

## ROME PORTABLE POWER CABLE - TYPE SHD-GC

### Rome-EPR Insulation, 5000 Volts

<p><b>APPLICATION:</b> For heavy duty high voltage portable power applications on mobile equipment where delivery of a heavy power load is required, such as shovels, dredges, drilling rigs, underground mine power distribution, etc. For use in circuits rated 5000 volts, maximum conductor temperature of 90°C.</p> <p><b>STANDARDS:</b> Conforms to ICEA S-75-381 (NEMA WC58).</p> <p><b>CONSTRUCTION:</b> Three insulated conductors consisting of flexible stranded annealed tinned copper, conductor shield, Rome-EPR ethylene-propylene rubber insulation, semiconducting tape, tinned copper/nylon shielding braid. Two uninsulated grounding conductors of flexible stranded annealed tinned copper. One #8 AWG (#6 AWG for kcmil size power conductors) flexible stranded annealed copper insulated ground check conductor. Three insulated and shielded conductors cabled together with the ground check conductor placed in the valley between the Black and White conductors and one grounding conductor in each of the other two valleys. Rubber fillers to make cable round, tape over assembly, overall two-layer reinforced Hypalon jacket, vulcanized in a metal mold. Embossed marking molded as an integral part of the jacket, including the inscription P-105-MSHA indicating full compliance with Federal and State of Pennsylvania Safety Codes.</p>									
Power Conductor			Grounding Conductor		Jacket Thickness Mils	Nominal Diameter Inches	Approx. Net Weight Lb./1000 Ft.	Ampacity*	
Size AWG or kcmil	No. of Strands	Insulation Thickness Mils	Size AWG	No. of Strands				20°C Ambient	40°C Ambient
<b>5000 VOLTS, 100% INSULATION LEVEL</b>									
6	168	110	10	49	185	1.56	1460	110	93
4	259	110	8	133	185	1.68	1920	144	122
2	259	110	6	168	205	1.87	2330	188	159
1	329	110	5	133	205	1.95	2720	217	184
1/0	259	110	4	259	220	2.08	3110	249	211
2/0	329	110	3	329	220	2.20	3670	286	243
3/0	418	110	2	259	235	2.36	4300	329	279
4/0	532	110	1	329	235	2.50	5080	378	321
250	427	120	1/0	259	250	2.69	5820	418	355
300	427	120	1/0	259	250	2.81	6650	470	398
350	427	120	2/0	329	265	2.95	7540	513	435
500	427	120	4/0	259	280	3.31	9840	632	536

\*AMPACITY based upon continuous duty of 90°C conductor temperature, ambient temperature as indicated, cable in free air.

Information on this sheet subject to change without notice.

## Specification

### ROME PORTABLE POWER CABLE - TYPE SHD-GC

#### Rome-EPR Insulation, 5000 Volts

#### 1. SCOPE

- 1.1 This specification describes three-conductor Type SHD-GC power cable with Rome-EPR (ethylene-propylene rubber) insulation for use in circuits not exceeding 5000 volts at a maximum conductor temperature of 90°C. Cables are intended for use as heavy duty portable power cable on shovels, dredges, drilling rigs and mine power distribution systems.

#### 2. STANDARDS

- 2.1 The following standard shall form a part of this specification:
  - 2.1.1 ICEA Pub. No. S-75-381 for Portable and Power Feeder Cables for Use in Mines and Similar Applications (NEMA WC58).

#### 3. CONDUCTORS

- 3.1 Minimum Class H stranded, annealed, tinned copper per Part 2 of ICEA.

#### 4. CONDUCTOR SHIELDING

- 4.1 Conductors shall be covered with a conducting tape meeting the requirements of Par. 3.14 of ICEA.

#### 5. INSULATION

- 5.1 A homogeneous wall of Rome-EPR insulation shall be extruded over the covered conductor. The average thickness shall be as specified in Table 3-21 of ICEA. The minimum thickness shall be not less than 90 percent of the specified average value.
- 5.2 Physical and electrical properties of the insulation shall be in accordance with Par. 3.15 of ICEA.

#### 6. SHIELDING

- 6.1 A conducting non-metallic tape, providing 100% coverage and meeting Par. 3.17 of ICEA, shall be applied directly over the insulation.
- 6.2 A tinned copper/nylon shielding braid shall be applied over the conducting tape meeting the requirements of Par. 3.19 of ICEA.

#### 7. CIRCUIT IDENTIFICATION

- 7.1 A color coded tape (black, white, red) applied under the metallic shielding braid shall provide circuit identification on each power conductor in accordance with Par. 3.18 of ICEA.

#### 8. GROUNDING CONDUCTORS

- 8.1 The grounding conductors shall be stranded annealed tinned copper of not less than the size and the number of wires as shown in Table 3-24 of ICEA for the corresponding power conductor sizes.

#### 9. GROUND CHECK CONDUCTOR

- 9.1 The minimum ground check conductor shall be as given in Table 3-21 of ICEA for the corresponding power conductor sizes.
- 9.2 The conductor shall have a yellow insulation meeting the requirements of Par. 3.16 of ICEA and will be located between the black and white phase conductors.

#### 10. ASSEMBLY

- 10.1 The conductors shall be twisted together with a left hand lay meeting the requirements of Table 3-5 of ICEA. Suitable fillers shall be used to produce an essentially round cross-section in the completed cable.
- 10.2 A binder tape shall be helically applied over the filled cable assembly.

#### 11. JACKET

- 11.1 A two-layer reinforced thermosetting jacket shall be extruded over the assembly in accordance with Par. 3.21 of ICEA.
- 11.2 The jacket shall be an extra-heavy duty Hypalon meeting the requirements of Table 3-3 of ICEA.

#### 12. COMPLETED CABLE

- 12.1 The nominal outside diameter shall be in accordance with Table 3-21 of ICEA.
- 12.2 The tolerances shall be within the requirements of Par. 3.22.2 of ICEA.

#### 13. SURFACE MARKING

- 13.1 All cable shall have an embossed print legend showing manufacturer, cable type, size, voltage, and Mine Safety and Health Administration (MSHA) Approval Number.

#### 14. TESTS

- 14.1 Cable shall be tested in accordance with ICEA.