

# TYPE AC - COPPER CONDUCTOR - ALUMINUM ARMOR - 600V THHN/THWN-2 INNERS

## ENGINEERING SPECIFICATIONS

### Standards

Underwriters Laboratories Standards UL-4, UL-83, UL-1581, UL-2556; Federal Specification A-A59544; NEMA RV 1-2014; NFPA 70 (NEC®) Article 320; ARRA 2009 Section 1605 "Buy American" Compliant; RoHS Compliant; MasterSpec Division 26 Sections 260519, 260523; UL Listing #E-306553



**SMARTCOLORID**

### Applications

Type AC cable shall be permitted as follows:

- Permitted multiple circuits use for branch circuits in residential, commercial, industrial, and non-patient care areas/spaces of health care facilities;
- Acceptable for power, lighting, control, and signal circuits;
- Allowable in concealed or exposed systems;
- Permitted use in dry locations and embedded in plaster finish on brick or other masonry except in damp or wet locations;
- Utilized for environmental air-handling spaces (NEC 300.22(C)(1)) and allowable installations in approved raceways and cable trays (NEC 392);
- Suitable for installation under raised floors for IT equipment (NEC 645.5(E));
- Permitted use to be run or fished in the air voids of masonry block or tile walls where such walls are not exposed or subject to excessive moisture or dampness;
- Listed for use with UL 1479 - 1, 2, and 3 Hour Through-Penetration Firestop Systems.

## CONSTRUCTION

Encore's Armored Cable is constructed with soft-drawn copper, Type THHN/THWN-2 conductors. Each insulated conductor is individually wrapped with a moisture-resistant paper covering, which has flame retardant properties. These conductors, are cabled together to form the cable core. A 16 AWG solid aluminum bond wire is placed longitudinally underneath the armor and remains in contact with the armor throughout the entire length per NEC 250.118(8). Interlocked aluminum armor is applied over the entire assembly.



- 1 Removable SmartColorID<sup>1</sup> Label
- 2 Interlocked Aluminum Armor
- 3 Anti-short Bushing
- 4 Individually Paper Wrapped Conductors
- 5 Aluminum Bonding/Grounding Wire
- 6 THHN/THWN-2 Solid or Stranded Copper Conductor

Conductors		Aluminum Bond Wire (AWG)	Outside Diameter (in)	Approximate Net Weight (lbs/1000 ft)	Allowable Ampacity (Amps) <sup>2</sup>		Standard Packaging (ft)	
AWG/No.	Type				75°C	90°C	Coils	Reels
14/2	Solid	16	0.418	76	20	25	250'	1000'
14/3	Solid	16	0.436	94	20	25	250'	1000'
14/4	Solid	16	0.465	113	20	25	250'	1000'
12/2	Solid	16	0.451	96	25	30	250'	1000'
12/3	Solid	16	0.471	123	25	30	250'	1000'
12/4	Solid	16	0.505	151	25	30	250'	1000'
10/2	Solid	16	0.512	131	35	40	250'	1000'
10/3	Solid	16	0.537	171	35	40	250'	1000'
10/4	Solid	16	0.604	216	35	40	250'	1000'
8/2	Stranded	16	0.641	196	50	55	200'	500'/1000'
8/3	Stranded	16	0.676	262	50	55	200'	500'/1000'
8/4	Stranded	16	0.752	358	50	55	200'	500'/1000'
6/2	Stranded	16	0.731	293	65	75	100'	500'/1000'
6/3	Stranded	16	0.772	393	65	75	100'	500'/1000'
6/4	Stranded	16	0.839	498	65	75	100'	500'/1000'
4/3	Stranded	16	0.920	583	85	95	100'	500'
4/4	Stranded	16	1.006	746	85	95	100'	500'
3/3	Stranded	16	0.981	698	100	115	100'	500'
3/4	Stranded	16	1.073	896	100	115	100'	500'
2/3	Stranded	16	1.050	840	115	130	100'	500'
2/4	Stranded	16	1.151	1084	115	130	100'	500'

<sup>1</sup> SmartColorID manufactured under Patent No. 7,954,530, 8,454,785, 8,826,960 & 8,905,108

<sup>2</sup> Ampacity of conductors are based on NFPA 70 (NEC) Table 310.15(B)(16). See 110.14(C), 240.4(D) and 310.15(B) for other limitations where applicable.

For equipment marked for use at higher temperatures, the conductor ampacity shall be limited to the following per NEC 110.14(C):

60°C when terminated to equipment for circuits rated 100 amperes or less or marked for size 14 AWG through 1 AWG conductor.

75°C when terminated to equipment for circuits rated over 100 amperes or marked for conductors larger than 1 AWG.

90°C for ampacity derating purposes. When the neutral is considered current-carrying conductor, the ampacity of 4/C cables shall be reduced by a factor of 0.80 per NEC 310.15(B)(3)(a).

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

## FEATURES

NEC Article 250.118(8) recognizes the combination of the interlocking armor and bond wire as an equipment grounding conductor. Installation costs reduced up to 50% over raceway and wire. Weight of aluminum armor is as much as 45% less than steel. Insulation anti-short bushings are supplied with each reel or coil. SmartColorID labels are spaced at regular intervals on the exterior of the metal sheathing and are removable. When installing, simply detach labels from terminating ends to ensure a conductive surface. For ease of installation and pulling, cable is reverse wound on reels. Coils are designed to be pulled from the inside.

### Standard Conductor Color Coding

No.	120V/208V/240V	No.	277V/480V
2	Black/White	2	Brown/Gray
3	Black/Red/White	3	Brown/Orange/Gray
4	Red/Black/White/Blue	4	Brown/Orange/Yellow/Gray

Additional colors available subject to ERQ

### SmartColorID Legend:

