2.23.TI-01-001-D3 | Sheet 2 |
| L.A. Best | 9/26/2013 | Shepard/Becken/Hart | / /2014 | Barry R. Hart | / /2014 | | |

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ANSIA
 8-1/2" X 11"

5-3/4" X 10" PORCELAIN DISC INSULATORS - ANSI CLASS 52-5

| # of DISCS | COMPATABLE UNIT (CU) | WEIGHT (POUNDS) | LENGTH (FEET) |
|------------|----------------------|-----------------|---------------|
| 5 | U*CT-TI-9P-D5-5 | 75 | 2.40 |
| 6 | U*CT-TI-9P-D5-6 | 90 | 2.88 |
| 7 | U*CT-TI-9P-D5-7 | 105 | 3.35 |
| 8 | U*CT-TI-9P-D5-8 | 120 | 3.83 |
| 9 | U*CT-TI-9P-D5-9 | 135 | 4.31 |
| 10 | U*CT-TI-9P-D5-10 | 150 | 4.79 |
| 11 | U*CT-TI-9P-D5-11 | 165 | 5.27 |
| 12 | U*CT-TI-9P-D5-12 | 180 | 5.75 |
| 13 | U*CT-TI-9P-D5-13 | 195 | 6.23 |
| 14 | U*CT-TI-9P-D5-14 | 210 | 6.71 |
| 15 | U*CT-TI-9P-D5-15 | 225 | 7.19 |
| 16 | U*CT-TI-9P-D5-16 | 240 | 7.67 |
| 17 | U*CT-TI-9P-D5-17 | 255 | 8.15 |
| 18 | U*CT-TI-9P-D5-18 | 270 | 8.63 |

15,000# MINIMUM TEST LOAD PROOF
 30,000# MINIMUM M&E RATING
 GLOBAL IUSA MID 30922638
 COLOR: GRAY

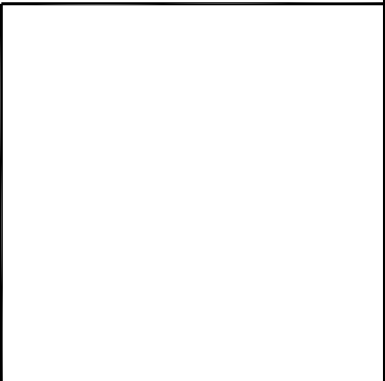
CU Type:
 UC_INSO

NOTE: INSULATOR WEIGHTS AND LENGTHS DO NOT INCLUDE OTHER ATTACHMENT HARDWARE SUCH AS CLEAVISES, SOCKETS OR LINKS THAT ARE COMMONLY USED WITH INSULATORS.

REFER TO TC-01-002 FOR INSULATOR DESIGN CRITERIA


CU Function: U_TL69 for 35kV & 46kV, U_TG69 for 69kV through 344kV, U_T345 for 345kV & greater.

For correct CU: substitute 2 for NYSEG, 3 for CMP or 4 for RG&E in place of asterisk (U*_).



Contact Engineering Standards - Transmission for the creation of new standards and CUs.

Drawing Scale: N/A

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|---|--|---|-----------|---------------|------------|---------------------|
|  | IBERDROLA USA TRANSMISSION CONSTRUCTION STANDARDS MANUAL | TRANSMISSION INSULATOR INFO PORCELAIN DISC INSULATORS ANSI CLASS 52-5 115kV AND 230kV CONSTRUCTION | | | | Revision |
| | | | | | | 00 |
| | | | | | | DATE |
| | | | | | | / /2014 |
| Drwn. By: | Date Dr.: | Checked By: | Date Ck.: | Approved By: | Date App.: | TM2.23.TI-01-001-D5 |
| L.A. Best | 9/26/2013 | Shepard/Becken/Hart | / /2014 | Barry R. Hart | / /2014 | |
| | | | | | | Sheet 3 |

THIS IS A COMPUTER GENERATED DRAWING - DO NOT REVISE MANUALLY

ANSI A 8-1/2" X 11"

5-3/4" X 10" PORCELAIN DISC INSULATORS - ANSI CLASS 52-8

| # of DISCS | COMPATABLE UNIT (CU) | WEIGHT (POUNDS) | LENGTH (FEET) |
|------------|----------------------|-----------------|---------------|
| 17 | U*CT-TI-9P-D8-17 | 289 | 8.15 |
| 18 | U*CT-TI-9P-D8-18 | 306 | 8.63 |
| 19 | U*CT-TI-9P-D8-19 | 323 | 9.10 |
| 20 | U*CT-TI-9P-D8-20 | 340 | 9.58 |
| 21 | U*CT-TI-9P-D8-21 | 357 | 10.06 |
| 22 | U*CT-TI-9P-D8-22 | 374 | 10.54 |
| 23 | U*CT-TI-9P-D8-23 | 391 | 11.02 |

20,000# MINIMUM TEST LOAD PROOF
 40,000# MINIMUM M&E RATING
 GLOBAL IUSA MID 30922640
 COLOR: BLUE

CU Type:
 UC_INSO

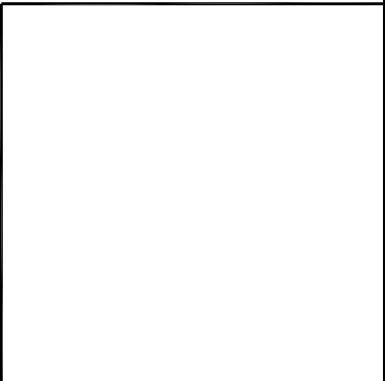
FOR NYSEG REPLACEMENT OF EXISTING INSULATOR STRINGS
 THAT ARE GRAY IN COLOR (GLOBAL IUSA MID 30922639):
 USE CU - C*CT-TI-9P-D8-#G
 WHERE '# IS THE QUANTITY OF INSULATORS IN THE STRING.

NOTE: INSULATOR WEIGHTS AND LENGTHS DO NOT INCLUDE OTHER ATTACHMENT
 HARDWARE SUCH AS CLEAVISES, SOCKETS OR LINKS THAT ARE COMMONLY
 USED WITH INSULATORS.

REFER TO TC-01-002 FOR INSULATOR DESIGN CRITERIA


CU Function: U_TL69 for 35kV & 46kV, U_TG69 for 69kV through 344kV,
 U_T345 for 345kV & greater.

For correct CU: substitute 2 for NYSEG, 3 for CMP or 4 for RG&E in place of asterisk (U*_).



Contact Engineering Standards - Transmission for the creation of new standards and CUs.

Drawing Scale: N/A

| | | | | | | |
|---|--|--|-----------|---------------|------------|--------------------------------|
|  | IBERDROLA USA TRANSMISSION CONSTRUCTION STANDARDS MANUAL | TRANSMISSION INSULATOR INFO PORCELAIN DISC INSULATORS ANSI CLASS 52-8 FOR USE ON 345kV CONSTRUCTION | | | | Revision |
| | | | | | | 00 |
| | | | | | | DATE |
| | | | | | | / /2014 |
| Drwn. By: | Date Dr.: | Checked By: | Date Ck.: | Approved By: | Date App.: | TM2.23.TI-01-001-D8 Sheet 4 |
| L.A. Best | 9/26/2013 | Shepard/Becken/Hart | / /2014 | Barry R. Hart | / /2014 | |

THIS IS A COMPUTER GENERATED DRAWING - DO NOT REVISE MANUALLY

ANSIA 8-1/2" X 11"

