

## ROME INTERLOCKED ARMOR POWER CABLE, 5000 VOLTS

3 Conductor, Rome-XLP Insulated, Shielded, Aluminum or Steel Armor  
Type MV-90 or Type MC, CT Use

**APPLICATION:**  
As armored Type MV-90 cable for installation aerially or in rack, tray, trough, cable trays, or direct buried; for power circuits not exceeding 5000 volts in manufacturing and processing plants, substations and generating stations. May be used in NEC Class I and II, Div. 2 and Class III, Div. 1 and 2 hazardous locations.

**STANDARDS:**

- Listed by UL as Type MV-90 per Standard 1072.
- Also listed for use as Type MC per Standard 1569.
- Overall jacket UL listed as Sunlight Resistant.
- Cables pass UL and IEEE-383 ribbon burner flame tests and are UL listed For CT Use.
- Cables pass ICEA 210,000 BTU/Hr. ribbon burner flame test.
- Cables UL listed for Direct Burial.
- Conforms to ICEA S-93-639, NEMA WC74 for 5-46 kV Shielded Power Cable.

**CONSTRUCTION:** Three conductors of stranded copper, conductor shield, Rome-XLP (crosslinked polyethylene) insulation, PolyKote, semi-conducting tape, uncoated copper shielding tape. Three conductors twisted together with one uncoated copper grounding conductor, suitable fillers, binder tape, aluminum or galvanized steel interlocked armor, yellow PVC jacket overall.

| Size<br>AWG<br>or<br>kcmil                                   | No.<br>of<br>Strands | Insul.<br>Thick.<br>Mils | Nom.<br>Diam.<br>Over<br>Armor<br>Inches | PVC Jkt.<br>Thick<br>Mils | Nom.<br>Diam.<br>Over<br>PVC Jkt.<br>Inches | COPPER PHASE CONDUCTORS                      |                                 |                |            |             |
|--|----------------------|--------------------------|--|---------------------------|---|--|---------------------------------|----------------|------------|-------------|
|  |                      |                          |  |                           |   | Copper<br>Grounding<br>Conduc-<br>tor<br>AWG | Approx. Net Wt.<br>Lb./1000 Ft. |                | Ampacity * | Ampacity ** |
|  |                      |                          |  |                           |   |  | Alum.<br>Armor                  | Steel<br>Armor |            |             |
| <b>5000 VOLTS, SHIELDED, 100% and 133% INSULATION LEVELS</b> |                      |                          |  |                           |   |  |                                 |                |            |             |
| 8  | 7                    | 90                       | .98                                      | 50                        | 1.09  | 8  | 725                             | 860            | 52         | 59          |
| 6  | 7                    | 90                       | 1.06                                     | 50                        | 1.17  | 6  | 945                             | 1095           | 69         | 79          |
| 4  | 7                    | 90                       | 1.16                                     | 50                        | 1.27  | 6  | 1140                            | 1315           | 91         | 105         |
| 2  | 7                    | 90                       | 1.29                                     | 50                        | 1.40  | 6  | 1500                            | 1690           | 125        | 140         |
| 1  | 19                   | 90                       | 1.37                                     | 50                        | 1.48  | 4  | 1730                            | 1930           | 140        | 160         |
| 1/0  | 19                   | 90                       | 1.46                                     | 50                        | 1.57  | 4  | 2030                            | 2240           | 165        | 185         |
| 2/0  | 19                   | 90                       | 1.56                                     | 60                        | 1.68  | 4  | 2475                            | 2715           | 190        | 215         |
| 3/0  | 19                   | 90                       | 1.67                                     | 60                        | 1.80  | 3  | 2980                            | 3255           | 220        | 250         |
| 4/0  | 19                   | 90                       | 1.83                                     | 60                        | 1.95  | 3  | 3425                            | 3795           | 255        | 285         |
| 250  | 37                   | 90                       | 1.92                                     | 60                        | 2.05  | 3  | 3800                            | 4220           | 280        | 320         |
| 350  | 37                   | 90                       | 2.15                                     | 60                        | 2.28  | 2  | 5105                            | 5595           | 350        | 395         |
| 500  | 37                   | 90                       | 2.42                                     | 75                        | 2.58  | 1  | 6865                            | 7415           | 425        | 485         |
| 750  | 61                   | 90                       | 2.81                                     | 75                        | 2.97  | 1/0  | 9645                            | 10245          | 525        | 615         |

\* AMPACITY for cables installed in uncovered cable tray without maintained spacing; 90°C conductor temperature, 40°C ambient.

