

STAT

SH&G

May 22, 1984
13155

Central Intelligence Agency
New Building Project Office
Room 3E40
CIA Headquarters Building
Washington, D.C. 20505

STAT

Attention:

Re: SH&G Review of North Side
Electrical Cable Installation
Log 510

Gentlemen:

In response to your letter of May 17, 1984 we have reviewed the drawings and specifications and have the following comments.

Drawing 9-E-3 has a major discrepancy regarding the type of primary cable to be used. Note 9 requires that the new feeder 8B be 500 MCM, 15 KV EPR cable. However, note 7 requires that the new feeder 8A be 500 MCM, 15 KV XLP cable. Both feeder runs are approximately the same length (8A = 1700 LF; 8B = 2100 LF). There appears to be no technical reason for the use of two different cable types.

Specification Section 16401 "Medium Voltage Service Distribution (15KV)", does not contain any technical requirements for the primary cable except that it must conform to WC8-1976 - "EPR Insulated Wire and Cable" when that standard is referenced. There does not appear to be any sentence which references that standard however.

RECOMMENDATION:

Use the original technical specification given to the Agency by SH&G. EPR is the recommended cable type.

If we can assist you further on this matter please advise.

Very truly yours,



Wm. Everett Medling, AIA
Project Manager

WEM:jeb

Smith, Hinchman & Grylls Associates, Inc.


455 West Fort Street Detroit, Michigan 48226 313/964-3000 810/221-9463 Telex
Architects Engineers Planners
A Member of The Smith Group Inc.

SH8G 1315 SD
CENTRAL INTELLIGENCE AGENCY
HEADQUARTERS EXPANSION
SCHEMATIC DESIGN

SECTION 16350 PAGE 1
DATE 06/16/83 TIME 18.247
MEDIUM VOLTAGE CABLE

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Paul
Here is the cable info.



*Revised 3540
on 30 May 84*

STAT

SH&G 1315 SD
 CENTRAL INTELLIGENCE AGENCY
 HEADQUARTERS EXPANSION
 SCHEMATIC DESIGN

SECTION 16350 PAGE 1
 DATE 06/16/83 TIME 18.247
 MEDIUM VOLTAGE CABLE

1. GENERAL PROVISIONS

- 1 1) 2) GENERAL CONDITIONS
- 2 3) THE GENERAL CONDITIONS, SUPPLEMENTARY CONDITIONS, AND THE APPLICABLE
- 3 4) PORTIONS OF DIVISION 1, GENERAL REQUIREMENTS ARE A PART OF THIS SECTION.
- 2 5) GENERAL
- 3 6) THE CABLES SHALL BE MANUFACTURED, TESTED AND INSTALLED IN ACCORDANCE
- 7) WITH THE LATEST REVISIONS OF:
- 4 8) ICEA PUB. NO. S-68-516
- 4 9) NEMA PUB. NO. WCB
- 6 10) AEIC NO. 6
- 4 11) U.L. 1072 MV90
- 4 12) N.F.P.A. 70, ARTICLE 326
- 3 13) MEDIUM VOLTAGE CABLE SHALL BE U.L. TYPE MV90 FOR USE IN CABLE TRAYS
- 14) ("FOR CT USE").
- 3 15) THE CABLES SHALL BE CAPABLE OF OPERATING CONTINUOUSLY, WET OR DRY, AT A
- 16) CONDUCTOR TEMPERATURE NOT IN EXCESS OF 90 DEGREES C. FOR NORMAL
- 17) OPERATION, 130 DEGREES C. FOR EMERGENCY OVERLOAD CONDITIONS, AND 250
- 18) DEGREES C. FOR SHORT CIRCUIT CONDITIONS.

2. SERVICE DATA

- 1 19) 20) THE CABLE SHALL BE DESIGNED AND CONSTRUCTED FOR USE UNDER THE FOLLOWING
- 2 21) CONDITIONS:
- 3 22) 13,200 VOLTS (LINE TO LINE)
- 3 23) 3 PHASE
- 3 24) 3 WIRE
- 3 25) WYE
- 3 26) 60 HERTZ AC
- 3 27) GROUNDED
- 3 28) INSULATION LEVEL 133 PERCENT.
- 3 29) MIN. INSTALLATION TEMPERATURE 0 DEGREES C.
- 3 30) CABLE INSTALLED IN UNDERGROUND DUCT, CONDUIT AND OPEN TRAY.

3. CABLE DATA

- 1 31) 32) THE CABLE SHALL BE NEW AND MEET THE FOLLOWING REQUIREMENTS.
- 2 33) NUMBER OF CONDUCTORS 1
- 7 34) SIZE OF CONDUCTOR 500 MCM
- 7 35) CONDUCTOR MATERIAL COPPER
- 7 36) COPPER COATING BARE OR ANNEALED

- 7 37) CONDUCTOR SHIELD EXTRUDED SEMI-CONDUCTING
- 38) POLYETHYLENE
- 7 39) INSULATION ETHYLENE PROPYLENE RUBBER
- 7 40) INSULATION SHIELD UNCOATED COPPER TAPE OVER
- 41) AUXILIARY SEMI-CONDUCTING
- 42) TAPE OR EXTRUSION
- 7 43) JACKET POLYVINYL CHLORIDE
- 7 44) CONDUCTOR STRANDING CONCENTRIC LAY CLASS B

1 45) 4. IDENTIFICATION

2 46) OUTER JACKET SHALL BE DURABLY MARKED ON THREE FOOT MINIMUM INTERVALS ALONG
47) THE ENTIRE LENGTH WITH THE FOLLOWING INFORMATION:

- 3 48) MANUFACTURER'S IDENTIFICATION
- 3 49) CONDUCTOR SIZE
- 3 50) CONDUCTOR MATERIAL
- 3 51) RATED VOLTAGE
- 3 52) TYPE OF INSULATION (TRADE NAME NOT ALLOWED)
- 3 53) DATE OF MANUFACTURE
- 3 54) THICKNESS OF INSULATION
- 3 55) TYPE OF INSULATION SHIELD

2 56) OUTER JACKET IDENTIFICATION SHALL BE BY INDENTING TO MAXIMUM OF 15 PERCENT
57) OF JACKET THICKNESS OR APPROVED SURFACE PRINTING.

2 58) INSULATION SHIELDING AND SEMI-CONDUCTING JACKET SHALL BE IDENTIFIED AS
59) SEMI-CONDUCTING BY SURFACE PRINTING.

1 60) 5. INSTALLATION

2 61) SPLICES AND TERMINATIONS

- 3 62) SPLICES SHALL BE AVOIDED WHERE POSSIBLE.
- 3 63) NO CABLE SPLICES SHALL BE MADE IN UNDERGROUND DUCTS AND MANHOLES.
- 3 64) SPLICES AND TERMINATIONS SHALL BE MADE IN ACCORDANCE WITH THE
- 65) MANUFACTURER'S WRITTEN INSTRUCTIONS. NO SEMI-SET COMPOUND SHALL BE
- 66) RETEMPERED AND REUSED.
- 3 67) WHEN A CABLE IS OPENED FOR SPLICING OR TERMINATING, THE WORK OF SPLICING
- 68) OR TERMINATING SHALL PROCEED IMMEDIATELY AND CONTINUE UNINTERRUPTED
- 69) UNTIL COMPLETE, INCLUDING ANY SEALING REQUIRED.
- 3 70) SHIELDING SHALL BE CONTINUED THROUGH SPLICES.
- 3 71) GROUNDING CONDUCTORS IN THE INTERSTICES SHALL BE CONTINUED THROUGH
- 72) SPLICES.
- 3 73) OUTDOOR EXPOSED TERMINATIONS SHALL BE EQUIPPED WITH RAIN SHIELDS.
- 3 74) CONNECTIONS TO INSULATED BUSSES SHALL BE COMPLETELY TAPED, INCLUDING
- 75) PORTIONS OF BUSWORK LEFT EXPOSED FOR CONNECTION.
- 3 76) GROUND CONNECTIONS SHALL BE PROVIDED FOR CABLE SHEATHS AND SHIELDING.

- 2 77) STRESS CONES
- 3 78) STRESS CONES SHALL BE PROVIDED FOR SHIELDED CABLE TERMINATIONS.
- 3 79) PROCEDURES AND MATERIALS SHALL BE IN ACCORDANCE WITH RECOMMENDATIONS OF
80) THE CABLE MANUFACTURER.
- 3 81) A COPY OF THE RECOMMENDATIONS SHALL BE FURNISHED TO THE ARCHITECT.
- 3 82) PROVIDE ADEQUATE CROTCH CLEARANCE.
- 3 83) NO BENDS WILL BE ALLOWED IN THE UNSHIELDED "LEAKAGE DISTANCE" LENGTH
84) OF THE CABLE OR IN THE IMMEDIATE AREA OF THE STRESS CONE.
- 3 85) CABLE BENDS SHALL COMPLY WITH MINIMUM RADIUS AS RECOMMENDED BY THE CABLE
86) MANUFACTURER.
- 2 87) PULLING
- 3 88) WHERE A PULLING COMPOUND IS REQUIRED, THE COMPOUND SHALL BE UL LISTED
89) AND COMPATIBLE CHEMICALLY AND PHYSICALLY WITH THE CABLE JACKET AND THE
90) DUCT.
- 3 91) THE CABLE SHALL BE ENERGIZED WITHIN 24 HOURS AFTER BEING INSTALLED.
- 3 92) LONG CABLE PULLS SHALL PROVIDED CONTINUOUSLY WITHOUT INTERRUPTION.
- 3 93) USE A STRESS OR STRAIN GAUGE IN PULLING CABLE.
- 2 94) FIREPROOFING CABLES
- 3 95) EXPOSED CABLES IN MANHOLES, VAULTS OR ELECTRICAL EQUIPMENT ROOMS SHALL
96) BE FIREPROOFED.
- 3 97) FIREPROOFING SHALL BE IRVINGTON NO. 770J ARC AND FIREPROOFING TAPE
98) HALF-LAPPED AND HELD IN PLACE BY BANDS OF NO. 27 PRESSURE SENSITIVE
99) GLASS CLOTH TAPE PLACED TWELVE INCHES ON CENTERS.
- 4 100) FOR CABLES UNDER 1-1/2 INCHES O.D. USE 1-1/2 INCH WIDE TAPE.
- 4 101) FOR CABLES GREATER THAN 1-1/2 INCHES O.D. USE 3-INCH WIDE TAPE.
- 1 102) 6. FACTORY TESTING
- 2 103) THE FOLLOWING FACTORY TESTS SHALL BE PERFORMED:
- 3 104) ON THE SAME PRODUCTION RUN
- 4 105) CONDUCTOR RESISTANCE
- 4 106) INSULATION THICKNESS
- 4 107) TENSILE STRENGTH
- 4 108) ACCELERATED WATER ABSORPTION
- 3 109) ON THE MATERIAL TO BE SHIPPED
- 4 110) D.C. VOLTAGE TEST
- 4 111) INSULATION RESISTANCE
- 2 112) THREE CERTIFIED COPIES OF THE TESTS SHALL BE RECEIVED BY THE ARCHITECT FOR
113) APPROVAL PRIOR TO SHIPPING.
- 2 114) FIELD TESTING IS SPECIFIED IN SECTION 16J30, "TESTING".



- 1 115)
- 2 115) THE CABLE SHALL BE MANUFACTURED BY:
- 3 117) ANACONDA ERICSSON
- 3 118) COLLYER
- 3 119) CYPRUS ROME
- 3 120) GENERAL CABLE
- 3 121) OKONITE
- 3 122) PHELPS DODGE CABLE & WIRE

7. MANUFACTURERS

***END OF SECTION

SPECIFICATION NO. P13E35

SCOPE: This specification covers single conductor EPR (Ethylene Propylene Rubber) insulated, thermoplastic jacketed power cable for use in aerial, direct burial, conduit, open tray, and underground duct installations. This cable is capable of operating continuously at a conductor temperature not in excess of 90°C for normal operation, 130°C for emergency overload conditions, and 250°C for short circuit conditions, and is rated 15,000 V, 133% insulation level (ungrounded neutral).

STANDARDS: The following standards shall form a part of this specification — IPCEA Pub. No. S-68-516 (NEMA Pub. WC8-1976) "Ethylene Propylene Rubber Insulated Cable and Wire", Underwriters Laboratories Standard 1072 for Medium Voltage Solid Dielectric Cable (MV90), and AEIC No. 6, latest issue.

CONDUCTOR: The conductor shall be Class B compressed soft or annealed copper in accordance with ASTM Specs B3 and B8 and IPCEA, Part 2, Section 2.1 and 2.5.

CONDUCTOR SHIELDING: The conductor shall be shielded with an extruded semi-conducting layer over the conductor, applied in tandem with and firmly bonded to the insulation.

INSULATION: The insulation shall be EPR (Ethylene Propylene Rubber) meeting the requirements of the referenced standards. The average thickness shall be 0.220", and the minimum spot shall be not less than 90% of the average thickness.

SHIELDING: The insulation shall be covered with a helically applied, lapped, printed semi-conducting tape. Over this layer shall be a helically applied, lapped, 0.003" bare copper tape. A suitable binder tape may be applied over the shielding.*

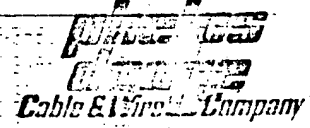
***JACKET:** The cable shall be provided with a jacket of black Habirdure (PVC), which is a polyvinyl chloride compound conforming to the requirements specified for polyvinyl chloride jackets in IPCEA. The average thickness shall be in accordance with Table 4-3 of IPCEA, and the minimum spot thickness shall be not less than 80% of the average thickness.

IDENTIFICATION: Cable shall be identified by surface printing of the jacket indicating: Phelps Dodge, size, insulation type, voltage rating, and Underwriters Laboratories designations.

TESTS: Physical and electrical tests shall be conducted in accordance with the requirements of IPCEA No. S-68-516 (NEMA WC8-1976), Underwriters Laboratories Standard 1072 for Medium Voltage Solid Dielectric Cable (MV90), and AEIC No. 6.

***NOTE:** For NEC Article 318 Cable Tray applications in sizes 250 and larger, a special binder and jacket will be provided, if necessary.

213-600-000	000	000
213-600-001	000	000
213-600-002	000	000
213-600-003	000	000
213-600-004	000	000
213-600-005	000	000
213-600-006	000	000
213-600-007	000	000
213-600-008	000	000
213-600-009	000	000
213-600-010	000	000


Phelps Dodge Cable & Wire Company
 P.O. Box 391, Yonkers, New York 10702 • (914) 963-8200



C. 111-1
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 C. 111-20

Applications

For use in aerial, direct burial, conduit, open tray, and underground duct installations. These cables are capable of operating continuously at a conductor temperature not in excess of 90°C for normal operation, 130°C for emergency overload conditions, and 250°C for short circuit conditions, and are rated at 15,000 V, 133% insulation level (ungrounded neutral).