6-1/8" X 11" PORCELAIN DISC INSULATORS - ANSI CLASS 52-11

| # of DISCS | COMPATABLE UNIT (CU) | WEIGHT (POUNDS) | LENGTH (FEET) |
|------------|----------------------|-----------------|---------------|
| 18 | U*CT-TI-9P-D11-18 | 360 | 9.19 |
| 19 | U*CT-TI-9P-D11-19 | 380 | 9.70 |
| 20 | U*CT-TI-9P-D11-20 | 400 | 10.21 |
| 21 | U*CT-TI-9P-D11-21 | 420 | 10.72 |
| 22 | U*CT-TI-9P-D11-22 | 440 | 11.23 |
| 23 | U*CT-TI-9P-D11-23 | 460 | 11.74 |

25,000# MINIMUM TEST LOAD PROOF
 50,000# MINIMUM M&E RATING
 GLOBAL IUSA MID 30922636
 COLOR: BLUE

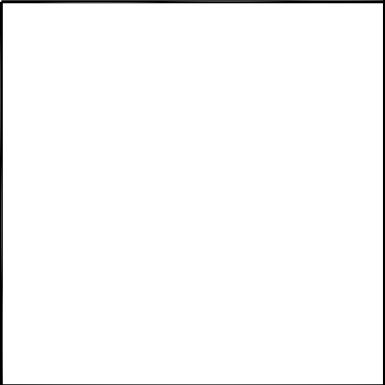
CU Type:
 UC_INSO

NOTE: INSULATOR WEIGHTS AND LENGTHS DO NOT INCLUDE OTHER ATTACHMENT HARDWARE SUCH AS CLEAVISES, SOCKETS OR LINKS THAT ARE COMMONLY USED WITH INSULATORS.

REFER TO TC-01-002 FOR INSULATOR DESIGN CRITERIA

CU Function: U_TL69 for 35kV & 46kV, U_TG69 for 69kV through 344kV, U_T345 for 345kV & greater.

For correct CU: substitute 2 for NYSEG, 3 for CMP or 4 for RG&E in place of asterisk (U*_).



Contact Engineering Standards - Transmission for the creation of new standards and CUs.

Drawing Scale: N/A



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TRANSMISSION INSULATOR INFO
 PORCELAIN DISC INSULATORS
 ANSI CLASS 52-11
 FOR USE ON 345kV SPECIAL APPLICATIONS

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| Sheet | 5 |

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| L.A. Best | 9/26/2013 | Shepard/Becken/Hart | / /2014 | Barry R. Hart | / /2014 | |

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ANSIA 8-1/2" X 11"

**ELECTRICAL CHARACTERISTICS OF STANDARD
5-3/4" X 10" PORCELAIN SUSPENSION INSULATORS STRINGS**

| UNITS PER STRING | DRY ARC DISTANCE (inches) | LEAKAGE DISTANCE (inches) | CRITICAL 60 HZ FLASHOVER | | CRITICAL IMPULSE FLASHOVER | |
|------------------|---------------------------|---------------------------|--------------------------|--------------|----------------------------|---------------|
| | | | DRY (kV rms) | WET (kV rms) | POSITIVE (kV) | NEGATIVE (kV) |
| 1 | 7.8 | 11.5 | 80 | 50 | 125 | 130 |
| 2 | 13.5 | 23.0 | 155 | 90 | 250 | 250 |
| 3 | 19.3 | 34.5 | 215 | 130 | 355 | 340 |
| 4 | 25.0 | 46.0 | 270 | 170 | 440 | 415 |
| 5 | 30.8 | 57.5 | 325 | 215 | 525 | 495 |
| 6 | 36.5 | 69.0 | 380 | 255 | 610 | 585 |
| 7 | 42.3 | 80.5 | 435 | 295 | 695 | 670 |
| 8 | 48.0 | 92.0 | 485 | 335 | 780 | 760 |
| 9 | 53.8 | 103.5 | 540 | 375 | 860 | 845 |
| 10 | 59.5 | 115.0 | 590 | 415 | 945 | 930 |
| 11 | 65.3 | 126.5 | 640 | 455 | 1025 | 1015 |
| 12 | 71.0 | 138.0 | 690 | 490 | 1105 | 1105 |
| 13 | 76.8 | 149.5 | 735 | 525 | 1185 | 1190 |
| 14 | 82.5 | 161.0 | 785 | 565 | 1265 | 1275 |
| 15 | 88.3 | 172.5 | 830 | 600 | 1345 | 1360 |
| 16 | 94.0 | 184.0 | 875 | 630 | 1425 | 1445 |
| 17 | 99.8 | 195.5 | 920 | 660 | 1505 | 1530 |
| 18 | 105.5 | 207.0 | 965 | 690 | 1585 | 1615 |
| 19 | 111.3 | 218.5 | 1010 | 720 | 1665 | 1700 |
| 20 | 117.0 | 230.0 | 1055 | 750 | 1745 | 1785 |
| 21 | 122.8 | 241.5 | 1095 | 775 | 1820 | 1865 |
| 22 | 128.5 | 253.0 | 1135 | 800 | 1895 | 1945 |
| 23 | 134.3 | 264.5 | 1175 | 825 | 1970 | 2025 |
| 24 | 140.0 | 276.0 | 1215 | 850 | 2045 | 2105 |
| 25 | 145.8 | 287.5 | 1255 | 875 | 2120 | 2185 |