\*\* AMPACITY for cables installed in uncovered cable tray with maintained spacing of one cable diameter; 90°C conductor temperature, 40°C ambient. For other installation conditions refer to the NEC.

Information on this sheet subject to change without notice.

## Specification

### ROME INTERLOCKED ARMOR POWER CABLE, 5000 VOLTS, 100% AND 133% INSULATION LEVELS

3 Conductor, Rome-XLP Insulated, Shielded, Aluminum or Steel Armor  
Type MV-90 or Type MC, CT Use

#### 1. SCOPE

- 1.1 This specification describes three conductor Rome-XLP (thermosetting crosslinked polyethylene) insulated shielded, aluminum or galvanized steel interlocked armor Type MV-90 power cable for use in circuits not exceeding 5000 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 installation indoors or outdoors, aerially, in rack, trough or cable trays, or for direct burial.

#### 2. STANDARDS

- 2.1 The following standards shall form a part of this specification to the extent specified herein:
  - 2.1.1 UL Standard 1072 for Type MV-90 cable.
  - 2.1.2 ICEA Pub. No. S-93-639, NEMA Pub. No. WC74 for 5-46 kV Shielded Power Cable.

#### 3. CONDUCTORS

- 3.1 Class B stranded annealed uncoated copper per Part 2 of ICEA.

#### 4. CONDUCTOR SHIELD

- 4.1 The conductor shall be covered with a layer of semiconducting tape completely covering the conductor firmly bonded to the cable insulation. The conductor shield shall meet the requirements of Section 3 of ICEA.

#### 5. INSULATION

- 5.1 Directly over the conductor shield shall be applied a homogeneous wall of Rome-XLP insulation. The average thickness of insulation shall be 90 mils. 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 Section 4.3.1 of ICEA and UL 1072.

#### 6. SHIELDING

- 6.1 A thin layer of Rome PolyKote (black conducting polymeric coating) shall be applied directly over the insulation. A semiconducting non-metallic tape is wrapped over the PolyKote to act as a conductive bedding between the PolyKote layer and the metallic shielding. Shielding shall comply with Section 5.1.1.1 of ICEA. A special marker tape applied over the semiconducting tape shall identify the tape and PolyKote layers as conducting.
- 6.2 An uncoated copper tape shall be helically applied over the semiconducting tape with a minimum lap of 12.5%. The copper tape shall meet the requirements of Section 6 of ICEA.

#### 7. PHASE IDENTIFICATION

- 7.1 A colored tape shall be applied longitudinally under the copper shielding tape to provide phase identification.

#### 8. ASSEMBLY

- 8.1 Three phase conductors shall be cabled together with a Class B stranded, uncoated copper grounding conductor and suitable fillers to make round. Length of lay shall not exceed 35 times the phase conductor diameter. The grounding conductor shall comply with the requirements of UL Standard 1072.

#### 9. CABLE TAPE

- 9.1 A suitable cable tape shall be applied over the assembly to hold the core together and provide bedding for the armor.

#### 10. ARMOR

- 10.1 An aluminum or galvanized steel interlocked armor shall be applied over the cable core. Armor shall be in accordance with UL Standard 1072 and Par. 7.3.3 of ICEA.

#### 11. COVERING

- 11.1 Shall be PVC meeting the requirements of ICEA Table 7-1 and the Sunlight Resistant requirements of UL 1072. Average jacket thickness shall be in accordance with UL 1072. Minimum thickness at any point shall be not less than 70 % of the specified average thickness.

#### 12. IDENTIFICATION

- 12.1 An ink print legend shall be applied to the surface of the PVC covering providing cable and manufacturer identification.

#### 13. TESTS

- 13.1 Cables shall be tested in accordance with UL requirements for Type MV-90 cable and ICEA S-93-639. Certified Test Reports may be furnished, if requested prior to production of the cable.
- 13.2 Cables shall be capable of passing the ribbon burner cable tray flame test requirements of UL and shall be UL listed "For CT Use".