Standards

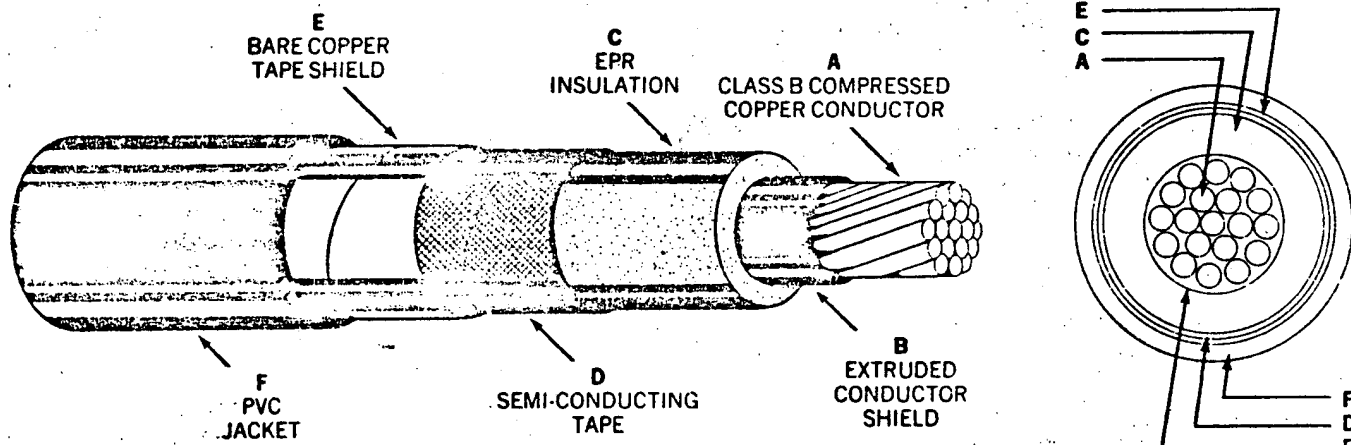
Manufactured and tested in accordance with the latest revisions of:

- IPCEA Pub. No. S-68-516
- NEMA Pub. No. WC8-1976
- AEIC No: 6
- UL 1072 MV90

Features

APR 14 1978

- Flexible, easy bending insulation
- Easy cable preparation
- Easy stripping semi-con layer
- 90°C continuous operating temperature
- 100% shield coverage



Product Code	Size AWG or MCM	Conductor Diameter		0.220" (5.59mm) Insulation Diameter		Jacket Thickness		Approximate Overall Diameter		Approximate Net Weight		Ampacity	
		Inch	mm	Inch*	mm	Inch	mm	Inch	mm	Lb/M Ft	Kg/Km	Duct	Direct Burial
213-62-3539	2+	0.283	7.19	0.785	19.9	0.080	2.03	0.992	25.2	623	927	155	188
213-62-3541	1	0.322	8.18	0.825	21.0	0.080	2.03	1.032	26.2	695	1034	176	215
213-62-3543	1/0	0.362	9.19	0.865	22.0	0.080	2.03	1.072	27.2	789	1174	201	244
213-62-3545	2/0	0.406	10.3	0.910	23.1	0.080	2.03	1.117	28.4	903	1344	228	277
213-62-3547	3/0	0.456	11.6	0.960	24.4	0.080	2.03	1.167	29.6	1042	1550	260	315
213-62-3549	4/0	0.512	13.0	1.020	25.9	0.080	2.03	1.227	31.2	1223	1820	295	358
213-62-3551	250	0.558	14.2	1.070	27.2	0.080	2.03	1.277	32.4	1368	2036	323	391
213-62-3553	300	0.611	15.5	1.120	28.4	0.080	2.03	1.327	33.7	1557	2317	355	430
213-62-3555	350	0.661	16.8	1.170	29.7	0.080	2.03	1.377	35.0	1744	2595	387	469
213-62-3557	400	0.706	17.9	1.215	30.9	0.080	2.03	1.422	36.1	1927	2867	419	497
213-62-3561	500	0.789	20.0	1.300	33.0	0.080	2.03	1.507	38.3	2291	3409	465	564
213-62-3565	600	0.866	22.0	1.375	34.9	0.080	2.03	1.582	40.2	2648	3940	508	612
213-62-3571	750	0.963	24.6	1.480	37.6	0.110	2.79	1.747	44.4	3278	4878	565	683
213-62-3577	1000	1.117	28.4	1.625	41.3	0.110	2.79	1.892	48.1	4179	6218	637	771

*±0.030

†For 133 percent insulation level (ungrounded neutral), the minimum conductor size is 1 AWG.

Cyprus Wire & Cable Company Manufacturers of ROME Products

SPEC 7290

July 15, 1977

Supersedes Issue Dated January 1, 1977

ROME-EPR POWER CABLE, 15000 VOLTS

Single Conductor, Shielded, 133% Insulation Level

Type MV-90

APPLICATION:

A—Where NEC jurisdiction applies: as 15,000-volt 133% insulation level shielded power cable, Type MV-90, for use at conductor temperatures not exceeding 90°C in wet or dry locations, when installed in accordance with the National Electrical Code.

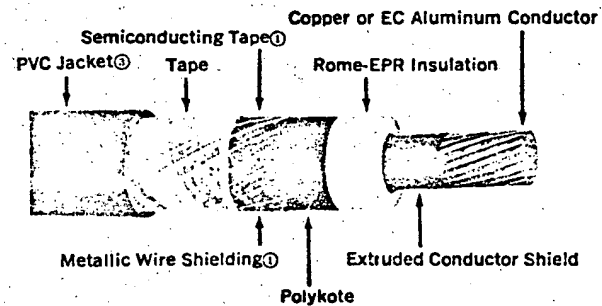
B—Otherwise, for general purpose applications in wet or dry locations, in circuits not exceeding 15,000 volts, phase-to-phase, at conductor temperatures not exceeding 90°C for normal, 130°C for emergency overload, and 250°C for short-circuit conditions. Suitable for installation in conduit, trays, troughs, ducts, aerial, and direct burial applications.

STANDARDS:

A—Listed by Underwriters Laboratories as 15,000-volt power cable, Type MV-90, per UL Standard 1072.

B—Conforms to IPCEA Pub. No. S-68-516 for Ethylene-propylene-rubber-insulated Wire and Cable.

CONSTRUCTION: Annealed copper or Alloy 1350(EC) aluminum conductor, extruded conductor shield, Rome-EPR ethylene-propylene-rubber insulation, PolyKote, semiconducting tape, #22 AWG metallic wire shielding, tape, black polyvinyl chloride jacket overall, surface printed.



