

ROME PRIMARY UNDERGROUND DISTRIBUTION CABLE

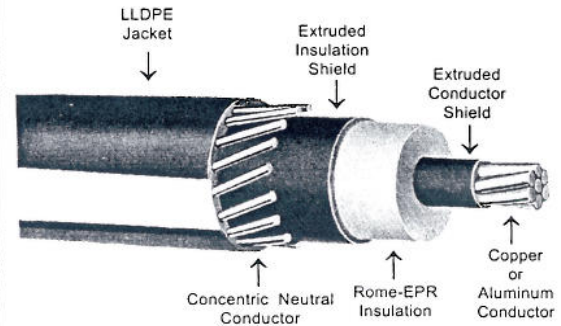
.220" Rome-EPR, Full Neutral, LLDPE Jacket
15 kV 133% Insulation Level

APPLICATION: Intended for use on single phase and three phase primary underground distribution systems operating at 15000 volts phase to phase at 100% and 133% insulation level. Suitable for either direct burial or installation in ducts.

STANDARDS:

1. Conforms to ANSI/ICEA S-94-649 for Concentric Neutral Cables Rated 5 Through 46 kV.
2. Conforms to AEIC CS8 for Extruded Dielectric, Shielded Power Cables Rated 5 Through 46 kV.
3. Meets the requirements of RUS Specification U-1.

CONSTRUCTION: Copper or aluminum conductor, extruded conductor shield, Rome-EPR ethylene-propylene-rubber insulation, extruded insulation shield, solid bare copper wires uniformly spaced around the cable as a concentric neutral, encapsulated LLDPE jacket with three extruded longitudinal red stripes, surface printed.



Size AWG or kcmil	Strand- ing	Thickness in Mils			Diameter, Inches					Neutral No./ AWG Size	Approx. Net Wgt. Lb./1000 Ft.	Ampacity ⁽¹⁾	
		Insula- tion ⁽²⁾	Insula- tion Shield ⁽²⁾	Jacket ⁽²⁾	Insulation		Insulation Shield		Overall			Direct Burial	Duct
					Min.	Max.	Min.	Max.					
15000 VOLTS, 100% and 133% INSULATION LEVEL, FULL NEUTRAL, JACKETED													
COPPER CONDUCTOR													
2	7	210	30	45	.725	.815	.785	.915	1.100	16 x 14	785	200	143
1	19	210	30	45	.765	.855	.825	.955	1.170	13 x 12	960	230	164
1/0	19	210	30	45	.805	.895	.865	.995	1.210	16 x 12	1105	263	187
2/0	19	210	30	45	.850	.935	.910	1.035	1.255	20 x 12	1500	298	214
3/0	19	210	30	45	.900	.985	.960	1.085	1.305	25 x 12	1530	343	244
4/0	19	210	30	45	.955	1.045	1.015	1.145	1.360	32 x 12	1855	390	279
ALUMINUM CONDUCTOR													
2	Solid	210	30	45	.700	.790	.760	.890	1.075	10 x 14	575	163	116
2	7	210	30	45	.725	.815	.785	.915	1.100	10 x 14	590	163	116
1	Solid	210	30	45	.735	.820	.795	.920	1.105	13 x 14	650	183	130
1	19	210	30	45	.765	.855	.825	.955	1.135	13 x 14	665	183	130
1/0	Solid	210	30	45	.770	.855	.830	.955	1.140	16 x 14	720	208	148
1/0	19	210	30	45	.805	.895	.865	.995	1.175	16 x 14	745	208	148
2/0	19	210	30	45	.850	.935	.910	1.035	1.255	13 x 12	895	238	170
3/0	19	210	30	45	.900	.985	.960	1.085	1.305	16 x 12	1000	269	191
4/0	19	210	30	45	.955	1.045	1.015	1.145	1.360	20 x 12	1180	309	220
250	37	210	40	45	1.010	1.100	1.090	1.220	1.440	25 x 12	1350	340	243
300	37	210	40	45	1.065	1.150	1.145	1.270	1.535	18 x 10	1545	383	278
350	37	210	40	45	1.115	1.200	1.195	1.320	1.585	20 x 10	1680	420	301

⁽¹⁾ Ampacity based upon single phase operation, 90°C conductor, 20°C ambient, 100% load factor. Multiplying correction factors for 75% load factor are: direct burial (1.08); duct (1.04) and for 50% load factor: direct burial (1.16); duct (1.07).

⁽²⁾ Minimum point thickness per ANSI/ICEA 649 Standard.

⁽³⁾ Water-blocked strand available on request.

Specification

ROME PRIMARY UNDERGROUND DISTRIBUTION CABLE

.220" Rome-EPR, Full Neutral, LLDPE Jacket

15kV 133% Insulation Level

1. SCOPE

- 1.1 This specification describes Rome-EPR (Ethylene-propylene rubber) insulated power cables with full concentric neutral for direct burial or installation in ducts. They are intended for use on single phase and three phase primary underground distribution systems not exceeding 15000 volts phase to phase at maximum conductor temperatures of 90°C for continuous normal operation, 130°C for emergency overload conditions and 250°C for short circuit conditions.

2. STANDARDS

- 2.1 The following standards shall form a part of this specification to the extent specified herein:
 - 2.1.1 ANSI/ICEA S-94-649 for Concentric Neutral Cables Rated 5 Through 46 kV.
 - 2.1.2 AEIC CS8 for Extruded Dielectric, Shielded Power Cables Rated 5 Through 46 kV.
 - 2.1.3 Rural Utilities Service (RUS) Specification U-1.

3. CONDUCTOR

- 3.1 Class B stranded annealed copper, or Class B stranded or solid aluminum 1350 per Part 2 of ANSI/ICEA S-94-649.

4. CONDUCTOR SHIELD

- 4.1 Conductors shall be covered with a layer of extruded conducting thermosetting compound with a minimum point thickness in accordance with Table 3-1 of ANSI/ICEA S-94-649.
- 4.2 The extruded layer shall be firmly bonded to the insulation and shall be in accordance with Par. 3.5 and meet the resistivity requirements of Par. 3.6 of ANSI/ICEA S-94-649.

5. INSULATION

- 5.1 Directly over the conductor shield shall be applied a homogeneous wall of Rome-EPR insulation. The minimum thickness shall be 210 mils and the maximum thickness shall be 250 mils in accordance with Table 4-11 of ANSI/ICEA S-94-649.
- 5.2 Physical and electrical properties of the insulation shall be in accordance with Par. 4.3.1 of ANSI/ICEA S-94-649.

6. INSULATION SHIELD

- 6.1 Over the insulation shall be applied an extruded thermosetting insulation shield conforming with Part 5 of ANSI/ICEA S-94-649. It shall be in intimate contact with the outer surface of the insulation and shall be free-stripping, leaving no conducting particles or other residue on the insulation surface. This layer shall be legibly identified as being conducting.
- 6.2 The thickness of this layer shall be in accordance with Par. 5.2 of ANSI/ICEA S-94-649.
- 6.3 The insulation shield shall meet the resistivity requirements of Par. 5.4.1 of ANSI/ICEA S-94-649.

7. CONCENTRIC NEUTRAL

- 7.1 A concentric neutral consisting of annealed bare copper wires in accordance with ICEA shall be spirally applied over the extruded insulation shield with uniform spacing between wires.
- 7.2 The number and size of the neutral wires shall be as specified in Table 6-2 of ANSI/ICEA S-94-649. The length of lay shall be not less than 6 nor more than 10 times the diameter over the concentric wire layer.

8. JACKET

- 8.1 An insulating linear low density polyethylene (LLDPE) encapsulated jacket shall be applied overall. The jacket shall meet the requirements of Par. 7.1.1 of ANSI/ICEA S-94-649.
- 8.2 Minimum and maximum point jacket thickness over the wires shall be as specified in Table 7-10 of ANSI/ICEA.
- 8.3 Three equally spaced longitudinal red stripes shall be extruded in the jacket.

9. IDENTIFICATION

- 9.1 All cable shall be identified by means of surface printing indicating manufacturer, size, metal, insulation type and nominal thickness, voltage rating, year of manufacture, and sequential footage marking.

10. TESTS

- 10.1 Cable shall be tested in accordance with ANSI/ICEA S-94-649, AEIC CS8, and RUS Spec U-1. Certified Test Reports may be furnished, if requested prior to production of the cable.