MECHANICAL LOADING CRITERIA FOR PORCELAIN SUSPENSION INSULATORS

| Condition | Conductor Loaded at NESC Heavy Loading (0°F, 1/2" Radial Ice, 4# Wind, 0.30 Constant) | NYSEG Extreme Loading (0°F, 1-1/2" Radial Ice) |
|---------------|--|---|
| Under Tension | 50% of M&E Rating | 67% of M&E Rating |

NOTE: The M&E (combined mechanical & electrical strength) rating of a porcelain suspension insulator is equivalent to its ultimate strength.

Contact Engineering Standards - Transmission for the creation of new standards and CUs.

Drawing Scale: N/A

| | | | | | | |
|---|--|---|-----------|---------------|------------|----------|
|  | IBERDROLA USA TRANSMISSION CONSTRUCTION STANDARDS MANUAL | TRANSMISSION INSULATOR INFORMATION ELECTRICAL CHARACTERISTICS MECHANICAL LOADING CRITERIA 5-3/4" X 10" PORCELAIN DISC INSULATORS | | | | Revision |
| | | | | | | 00 |
| | | | | | | DATE |
| | | | | | | / /2014 |
| Drwn. By: | Date Dr.: | Checked By: | Date Ck.: | Approved By: | Date App.: | Sheet 1 |
| L.A. Best | 12/23/2011 | Shepard/Becken/Hart | / /2014 | Barry R. Hart | / /2014 | |
| TM2.23.TI-01-002 | | | | | | |

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ANSIA
8-1/2" X 11"

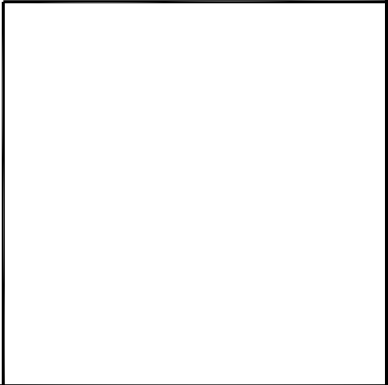
FIBERGLASS GUY STRAIN INSULATORS

The National Electric Safety Code (NESC) requires that all guys attached to supporting structures carrying supply conductors of 300 volts or greater must be grounded or insulated.

Fiberglass reinforced fiberglass guy strain insulators are used with the following physical dimensions:

| Line Voltage | Rod Dia. (in.) | Overall Length CC (inches) | Insulating Section Length (inches) | Rated Mechanical Strength (pounds) | GLOBAL IUSA MID |
|------------------------------|----------------|----------------------------|------------------------------------|------------------------------------|-----------------|
| 35kV - 115kV Single Pole | 13/16 | 130 | 120 | 30,000 | 30922696 |
| 230kV - 345kV Single Pole | 13/16 | 156 | 144 | 36,000 | 30922697 |
| | | | | | |
| 35kV - 115kV H-Frame | 15/16 | 134 | 120 | 50,000 | 30923843 |
| 230kV - 345kV H-Frame | 15/16 | 158 | 144 | 50,000 | 30923844 |
| | | | | | |

Electrical requirements for guy strain insulators are specified by the NESC to have a minimum wet flashover voltage at least equal to the line's phase-to-phase voltage and a dry flashover voltage that is twice the line's phase-to-phase voltage. All of the guy strain insulators listed above greatly exceed these requirements.



REFERENCE: TR SECTION FOR GUYING DETAILS

Contact Engineering Standards - Transmission for the creation of new standards and CUs.

Drawing Scale: N/A



IBERDROLA USA
TRANSMISSION
CONSTRUCTION
STANDARDS
MANUAL

TRANSMISSION INSULATOR INFORMATION
FIBERGLASS GUY STRAIN INSULATORS

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| Revision | 00 |
| DATE | / /2014 |

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|-----------|-----------|---------------------|-----------|---------------|------------|
| Drwn. By: | Date Dr.: | Checked By: | Date Ck.: | Approved By: | Date App.: |
| L.A. Best | 10/5/2012 | Shepard/Becken/Hart | / /2014 | Barry R. Hart | / /2014 |

TM2.23.TI-05-001

Sheet 1

THIS IS A COMPUTER GENERATED DRAWING - DO NOT REVISE MANUALLY

ANSI A 8-1/2" X 11"

CU Type: UC_INSO

CUs limited to 17 characters

TI - Standard CU Format

| | | | | | | | | | | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|------|------|------|
| 1st | 2nd | 3rd | 4th | 5th | 6th | 7th | 8th | 9th | 10th | 11th | 12th | 13th | 14th | 15th | 16th | 17th |
| U | X1 | C | T | - | T | I | - | X2 | X3 | - | | X4 | | - | X5 | X6 |

| | | |
|----|----|---|
| X5 | X6 | Quantity of Porcelain disc insulators for Insulator type X4 = D3, D5, D8 or D11 |
| # | # | use X5 for single digit quantity or use X5 and X6 for double digit quantity |

| | |
|----|-------|
| X1 | OpCo |
| 5 | NYSEG |
| 6 | CMP |
| 9 | RG&E |

| | |
|-----|--|
| X4 | Insulator Type |
| D3 | Class 52-3 10" X 5-3/4" B&S porcelain disc 10K Test/20K M&E |
| D5 | Class 52-5 10" X 5-3/4" B&S porcelain disc 15K Test/30K M&E |
| D8 | Class 52-8 10" X 5-3/4" B&S porcelain disc 20K Test/40K M&E |
| D11 | Class 52-11 10" X 5-3/4" B&S porcelain disc 25K Test/50K M&E |

| | |
|----|---|
| X5 | Polymer suspension/dead end insulators for Insulator type X4 = P3 or P5 |
| A | equivalent to a string of 3 porcelain discs |
| B | equivalent to a string of 4 porcelain discs |
| C | equivalent to a string of 5 porcelain discs |
| D | equivalent to a string of 6 porcelain discs |
| E | equivalent to a string of 7 porcelain discs |
| F | equivalent to a string of 8 porcelain discs |
| G | equivalent to a string of 9 porcelain discs |
| H | equivalent to a string of 10 porcelain discs |
| I | equivalent to a string of 11 porcelain discs |
| J | equivalent to a string of 12 porcelain discs |
| K | equivalent to a string of 13 porcelain discs |
| L | equivalent to a string of 14 porcelain discs |
| M | equivalent to a string of 15 porcelain discs |
| N | equivalent to a string of 16 porcelain discs |
| O | equivalent to a string of 17 porcelain discs |
| P | equivalent to a string of 18 porcelain discs |
| Q | equivalent to a string of 19 porcelain discs |
| R | equivalent to a string of 20 porcelain discs |
| S | equivalent to a string of 21 porcelain discs |
| T | equivalent to a string of 22 porcelain discs |
| U | equivalent to a string of 23 porcelain discs |
| V | |
| W | |
| X | |
| Y | |
| Z | |