Size AWG or MCM	No. of Strands	Thickness in Mils		Nominal Diameter Over Ins. Inches	Nom. Diam. Inches	S Indicates Stock Item	COPPER CONDUCTOR			ALUMINUM CONDUCTOR		
		Insulation	Jacket				Approx. Net Wt. Lb./1000 Ft.	Ampacity*		Approx. Net Wt. Lb./1000 Ft.	Ampacity*	
8001-15000 VOLTS, SHIELDED, 133% INSULATION LEVEL (UNGROUND NEUTRAL)												
2 [ⓐ]	7	220	80	.79	1.07	—	640	155	150	475	120	115
1	19	220	80	.83	1.11	—	705	175	170	530	135	130
1/0	19	220	80	.87	1.15	—	810	200	195	580	155	150
2/0	19	220	80	.92	1.20	—	900	230	225	615	175	175
3/0	19	220	80	.97	1.25	—	1015	260	260	635	200	200
4/0	19	220	80	1.03	1.30	—	1215	295	295	760	230	230
250	37	220	80	1.08	1.36	—	1395	325	330	855	250	255
350	37	220	80	1.20	1.47	—	1775	390	395	1015	305	310
500	37	220	80	1.32	1.60	—	2350	465	480	1270	370	385
750	61	220	110	1.54	1.89	—	3315	565	585	1700	455	485
1000	61	220	110	1.70	2.05	—	4220	640	675	2055	525	565

*Duct: Three cables per duct, 90°C Conductor Temperature, 20°C Ambient, One Circuit, 100% Load Factor, Rho = 90. Conduit: Three cables in isolated conduit in air, 90°C Conductor Temperature, 40°C Ambient. For other installation conditions, refer to Article 310-38 of the National Electrical Code.

- NOTES:**
- ⓐ Copper metallic tape shield or extruded insulation shield available on request.
 - ⓑ Size 2 AWG is not covered in the UL standard for MV-90 cables at 15 KV 133% IL, so this size cable cannot be UL labeled.
 - ⓒ Neoprene or Hypalon jacket may also be supplied.

Information on this sheet subject to change without notice.

CYPRUS

**Cyprus Wire & Cable Company
Manufacturers of ROME Products**

7290 7-15-77

Specification

Rome-EPR Power Cable, 15000 Volts

Single Conductor, Shielded, 133% Insulation Level

Type MV-90

SCOPE — This specification describes single conductor Rome-EPR (Ethylene-propylene-rubber) insulated, shielded power cables for use in ungrounded neutral circuits not exceeding 15,000 volts phase-to-phase at conductor temperatures of 90°C for continuous normal operation, 130°C for emergency overload conditions and 250°C for short-circuit conditions. Cables are intended for use as Type MV-90 in applications covered by the National Electrical Code. Otherwise, they are intended for general purpose power cable applications, in wet or dry locations, including conduit, cable tray, duct, direct burial, and aerial installation.

STANDARDS — The following standards shall form a part of this specification — Underwriters Laboratories Standard 1072 for Medium-Voltage Solid-Dielectric Cable and IPCEA Pub. No. S-68-516 "Ethylene-propylene-rubber-insulated Wire and Cable."

CONDUCTORS — Class B stranded annealed, coated or uncoated copper or Alloy 1350(EC) aluminum per Paragraphs 2.1 and 2.3 of IPCEA.

CONDUCTOR SHIELDING — Conductors shall be covered with a layer of extruded conducting thermosetting compound with a minimum thickness of .015". The extruded layer shall be firmly bonded to the cable insulation and shall meet the resistivity requirements of Paragraph 2.4 of IPCEA.

INSULATION — Directly over the conductor shielding shall be applied a homogeneous wall of Rome-EPR insulation. The average thickness of insulation shall be .220". Minimum thickness at any point shall be not less than 90% of the specified thickness. Physical and electrical properties of the insulation shall be in accordance with Paragraph 3.6 of IPCEA.

SHIELDING — A thin uniform layer of Rome "PolyKote" (black conducting polymeric coating) shall be applied directly over the insulation. A semiconducting non-metallic tape shall be wrapped over the "PolyKote" to act as a conductive bedding between the "PolyKote" layer and the metallic shielding. A special marker tape applied over the semiconducting tape shall identify the tape and "PolyKote" layers as conducting.

A serving of evenly spaced #22 AWG solid-tinned copper wires shall be applied concentrically over the semiconducting tape. The metallic wire shielding shall meet the requirements of Paragraph 4.1.1.3 of IPCEA.

SEPARATOR TAPE — A suitable separator tape shall be applied over the cable shielding system.

JACKET — A polyvinyl chloride jacket shall be applied overall. This jacket shall meet the requirements of Paragraph 4.4.5 of IPCEA and the Sunlight Resistance requirements of UL Standard 1072. The average thickness of the jacket shall be as specified in Table 4-6 of IPCEA. The minimum thickness at any point shall be not less than 80% of that specified.

IDENTIFICATION — All cable shall be identified by means of surface ink printing indicating manufacturer, size, insulation type, voltage rating, and UL designations.

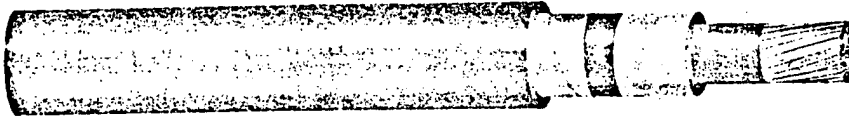
TESTS — Cable shall be tested in accordance with IPCEA S-68-516 and UL Standard 1072. Certified Test Reports may be furnished, if requested prior to production of the cable.

CYPRUS

Uniblend® EP

Shielded Power Cable Type MV-90

Copper Conductor 5000 and 15000 Volts 90C



Description

CONDUCTOR

Annealed bare copper, Anapact® Compact Class B Strand

Sizes: 8 AWG—1000 MCM

EXTRUDED STRAND SHIELD (ESS)

Extruded black conducting stress control layer over the conductor. Minimum average thickness not less than 8 mils.

INSULATION

Ethylene propylene (EP) insulation, colored to contrast with the black conducting shield layers.

INSULATION SHIELD

Extruded conducting layer covered by an overlapped annealed copper tape.

JACKET

Chlorosulfonated polyethylene (CP) or Polyvinyl chloride (PVC).

Specifications

Meets or exceeds the requirements of:

UL 1072 for Medium Voltage Solid Dielectric Cable.

ICEA S-68-516 and AEIC CS6 Standard for EP rubber insulated wire and cable.

AP 15000 Anaconda-Ericsson Product Specification for shielded power cable.

A complete, detailed guide for developing a specification to meet your specific needs is available from your Anaconda-Ericsson Representative.

Application

NATIONAL ELECTRICAL CODE

Ampacities: Article 310-15
 Grounding Conductor: Article 250-95
 Wiring Methods: Article 300 & 710
 Bending Radius: Article 300-34
 Cable Trays: Article 318
 Type MV: Article 326

Features and Benefits

Acceptable for use in OSHA regulated installations.

UL listed as Type MV-90 for use in accordance with the National Electrical Code.

Sizes 250 MCM and larger are also listed "For CT Use" in accordance with the National Electrical Code.

Uniblend EP with CP jacket meets IEEE standard 383 qualification requirements for use in nuclear (Class IE) and non nuclear generation stations.

Temperature ratings:

Normal Continuous	90C
Emergency	130C
Short Circuit	250C

Anapact conductor and simultaneous extrusion of strand shield, insulation and insulation shield combine to form a virtually perfect electrode.

EP insulation offers these advantages:

- Excellent heat and moisture resistance
- Outstanding corona resistance
- Flexibility for easy handling
- High dielectric strength
- Low moisture absorption
- Electrical stability under stress
- Low dielectric loss
- Chemicals and radiation resistance

EP insulation is colored for contrast with black conducting layers to simplify cable preparation for more reliable splices and terminations.

CP jacket has excellent low temperature properties — meets ICEA cold bend test requirements down to minus 65C.

How to Order

Order by Anaconda-Ericsson AP number, quantity, size, voltage.

Number of specific lengths required and packaging.

EXAMPLE

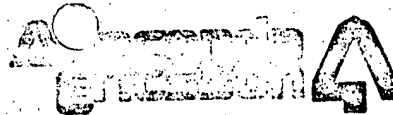
Anaconda-Ericsson AP 15105, Uniblend EP.

