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| ISSUED 5-FEB- 2010 | DESIGN STANDARD ELECTRIC OPERATIONS ORGANIZATION  | D3820 – Appendix Rev. 0 Page 1 of 7 |
|-----------------------|--|--|

D3820 - Appendix

200 Amp Underground Electric Distribution Material Manufacturers and Part Numbers

Scope

This appendix is to be used in conjunction with several NSTAR standards including:

D3820- 15/25kV PRIMARY UNDERGROUND DISTRIBUTION SYSTEMS TO 200 AMPS.

C1100 Appendix Standard for all conduit, fittings, risers, accessories

C3813 Appendix Standard for all common manholes, frames and covers, accessories

The document lists the approved manufacturer names and part numbers for most key equipment used in an underground distribution system. Most of these parts may be purchased at local supply houses or NSTAR's approved distributor/supplier.

Catalog ID numbers are intended for use internally at NSTAR to reference materials. They are typically referred to by NSTAR designers and can also be used in requests to NSTAR's approved suppliers to ensure parts meet NSTAR requirements.

NSTAR Material Standards (such as M1310) may provide specific dimensional and design information needed for manufacturers; they may detail one or several similar catalog ID items.

Approved NSTAR Supplier (not limited to):

WESCO Distribution Co. Inc.
Manchester 1120
117 Londonderry Turnpike
Hooksett, NH 3106
603-391-3118
603-391-3126 fax

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|-----------------------|--|--|
| ISSUED 5-FEB- 2010 | DESIGN STANDARD ELECTRIC OPERATIONS ORGANIZATION  | D3820 – Appendix Rev. 0 Page 2 of 7 |
|-----------------------|--|--|

1.0 15kV Primary Cable and Accessories

| DESCRIPTION | NSTAR CATALOG ID | MANU- FACTURER | PART # |
|--|------------------------|-------------------|--------------|
| PRIMARY CABLE | | | |
| 15KV #1 SOL AL, 1/C SINGLE, EPR CABLE | 92 | OKONITE | CS-10334 |
| 15KV #1 SOL AL, 3x1/C TRIPLEX, EPR CABLE | 93 | OKONITE | CS-10329 |
| 15KV 4/0 AL, 3x1/C TRIPLEX, EPR CABLE | 16332 | OKONITE | CS-12181 |
| JOINTS AND TERMINATIONS | | | |
| JOINT, 15KV PREMOLDED KIT, #2 STR / #1 SOL | 1454 | COOPER | SP15A002 |
| JOINT, 15KV PREMOLDED KIT, 4/0 | 16334 | COOPER | SP15B007 |
| TERMINATION, 15/25KV 1PH, COLD SHRINK, 1/0 AL, #1 SOL or #2 STR | 9937 | 3M | 7652-S-4-2 |
| TERMINATION 15KV HEAT SHRINK, 4/0 AL, | 1423 | RAYCHEM | HVT-152-BECO |
| 200 AMP ACCESSORIES | | | |
| FEEDTHROUGH BUSHING, 15KV | 516 | HUBBELL | 9U07AKF200 |
| | | COOPER | LPF215H |
| BUSHING WELL INSERT, 15KV | 515 | COOPER | ISB215S |
| | | ELASTIMOLD | 164OSP |
| INSULATING CAP, 15KV | 1119 | COOPER | DPC625UT |
| ELBOW, 15 kV LOADBREAK, 4/0 STR | 16333 | COOPER | LE215C09T |
| ELBOW, 15 kV LOADBREAK, #1 SOL AL, #2 STR CU | 517 | COOPER | LE215B04T |
| | " | ELASTIMOLD | 166LR-B-5220 |
| INSULATED STANDOFF BUSHING, 15 kV | 515 | COOPER | ISB215S |
| | " | ELASTIMOLD | 164OSP |
| MULTI-TAP, 15KV, 3 WAY | 806 | ELASTIMOLD | 164J3 |

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|-----------------------|---|--|
| ISSUED 5-FEB- 2010 | <p style="text-align: center;">DESIGN STANDARD ELECTRIC OPERATIONS ORGANIZATION</p>  | D3820 – Appendix Rev. 0 Page 3 of 7 |
|-----------------------|---|--|

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|--|------|--------------|-------------------------------|
| | “ | ELASTIMOLD | 164FT |
| MULTI-TAP, 15KV, 4 WAY | 1486 | HUBBELL | 9U07AGD4201 |
| | “ | COOPER | LJ215C4B |
| | “ | ELASTIMOLD | 164J4 |
| 1 PHASE CABLE SWITCHING STATION MULTI-TAP ENCLOSURE (TURTLE), 15KV, 4 POSITION | 9533 | HIGH LINE | FSC3248GA41-NS |
| | “ | NORDIC | ND-155-MG- 102A4152W1A-CWE |
| 3 PHASE CABLE SWITCHING STATION MULTI-TAP ENCLOSURE (TURTLE), 15KV, 3 x 4 POSITION | 2590 | POWER DESIGN | CJP30-56-WG-L2- 2415-BECO |

2.0 25kV Primary Cable and Accessories

| DESCRIPTION | NSTAR CATALOG ID | MANU- FACTURER | Approved PART # |
|--|---------------------|-------------------|--------------------|
| PRIMARY CABLE | | | |
| 25KV 1/0 SOL AL, 1/C SINGLE, EPR CABLE | 8714 | OKONITE | CS-10335 |
| 25KV 1/0 SOL AL, 3x1/C TRIPLEX, EPR CABLE | 8716 | OKONITE | CS-10326 |
| JOINTS AND TERMINATIONS | | | |
| JOINT, 25KV PREMOLDED KIT, 1/0 SOL AL | 9864 | 3M | 5451-C1-1A |
| | “ | HUBBELL | 9U06AFE100 |
| | “ | COOPER | SP25B003 |
| | “ | ELASTIMOLD | 25PCJ1G1230 |
| JOINT, 25KV PREMOLDED KIT, TRANSITION, 1/0 SOL TO #2 STR | 9865 | COOPER | SP25BT03 |
| | “ | ELASTIMOLD | 25PCJ1G1-230 |
| TERMINATION, 15/25KV 1PH, COLD SHRINK, 1/0 SOL AL,#1 SOL or #2 STR | 9937 | 3M | 7652-S-4-2 |

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|-----------------------|--|--|
| ISSUED 5-FEB- 2010 | DESIGN STANDARD ELECTRIC OPERATIONS ORGANIZATION  | D3820 – Appendix Rev. 0 Page 4 of 7 |
|-----------------------|--|--|

| 200 AMP ACCESSORIES | | | |
|--|------|--------------|--------------------------------|
| FEEDTHROUGH BUSHING, 25KV | 9540 | RAYCHEM | EPPA-121-HESP-100-FILLED |
| | “ | COOPER | LPF225H |
| | “ | ELASTIMOLD | 274FT |
| | “ | HUBBELL | 9U07BCF200 |
| BUSHING WELL INSERT, 25KV | 9756 | COOPER | LBI225 |
| | “ | ELASTIMOLD | 2701A4 |
| | “ | HUBBELL | 9U02BAB001 |
| INSULATING CAP, 25KV | 9457 | HUBBELL | 9U01BEW500 |
| | “ | COOPER | LPC225 |
| | “ | ELASTIMOLD | 273DRG |
| ELBOW, 25 kV LOADBREAK, 1/0 SOL AL | 9754 | HUBBELL | 9U01BBD634 |
| | “ | COOPER | LE225MC05 |
| | “ | ELASTIMOLD | 275LR-CC5230 |
| MULTI-TAP, 25KV, 4 WAY | 9772 | COOPER | LJ226C4B |
| | “ | ELASTIMOLD | 274J4 |
| | “ | HUBBELL | 9U07BED4201 |
| 1 PHASE CABLE SWITCHING STATION MULTITAP ENCLOSURE (TURTLE), 25KV, 4 POSITION | 9534 | HIGH LINE | FSC3248GA42-NS |
| | “ | NORDIC | ND-155-MG-102A-4252-W1A-C |
| | “ | POWER DESIGN | CJP-10-54-L2-MG-2425-GB2S-1519 |
| 3 PHASE CABLE SWITCHING STATION MULTI-TAP ENCLOSURE (TURTLE), 25KV, 3x4 POSITION | 9536 | HIGH LINE | FSC6860GA42-NS |
| | “ | NORDIC | ND-450-MG-101-4252-W3A-* |
| | “ | POWER DESIGN | CJP-41-56-L2-MG-2425-GB2S-1799 |

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|---------------------------|--|--|
| ISSUED 5-FEB- 2010 | DESIGN STANDARD ELECTRIC OPERATIONS ORGANIZATION  | D3820 – Appendix Rev. 0 Page 5 of 7 |
|---------------------------|--|--|

3.0 Secondary Cable and Connectors

| DESCRIPTION | NSTAR CATALOG ID | MANUFACTURER | Approved PART # |
|---|---------------------|----------------------------|-----------------------|
| 600 VOLT CABLE | | | |
| 600V 4/0 AL, 3x1/C TRIPLEX, XLPE INSUL CABLE | 87 | ALCAN | SWEETBRIAR XLP |
| 600V 4/0 CU, 3x1/C TRIPLEX, EPR/HYP CABLE | 8746 | HENDRIX | EH043 |
| 600V 500 CU, 3x1/C TRIPLEX, EPR/HYP CABLE | 16016 | OKONITE | 3-500EP HYP |
| | | | |
| HANDHOLE CONNECTORS, 600 Volt Insulated | | | |
| MOLE BUS, 4 POS, 1 WAY, #12 - 350 KCMIL | 9761 | BLACKBURN CONNECTOR MFG | USB43 U227000001 |
| | “ | UTILICO | PED4-350-SSP |
| MOLE BUS, 4 POS, 1 WAY, #2 - 750 KCMIL | 9764 | UTILCO | PED4-750-SSP |
| MOLE BUS, 6 POS, 1 WAY, #10 - 500 KCMIL | 9763 | BLACKBURN UTILCO | USB65 PED6-500-SSP |
| | “ | UTILCO | PED6-750SSP |
| MOLE BUS, 6 POS, 1 WAY, #2 - 750 KCMIL | 9762 | UTILCO | PED6-750SSP |
| MOLE BUS, 8 POS, 2 WAY, #2 - 750 KCMIL | 15981 | UTILCO | PSA8-750SSP |

4.0 Miscellaneous Accessories

| DESCRIPTION | NSTAR CATALOG ID | MANUFACTURER | Approved PART # |
|--|---------------------|---------------|--------------------|
| FAULT INDICATORS | | | |
| FCI, 25kV or 15kV Cable, auto range trip, current reset | 9660 | FISHER PIERCE | 1547-A-38728 |
| FCI, 15 kV Elbow Test Point Mount, 800 Amp trip, volt reset | 692 | EOSCHWEITZER | 1TPR10800K |
| | | | |
| GROUNDING MATERIALS | | | |
| 5/8” Dia. Ground Rod | 9229 | BLACKBURN | 6258S |
| | | ERICO INC | 635880 |

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|-----------------------|--|--|
| ISSUED 5-FEB- 2010 | DESIGN STANDARD ELECTRIC OPERATIONS ORGANIZATION  | D3820 – Appendix Rev. 0 Page 6 of 7 |
|-----------------------|--|--|

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| 1/0 Copper Ground Wire, bare tinned, 7 strand | 115 | NEHRING | BS017WTIN |
| Ground Wire Connector 1/0-1/0 Cu Wire | 608 | BLACKBURN | 2B40W |
| | “ | BURNDY | KVS-W28 |
| Ground Rod Connector to 1/0 Cu Wire | 9009 | ANDERSON | GC-103-01 |
| | “ | BLACKBURN | JAB-58H |
| | “ | ERICO INC | NDC58R |

5.0 Conduit, Riser Stand Pipes, and Manholes

| DESCRIPTION | NSTAR CATALOG ID | MANUFACTURER | Approved PART # |
|--|------------------|--------------|-----------------|
| See C1100 Appendix Standard for all conduit, fittings, risers, accessories | | | |
| See C3813 Appendix Standard for all common manholes, frames and covers, accessories | | | |

6.0 Equipment Box Pads and Handholes

| DESCRIPTION | NSTAR CATALOG ID | MANUFACTURER | Approved PART # |
|--|------------------|---------------------|-----------------|
| (Dimension included are top surface x height) | | | |
| Handholes | | | |
| Fiberglass handhole: 15"x10"x12" –lighting only | 840 | ASSOCIATED PLASTICS | SGA132415C000 |
| | “ | CARSON | 1419-12PB |
| | “ | FARGO | B-112A-G |
| | “ | NEWBASIS | SGA141912Y000 |
| | “ | PENCELL | PE-14HDX-EWB |
| Fiberglass handhole: 23"x14"x15" -single residence | 9571 | CARSON | 1324-15-PB |
| | “ | FARGO | B-125A-G |
| | “ | HIGH LINE | HL-41A |
| | “ | NEWBASIS | SGA132415C000 |
| Fiberglass handhole: 30"x17"x18" – <u>standard use</u> | 841 | ASSOCIATED PLASTICS | SEA173015C000 |

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|---------------------------|--|--|
| ISSUED 5-FEB- 2010 | DESIGN STANDARD ELECTRIC OPERATIONS ORGANIZATION  | D3820 – Appendix Rev. 0 Page 7 of 7 |
|---------------------------|--|--|

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| | “ | CARSON | 1730-18-PB |
| | “ | FARGO | B-138A-G |
| | “ | NEWBASIS | SGA173015C000 |
| | “ | PENCELL | PE-30HDX-2-EWB |
| Composite handhole: 30”x17”x18”, H20 rated | 9572 | CDR | PA12-1730-18 |
| | “ | HIGH LINE | CH173018H |
| | “ | SYNERTECH | * |

| Box Pads – Transformers and Splices | | | |
|---|-------|-----------|-----------------|
| Fiberglass box pad/splice box: 43”x37.5”x32” For NSTAR North Transformers (single phase) or splice box (top opening = 26”w x 32”d) | 1622 | HIGH LINE | HL-48M-DS |
| Fiberglass box pad/splice box (ledge areas only): 43”x37.5”x15” For NSTAR North Transformers (single phase) – shallow depth or splice box (top opening = 26”w x 32”d) | 7747 | NORDIC | CBP-37-43-15F |
| Fiberglass Cover (Use with Cat. IDs 1622, 7747, 16955) | 1349 | HIGH LINE | HL-45-2EP |
| Fiberglass box pad/splice box: 43”x37”x32” For NSTAR South Transformers (single phase; top opening = 26”w x 26”d) | 16955 | HIGH LINE | HL374332-2626DS |
| Large Box Pads – Switchgear | | | |
| Fiberglass box pad for 15kV PME-9 Switches (and 3 phase primary splice box) 75”x72”x36” | 14024 | HIGH LINE | FSG757236XYNS |
| | “ | NORDIC | GS-75-72-36 |
| Fiberglass cover for use with Cat. ID 14024 | 14078 | HIGH LINE | FBP757300AAC |
| | “ | NORDIC | GSC-75-72 |
| Fiberglass box pad for use with 25kV PME-9 Switchgear: 86”x84”x36” | 14556 | NORDIC | GS-86-84-36 |
| Fiberglass base cover for use with Cat. ID 14556 | 14557 | NORDIC | GSC-86-84 |