| | |
|----|---------------------------|
| X2 | Insulator Rating |
| 1 | 115kV |
| 2 | 230kV |
| 3 | 345kV |
| 4 | 46kV |
| 5 | 35kV |
| 6 | 69kV |
| 9 | multiple use disc |
| | Multi-Rated or Other Post |
| A | 35kV |
| B | 46kV |
| C | 55kV |
| D | 66kV |
| E | 88kV |
| F | 69/115kV |
| G | 115/138kV |
| H | 161/230kV |
| I | |

| | |
|-----|--|
| V1* | Vertical Post Clamptop - 3/4" x 1-3/4" stud bolt - flat base |
| V2 | Vertical Post Clamptop - 3/4" x 7 to 7-1/2" stud bolt - flat base |
| V3 | Vertical Post Clamptop Jumper - 3/4" x 14" stud bolt - flat base |
| V4* | Vertical Post Clamptop - 7/8" x 1-3/4" stud bolt - flat base |
| U1* | Vertical Post with Universal Clamp fits diameter 0.30" to 1.34" - 3/4" x 1-3/4" stud bolt - flat base |
| U2 | Vertical Post with Universal Clamp fits diameter 0.30" to 1.34" - 3/4" x 7 to 7-1/2" stud bolt - flat base |
| U3 | Vertical Post with Universal Clamp fits diameter 0.30" to 1.34" - 3/4" x 14" stud bolt - flat base |
| VU | Vertical Post with Universal Clamp fits diameter 0.30" to 1.34" - no stud bolt included - flat base |
| | |
| HC | Horizontal Post Clamptop - curved gain base |
| HX | High Strength Horizontal Post Clamptop - curved gain base |
| HR | Horiz. Post Clamptop - curved gain base - 2 pc, end rotated 90° |
| HF | Horizontal Post Clamptop - flat gain base |
| | |
| BP | Braced Post - gain base |
| BF | Braced Post - flat base |
| | |
| P3 | Polymer Suspension/DE Insulator 15K Test/30K M&E |
| P5 | Polymer Suspension/DE Insulator 25K Test/50K M&E |
| | |
| SI | Strut Insulator |
| | |
| FN | F-Neck Tie-Top (SPECIAL APPLICATION - CMP) |

* FLAT BASE VERTICAL POST INSULATOR MAY ALSO BE INSTALLED HORIZONTALLY ON A STEEL POLE AS A JUMPER POST.

CU Function:
U_TL69 for 35kV & 46kV, U_TG69 for 69kV through 344kV, U_T345 for 345kV & greater.

For correct CU: substitute 2 for NYSEG, 3 for CMP or 4 for RG&E in place of asterisk (U*).

Insulator CU Examples:

U2CT-TI-9P-D5-9 = NYSEG multiple use string of 9 porcelain ANSI class 52-5 15K test/30K M&E disc insulators

U4CT-TI-1Y-BP = RG&E 115kV polymer braced post insulator

U3CT-TI-6Y-HC = CMP 69kV polymer horizontal post with curved gain base

Contact Engineering Standards - Transmission for the creation of new standards and CUs.

Drawing Scale: N/A



IBERDROLA USA
TRANSMISSION
CONSTRUCTION
STANDARDS
MANUAL

TRANSMISSION INSULATOR INFORMATION
STANDARD CU FORMAT
AND NAMING CONVENTION

| | |
|----------|---------|
| Revision | 00 |
| Date | / /2015 |

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| Drwn. By: | Date Dr.: | Checked By: | Date Ck.: | Approved By: | Date App.: |
| L.A. Best | 9/26/2013 | Shepard/Becken/Hart | / /2015 | Barry R. Hart | / /2015 |

TM2.23.TI-CU

Sheet 1

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ANSI B 11" X 17"