5000 feet, 4/0, single conductor, 5000 Volts.

5—1000 foot lengths on non returnable reels.

DATA SECTION 5 05

Medium Voltage Power Cable



9-81

Uniblend[®] EP

Shielded Power Cable Type MV-90

Copper Conductor 5000 and 15000 Volts 90C

Size AWG or MCM	Number of Strands	Conductor Diameter		Insulation Thickness		Diameter Over Insulation		Jacket Thickness		Overall Diameter		Net Weight		Size AWG or MCM		
		Inch	mm	Inch	mm	Inch	mm	Inch	mm	Inch	mm	PVC Jacket Lbs./MFT. kg/km	CP Jacket Lbs./MFT. kg/km			
5000 Volts 100% Insulation Level AP15105																
6	7	0.18	4.6	.090	2.3	0.40	10.2	.060	1.5	0.63	16.0	260	377	270	391	6
4	7	0.23	5.8	.090	2.3	0.45	11.4	.060	1.5	0.68	17.3	331	479	342	495	4
2	7	0.27	6.9	.090	2.3	0.48	12.2	.060	1.5	0.70	17.8	414	560	425	616	2
1	19	0.30	7.6	.090	2.3	0.51	13.0	.060	1.5	0.74	18.8	470	681	494	715	1
1/0	19	0.34	8.6	.090	2.3	0.55	14.0	.060	1.5	0.78	19.8	555	804	580	840	1/0
2/0	19	0.38	9.6	.090	2.3	0.59	15.0	.060	1.5	0.82	20.8	657	951	685	992	2/0
3/0	19	0.43	10.9	.090	2.3	0.64	16.3	.080	2.0	0.91	23.1	836	1211	856	1240	3/0
4/0	19	0.48	12.2	.090	2.3	0.69	17.5	.080	2.0	0.96	24.4	995	1441	1015	1470	4/0
250	37	0.52	13.2	.090	2.3	0.74	18.8	.080	2.0	1.01	25.7	1140	1651	1162	1683	250
350	37	0.62	15.7	.090	2.3	0.83	21.1	.080	2.0	1.11	28.2	1494	2164	1519	2200	350
500	37	0.74	18.8	.090	2.3	0.96	24.4	.080	2.0	1.24	31.5	2015	2918	2058	2980	500
750	61	0.91	23.1	.090	2.3	1.13	28.7	.080	2.0	1.44	36.5	2891	4187	2958	4284	750
1000	61	1.06	26.9	.090	2.3	1.28	32.5	.080	2.0	1.60	40.6	3748	5428	3825	5539	1000
15000 Volts 100% Insulation Level Grounded AP 15315																
4	7	0.23	5.8	.175	4.4	0.63	16.0	.060	1.5	0.86	21.1	445	662	475	707	4
2	7	0.27	6.8	.175	4.4	0.65	16.5	.080	2.0	0.92	23.4	564	817	600	869	2
1	19	0.30	7.6	.175	4.4	0.69	17.5	.080	2.0	0.95	24.2	639	926	676	979	1
1/0	19	0.34	8.6	.175	4.4	0.72	18.3	.080	2.0	1.00	25.3	730	1057	738	1069	1/0
2/0	19	0.38	9.6	.175	4.4	0.77	19.6	.080	2.0	1.04	26.3	842	1219	884	1280	2/0
3/0	19	0.43	10.9	.175	4.4	0.81	20.6	.080	2.0	1.09	27.7	1003	1453	1027	1487	3/0
4/0	19	0.48	12.2	.175	4.4	0.87	22.1	.080	2.0	1.14	28.9	1169	1693	1194	1729	4/0
250	37	0.52	13.2	.175	4.4	0.91	23.1	.080	2.0	1.20	30.5	1339	1939	1368	1981	250
350	37	0.62	15.8	.175	4.4	1.01	25.7	.080	2.0	1.29	32.7	1696	2456	1726	2500	350
500	37	0.74	18.8	.175	4.4	1.13	28.7	.080	2.0	1.43	36.4	2272	3290	2306	3340	500
750	61	0.91	23.1	.175	4.4	1.30	33.1	.080	2.0	1.61	41.0	3135	4540	3213	4653	750
1000	61	1.06	26.9	.175	4.4	1.46	37.1	.110	2.8	1.83	46.6	4116	5961	4225	6119	1000
15000 Volts 133% Insulation Level Ungrounded AP 15318																
2	7	0.27	5.8	.220	5.6	0.74	18.8	.080	2.0	1.01	25.7	646	936	688	996	2
1	19	0.30	6.8	.220	5.6	0.78	19.8	.080	2.0	1.05	26.7	726	1051	769	1114	1
1/0	19	0.34	8.6	.220	5.6	0.81	20.6	.080	2.0	1.09	27.7	841	1218	865	1253	1/0
2/0	19	0.38	9.6	.220	5.6	0.86	21.8	.080	2.0	1.13	28.8	935	1354	1030	1492	2/0
3/0	19	0.43	10.9	.220	5.6	0.91	23.1	.080	2.0	1.18	30.1	1103	1597	1130	1636	3/0
4/0	19	0.48	12.2	.220	5.6	0.96	24.4	.080	2.0	1.24	31.4	1252	1813	1806	1891	4/0
250	37	0.52	13.2	.220	5.6	1.00	25.4	.080	2.0	1.28	32.4	1423	2061	1452	2103	250
350	37	0.62	15.8	.220	5.6	1.10	27.9	.080	2.0	1.40	35.6	1839	2663	1872	2711	350
500	37	0.74	18.8	.220	5.6	1.22	31.0	.090	2.0	1.53	36.9	2400	3476	2436	3528	500
750	61	0.91	23.1	.220	5.6	1.39	35.3	.080	2.0	1.71	43.3	3274	4741	3360	4866	750
1000	61	1.06	26.9	.220	5.6	1.55	39.4	.110	2.8	1.95	49.5	4310	6242	4426	6410	1000

Specified cut lengths are subject to a tolerance of plus 5% minus 0%.

Extruded strand shield thickness:
 Sizes 6 AWG and 4 AWG
 .015 inch (.39 mm).
 Sizes 2 AWG thru 1000 MCM
 .008 inch (.2 mm).

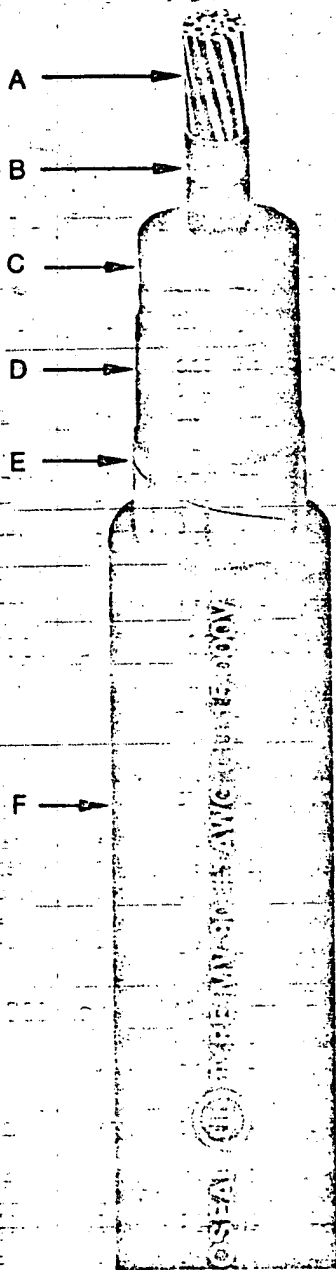
Dimensions and weights shown are nominal, subject to standard industry tolerances.

