

ROME PRIMARY UNDERGROUND DISTRIBUTION CABLE

.260" Rome TR-XLP, Full Neutral, LLDPE Jacket
25 kV 100% Insulation Level

APPLICATION: Intended for use on single phase and three phase primary underground distribution systems operating at 25000 volts phase to phase at 100% 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.

CONSTRUCTION: Copper or aluminum conductor, extruded conductor shield, Rome TR-XLP tree-retardant crosslinked polyethylene insulation, extruded insulation shield, solid bare copper wires uniformly spaced around the cables 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.					
25000 VOLTS, 100 % INSULATION LEVEL, FULL NEUTRAL, JACKETED													
COPPER CONDUCTOR													
1	19	245	30	45	.835	.925	.895	1.025	1.250	13 x 12	970	230	164
1/0	19	245	30	45	.875	.965	.935	1.065	1.290	16 x 12	1120	263	187
2/0	19	245	30	45	.920	1.010	.980	1.110	1.335	20 x 12	1305	298	213
3/0	19	245	30	45	.970	1.060	1.030	1.160	1.405	25 x 12	1565	343	245
4/0	19	245	40	45	1.025	1.115	1.105	1.235	1.460	32 x 12	1870	390	279
ALUMINUM CONDUCTOR													
1	Solid	245	30	45	.805	.895	.865	.995	1.185	13 x 14	660	183	130
1	19	245	30	45	.835	.925	.895	1.025	1.215	13 x 14	675	183	130
1/0	Solid	245	30	45	.840	.930	.900	1.030	1.220	16 x 14	740	208	148
1/0	19	245	30	45	.875	.965	.935	1.065	1.255	16 x 14	755	208	148
2/0	19	245	30	45	.920	1.010	.980	1.110	1.335	13 x 12	890	238	170
3/0	19	245	30	45	.970	1.060	1.030	1.160	1.405	16 x 12	1035	269	190
4/0	19	245	40	45	1.025	1.115	1.105	1.235	1.460	20 x 12	1185	305	217
250	37	245	40	45	1.080	1.175	1.160	1.295	1.530	25 x 12	1355	335	239
300	37	245	40	45	1.135	1.225	1.215	1.345	1.625	18 x 10	1550	378	273
350	37	245	40	70	1.185	1.275	1.265	1.395	1.735	20 x 10	1755	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.

⁽⁴⁾ Water-blocked strand cables comply with RUS Spec U-1.

Specification

ROME PRIMARY UNDERGROUND DISTRIBUTION CABLE .260" Rome TR-XLP, Full Neutral, LLDPE Jacket 25KV 100% Insulation Level

1. SCOPE

- 1.1 This specification describes Rome TR-XLP tree-retardant crosslinked polyethylene 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 25000 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.

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 crosslinked polyethylene 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 TR-XLP tree-retardant crosslinked polyethylene insulation. The minimum thickness shall be 245 mils and the maximum thickness shall be 290 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 point 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, and AEIC CS8. Certified Test Reports may be furnished, if requested prior to production of the cable.