MAY 28 1982

Okoguard-Okoseal Type MV-90

15kV Shielded Power Cable

One Copper Conductor/90C Rating/100% and 133% Insulation Level



- A Conductor — Stranded Copper
- B Strand Screen — Extruded Semiconducting
- C Insulation — Okoguard
- D Insulation Screen — Extruded Semiconducting
- E Shield — Copper Tape
- F Jacket — Okoseal

Insulation

Okoguard® is Okonite's registered trade name for its exclusive ethylene propylene base, thermosetting compound, whose optimum balance of electrical and physical properties is unequalled in other solid dielectrics. The clean red color of Okoguard is the result of an evolutionary development in ethylene propylene rubber compounding to gain greater dependability of the electrical characteristics.

Jacket

The Okoseal® (PVC) jacket supplied with this cable is mechanically rugged and has excellent resistance to oil, acids and most chemicals.

Applications

Okoguard-Shielded-Okoseal 15,000 volt power cables are recommended as feeder circuits in all industrial and commercial installations.

Specifications

Conductor: Uncoated Copper, Class B stranded per ASTM B-8.

Strand Screen: Extruded semiconducting strand screen. Meets or exceeds electrical and physical requirements of ICEA S-68-516, AEIC CS6-79 and UL 1072.

Insulation: Meets or exceeds electrical and physical requirements of ICEA S-68-516, AEIC CS6-79 and UL 1072.

Insulation Screen: Extruded semiconducting insulation screen applied directly over the insulation. Meets or exceeds electrical and physical requirements of ICEA S-68-516, AEIC CS6-79, and UL 1072.

Shield: Uncoated 4 mil copper tape helically applied with minimum overlap of 12.5%.

Jacket: Meets or exceeds electrical and physical requirements of ICEA S-68-516 for polyvinylchloride jackets, and UL 1072.

Listed by Underwriters' Laboratories, Inc. as Type MV-90 and meets UL Standard 1072.

A flame retardant construction, size 250 kcmil and larger, for installation in cable tray is available on special order. This construction is UL labeled "Type MV-90 FOR CT USE".

Product Features

- Okoguard cables meet or exceed all recognized industry standards (ICEA, AEIC, NEMA, UL).
- 90C continuous operating temperature
130C emergency rating
250C short circuit rating
- Exceptional resistance to moisture, even at 90C.
- Excellent corona resistance
- Small diameter, light weight, flexible
- Easy to splice and terminate
- Flame resistant
- Excellent weathering properties.
- Resistant to most oils, acid and alkalis.
- UL Listed as Type MV-90.

Additional Information

For additional information contact your local Okonite representative or Service Center Manager.

Okoguard-Okose Type MV-90 (UL)

Product Data

15kV Shielded Power Cable

Section 2: Sheet 10

One Copper Conductor/90C Rating/100% and 133% Insulation Level

Okoguard Insulation, 175 Mils (4.45mm), 100% Insulation Level

Catalog Number	Conductor Size - Awg or kcmil		Conductor Size - mm ²	Number of Strands	Jacket Thickness - mils	Jacket Thickness - mm	Approx OD - Inches	Approx OD - mm	Net Weight - lbs/M'	Approx Ship Weight - lbs-M	Ampacity Conduit (1)
▲ 115-23-3011	2	33.6	7	80	2.03	.98	24.89	670	778	150	
115-23-3013	1	42.4	19	80	2.03	1.03	26.16	760	868	170	
115-23-3015	1/0	53.5	19	80	2.03	1.07	27.18	857	965	195	
▲ 115-23-3017	2/0	67.4	19	80	2.03	1.12	28.45	975	1083	225	
▲ 115-23-3021	4/0	104.0	19	80	2.03	1.23	31.24	1296	1441	295	
115-23-3023	250	127.0	37	80	2.03	1.27	32.26	1446	1591	330	
▲ 115-23-3027	350	177.0	37	80	2.03	1.40	35.56	1859	2004	395	
▲ 115-23-3031	500	253.0	37	80	2.03	1.53	38.86	2421	2631	480	
115-23-3035	750	380.0	61	110	2.79	1.80	45.72	3477	3622	585	

Okoguard Insulation, 220 Mils (5.59mm), 133% Insulation Level

▲ 115-23-3111	*2	33.6	7	80	2.03	1.08	27.43	764	872	150
115-23-3113	1	42.4	19	80	2.03	1.13	28.70	860	968	170
115-23-3115	1/0	53.5	19	80	2.03	1.17	29.72	960	1068	195
▲ 115-23-3117	2/0	67.4	19	80	2.03	1.21	30.73	1081	1226	225
▲ 115-23-3121	4/0	104.0	19	80	2.03	1.34	34.04	1439	1584	295
115-23-3123	250	127.0	37	80	2.03	1.39	35.31	1595	1740	330
▲ 115-23-3127	350	177.0	37	80	2.03	1.49	37.85	1990	2200	395
▲ 115-23-3131	500	253.0	37	80	2.03	1.62	41.15	2563	2773	480
115-23-3135	750	380.0	61	110	2.79	1.91	48.51	3682	3968	585

Minimum Manufacturing Quantity for non-stock items is 5000 ft.

▲ Authorized stock item available from our Customer Service Centers.

Standard Package—#2-4/0-2000' N.R. Reels #250 MCM and larger—1000' N.R. Reel. Standard package will be furnished where orders do not specify otherwise.

* #2 Awg limited to 100% insulation level.

Ampacity

(1) Ampacities in accordance with Table 310-43 (copper conductors) of the 1978 National Electrical Code for three single Type MV-90 conductors, or single conductors twisted together (triplexed) and installed in isolated conduit in air at an ambient temperature of 40C and a conductor operating temperature of 90C.

For other ambient temperatures refer to Engineering Bulletin



THE OKONITE COMPANY

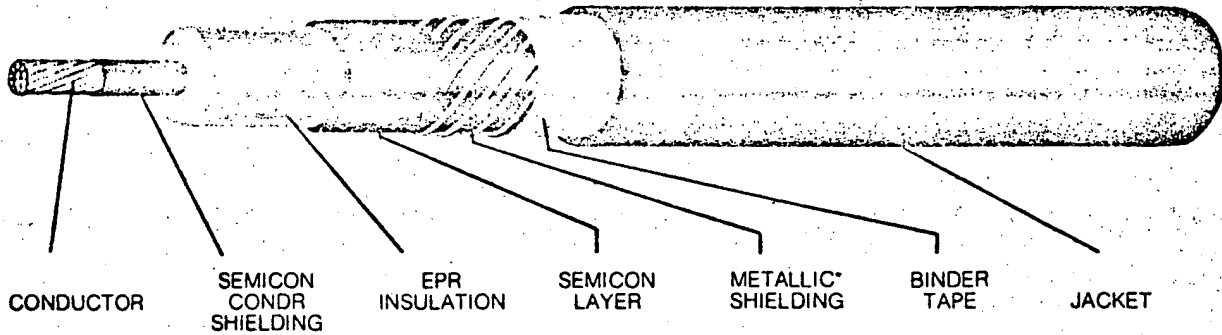
Ramsey, New Jersey 07446

March, 1982

Power Cable (shielded)

15000 Volts

N.E.C.-U.L. TYPE MV-90



*May be either metallic tape or a serving of wires. Unless otherwise required a wire shield will be supplied on single conductor cable

Applications

90°C Conductor temperature, wet or dry continuous operation.

Aerial (messenger supported)
 Direct burial
 Conduits or ducts
 Open wiring indoors
 Single conductor size 250 kcmil and larger may be installed in cable tray per Nec 318-2(b) and marked "for CT use" when specifically ordered.

Dry locations
 Wet locations
 Exposure to weather
 In presence of many chemicals and oils
 Exposure to ozone

Note: When specifically required by contract or purchase negotiation this cable shall meet AEIC #6 requirements.

U.L. listed as type MV-90; U.L. Standard 1072 for use in accordance with article 310-51 N.E.C.

SINGLE CONDUCTOR 15000 VOLTS (133% Insulation Level)

AWG OR kcmil SIZE	AMPACITY*	FACTORY TEST VOLTAGE		STRAND (NO. OF WIRES)	INSUL. THICKN. MILS.	JACKET THICKN. MILS.	APPROX. O.D. INCHES	APPROX. NET WT. LBS./1000'
		AC	DC					
1	204	33.0kv	80.0kv	19	215	80	1.07	700
1/0	232	33.0kv	80.0kv	19	215	80	1.11	790
2/0	265	33.0kv	80.0kv	19	215	80	1.15	900
3/0	302	33.0kv	80.0kv	19	215	80	1.20	1035
4/0	344	33.0kv	80.0kv	19	215	80	1.26	1215
250	378	33.0kv	80.0kv	37	215	80	1.31	1365
350	457	33.0kv	80.0kv	37	215	80	1.41	1725
500	557	33.0kv	80.0kv	37	215	80	1.54	2270
750	695	33.0kv	80.0kv	61	215	110	1.78	3270
1000	807	33.0kv	80.0kv	61	215	110	1.94	4120

*Ampacity based on three copper cables in duct bank, 20°C ambient, 90°C conductor temperature, 100% load factor. Weights and dimensions are for cables with copper conductors and wire shield.

THREE CONDUCTOR 15000 VOLTS (133% Insulation Level)

AWG OR kcmil SIZE	AMPACITY**	FACTORY TEST VOLTAGE		STRAND (NO. OF WIRES)	INSUL. THICKN. MILS.	JACKET THICKN. MILS.	APPROX. O.D. INCHES	APPROX. NET WT. LBS./1000'
		AC	DC					
1	171	33.0kv	80.0kv	19	215	110	2.07	2440
1/0	194	33.0kv	80.0kv	19	215	110	2.16	2830
2/0	220	33.0kv	80.0kv	19	215	110	2.25	3150
3/0	250	33.0kv	80.0kv	19	215	110	2.36	3620
4/0	284	33.0kv	80.0kv	19	215	110	2.49	4160
250	311	33.0kv	80.0kv	37	215	110	2.59	4650
350	374	33.0kv	80.0kv	37	215	140	2.86	5910
500	449	33.0kv	80.0kv	37	215	140	3.14	7645
750	545	33.0kv	80.0kv	61	215	140	3.54	10425

**Ampacity based on one copper cable in duct bank, 20°C ambient temperature, and 90°C conductor temperature, 100% load factor. Weights and dimensions based on cables with copper conductors and tape shields.

SPECIFICATIONS ON REVERSE SIDE...

Collyer

Power Cable (shielded)

15000 Volts

N.E.C.-U.L. TYPE MV-90

Specifications

Conductors

- a. Copper
ASTM B-3
IPCEA-NEMA
U.L. 1072
- a.1 Stranding
ASTM B-8 or B-496
IPCEA-NEMA
U.L. 1072
- b. Aluminum
ASTM B-230 or B-262
IPCEA-NEMA
U.L. 1072
- b.1 Stranding
ASTM B-231 or B-400
IPCEA-NEMA
U.L. 1072

Insulation

Collyer RI-7
IPCEA-S-68-516
NEMA WC-8
U.L. 1072

Jacket

(one of the following)
Collyer RS-2 (Neoprene)
PS-5 (PVC)
RI-10 (Hypalon*)
IPCEA S-68-516
NEMA WC-8
U.L. 1072

Scope

This specification covers single and multi-conductor shielded cables, insulated with Collyer EPR, ethylene propylene rubber, and with a jacket of either neoprene, PVC or Hypalon*. Cables produced under this specification are suitable for 8001-15000 volt operation in conduits, underground ducts, aerially or directly buried at continuous conductor temperatures of 90°C in wet or dry locations. Single conductor size 250kcmil and larger may be installed in cable tray per NEC 318-2(b). Listed by U.L. as type MV-90, U.L. standard 1072.

Components

Conductors: The conductors shall consist of soft copper meeting the requirements of ASTM Specification B-3 or aluminum meeting ASTM B-230 or B-262. If required, copper conductors may be coated with tin or tin-lead alloy meeting ASTM B-33 or B-189.

The stranding shall meet the requirements of ASTM Specification B-8 or B-496 for copper conductor and B-231 or B-400 for aluminum conductor. Normally Class B compressed strand will be supplied.

Insulation: The insulation shall consist of COLLYER EPR, ethylene propylene rubber, extruded concentrically over the conductor to the wall thicknesses shown in the tables of construction details. It shall meet the requirements of COLLYER specification RI-7, IPCEA-S-68-516, NEMA WC-8 and U.L. 1072.

Shielding: Conductor shielding shall consist of an extruded semi-conducting layer meeting the requirements of IPCEA-S-68-516 par. 2.4. and U.L. 1072.

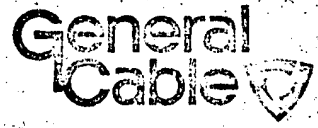
Insulation shielding shall consist of a semi-conducting tape or extruded compound and a serving of shielding wires or a metallic tape meeting the requirements of IPCEA-NEMA Standard and U.L. 1072. Normally wire shield is supplied on single conductor cable.

Assembly: The assembly of multi-conductor cables shall be done by cabling together the required number of shielded conductors with a suitable left-hand lay, in accordance with IPCEA-NEMA Standard. Sufficient moisture resisting fillers shall be used in the interstices to make the cable round. A binder or tape shall be applied overall.

Jacket: Over the shielded conductor or assembly there shall be extruded a jacket of either neoprene, PVC or Hypalon*. The jacket shall be applied to the dimensions shown in the tables of construction details and shall meet the requirements of IPCEA-NEMA Standard, as applicable, one of the following Collyer Specifications: RS-2, PS-5 or RI-10 and U.L. 1072.

Tests

The finished cable shall be tested in accordance with and meet the requirements of IPCEA-NEMA Standard and U.L. 1072. When required by contract or purchase negotiation it shall comply with AEIC No. 6 specification.



MAY 12 1977

Power Cable

**15,000 Volt Copper Conductor
EPR Insulated, Shielded, PVC Jacketed
133% insulation level**

CATALOG NO.: 400-2220
FEBRUARY 1977

APPLICATIONS: Primary power and distribution circuits in industrial and commercial installations, power circuits in generating plants where line to ground fault currents are within shield capabilities. May be used in wet or dry locations installed in conduit, duct, open air, aerially or directly buried, in accordance with the standards below.

STANDARDS: Temperature Rating 90°C - Wet and Dry locations
 UL Listed Type MV-90 (Direct burial not permitted by UL 1072)
 UL Type "CT" (Cable Tray) Label available (for 1975 NEC approved sizes 250 kcmil and larger)
 UL Type "Sunlight Resistant"
 Meets IPCEA S-68-516/NEMA WC8

CONDUCTOR		Insulation Thickness Mils	Jacket Thickness Mils	Approx. Net Weight Lbs/M Ft	Approx. Cable O D Inches	Conduit Size Inches*	AMPACITY†	
Size AWG or kcmil	Stranding No. of Wires						Condition A	Condition B
1	19	220	80	735	1.09	3	170	175
1/0	19	220	80	829	1.13	3½	195	200
2/0	19	220	80	944	1.18	3½	225	230
3/0	19	220	80	1082	1.23	3½	260	260
4/0	19	220	80	1258	1.28	3½	295	295
250	37	220	80	1414	1.34	4	330	325
350	37	220	80	1788	1.45	4	395	390
500	37	220	80	2335	1.58	4½	480	465

*For three single conductor cables per conduit, 40% conduit fill (NEC Chapter 9, Tables 1 and 4).

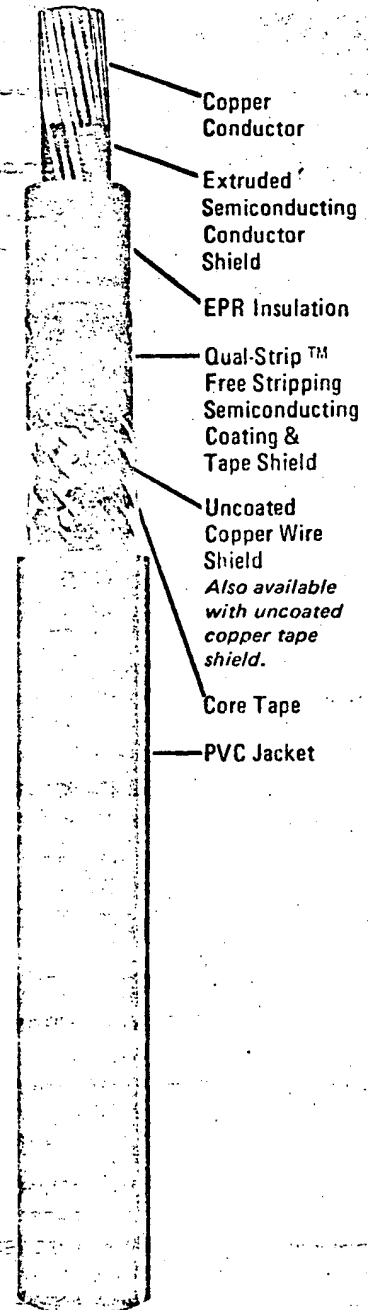
†AMPACITIES ARE BASED ON THE FOLLOWING:

Condition A -- Triplexed or three single conductors in isolated conduit in air, 40°C ambient air, 90°C conductor temperature (NEC Table 310-41), short-circuited shields.

Condition B -- Triplexed or three single conductors in underground duct, one circuit, 20°C ambient earth, 90°C conductor temperature, earth thermal resistance (RHO) of 90 and 100% load factor. (NEC Table 310-43), short-circuited shields.

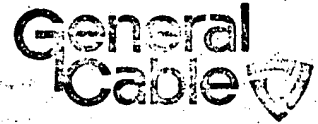
Ampacities for other conditions of installation or operation will be supplied upon request.

The above data are approximate and subject to normal manufacturing tolerances.



GENERAL CABLE CORPORATION

Executive Offices: 500 West Putnam Ave., Greenwich, Conn. 06830
 Telephone (203) 661-0100



**POWER CABLE/15,000 Volt Copper Conductor
EPR Insulated, Shielded, PVC Jacketed
133% insulation level**

ENGINEERING INFORMATION

Conductor Operation Temperature: 90°C continuous normal operation.

Insulation: High quality heat-, moisture-, ozone- and corona-resistant ethylene propylene rubber.

Qual-Strip™ Insulation Shield: Semiconducting rubber-filled nylon tape with an underlying semiconducting coating. Tape and coating strip freely from the insulation so that minimal touch-up cleaning is required to ensure a clean insulation surface for splicing or terminating.

Metallic Shield: Concentric serve of spaced uncoated annealed copper wires. *Uncoated annealed copper tape shield, helically applied, also available.* (UL Listed Type "CT" cable employs copper tape shield).

NOTE: UL and IPCEA wire shielding comprising 5000 circular mils of copper per inch of calculated core diameter, has limited fault current capability and may not be adequate unless special measures are taken to limit the magnitude of line to ground fault currents. Where the adequacy of this type shield is in question, engineering assistance is available for the design of an adequate shield for intended application.

Jacket: Tough, ozone-, heat-, and moisture-resistant PVC (polyvinyl chloride) jacket which provides protection against sunlight, oils, and most acids and alkalis.

Minimum Recommended Installation Temperature: 14°F (-10°C).

SPECIFICATIONS

Conductor: Uncoated or coated annealed Class B stranded copper per UL 1072, Paragraphs 4 thru 12 and IPCEA S-68-516/NEMA WC8, Part 2.

Conductor Shield: Extruded semiconducting thermosetting compound per UL 1072, Paragraphs 13 thru 14 and IPCEA S-68-516/NEMA WC8 Part 2.

Insulation: Extruded thermosetting ethylene propylene rubber per UL 1072, Paragraphs 22 thru 22F and IPCEA S-68-516/NEMA WC8, Paragraph 3.6.

Insulation Shield: Qual-Strip™ free stripping semiconducting coating with overlying semiconducting tape per UL 1072 Paragraphs 24 thru 24B and IPCEA S-68-516/NEMA WC8, Paragraph 4.1.1.

Metallic Shield: No. 24 or 22 AWG uncoated annealed copper wires per UL 1072, Paragraphs 25 thru 25B and IPCEA S-68-516/NEMA WC8 Paragraph 4.1.1.3. *Uncoated annealed copper tape shield, helically applied, per Paragraph 4.1.1.1 also available.* (UL Listed Type "CT" cable employs copper tape shield).

Jacket: Black PVC per UL 1072, Paragraphs 40 thru 43 and IPCEA S-68-516/NEMA WC8, Paragraph 4.4.5. PVC jackets marked "Sunlight Resistant" comply with UL 1072 Paragraph 70A.

GENERAL CABLE CORPORATION

Executive Offices: 500 West Putnam Ave., Greenwich, Conn. 06830
Telephone (203) 661-0100

Analysis Matrix

MEDIUM VOLTAGE CABLE SELECTION

	Desired Criteria							Total
	CORONA / OZONE RESISTANCE	HIGH TEMP PHYSICAL PROPERTIES	INSTALLATION HANDLING & FLEXIBILITY	TEMPERATURE RATING OVERLOAD CAPACITY	PHYSICAL TOUGHNESS TENSILE / ELONGATION	IMPULSE STRENGTH / DIELECTRIC STRENGTH	INITIAL COST	
Weight of Importance (0-10)	a	b	c	d	e	f	g	
1. ETHYLENE PROPYLENE RUBBER (EPR)	5 20	5 20	5 30	5 40	3 18	5 50		178
2. CROSS LINKED POLYETHYLENE (XLP)	3 12	4 16	2 12	5 40	5 30	5 50		160
3.								
4.								
5.								
6.								
7.								
8.								
9.								
10.								

Excellent - 5 Very Good - 4 Good - 3 Fair - 2 Poor - 1

* BASED ON IEEE REPORT "A COMPARISON OF M.V. CABLE INSULATIONS", ROBERT S. SINATRA, IA'S, NO 5 SEPT/OCT '72