

# TYPE AC-HCF - COPPER CONDUCTOR - STEEL ARMOR 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-301130



Listed E-306553

### Applications

Type AC cable shall be permitted as follows:

- Suitable for applications requiring branch circuits for non-essential, general purposes electrical systems in patient care areas/spaces of health care facilities per NEC 517.13(a) and (b) or for use in essential electrical systems when in accordance with NEC 517.30(C)(3)(3);
- Acceptable in facilities such as hospitals, nursing homes, dental offices, and other types of medical facilities including out patient facilities;
- Permitted use for feeders and branch circuits in industrial, commercial, and multi-residential buildings;
- 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));
- Allowable in assembly occupancies (NEC 518.4);
- Allowable installations in approved raceways and cable trays (NEC 392);
- Suitable for installation under raised floors for IT equipment (NEC 645.5(E));
- Permitted in Class I Div. 2, Class II Div. 2, and Class III Div. 1 Hazardous Locations;
- 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, including a green insulated grounding conductor, are cabled together to form the cable core. Interlocked galvanized lightweight steel armor is applied over the entire assembly. A 16 AWG solid aluminum bond wire is placed longitudinally underneath the armor and remains in contact with the armor throughout the entire length.



- 1 Removable SmartColorID<sup>1</sup> Label
- 2 Interlocked Galvanized lightweight Steel Armor
- 3 Individually Paper Wrapped Conductors
- 4 Anti-Short Bushing
- 5 Aluminum Bonding Wire
- 6 PVC Insulation with Nylon Jacket
- 7 THHN/THWN-2 Solid or Stranded Copper Conductor

Conductors		Ground Wire (AWG)	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	14 Solid	16	0.436	179	20	25	250'	1000'
14/3	Solid	14 Solid	16	0.465	205	20	25	250'	1000'
14/4	Solid	14 Solid	16	0.498	232	20	25	250'	1000'
12/2	Solid	12 Solid	16	0.471	216	25	30	250'	1000'
12/3	Solid	12 Solid	16	0.505	253	25	30	250'	1000'
12/4	Solid	12 Solid	16	0.542	289	25	30	250'	1000'
10/2	Solid	10 Solid	16	0.537	281	35	40	250'	1000'
10/3	Solid	10 Solid	16	0.579	334	35	40	250'	1000'
10/4	Solid	10 Solid	16	0.623	388	35	40	250'	1000'
12/2	Stranded	12 Stranded	16	0.488	224	25	30	250'	1000'
12/3	Stranded	12 Stranded	16	0.524	261	25	30	250'	1000'
12/4	Stranded	12 Stranded	16	0.564	299	25	30	250'	1000'
10/2	Stranded	10 Stranded	16	0.560	292	35	40	250'	1000'
10/3	Stranded	10 Stranded	16	0.604	347	35	40	250'	1000'
10/4	Stranded	10 Stranded	16	0.653	403	35	40	250'	1000'

<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. Insulating 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. 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
Ground	Green	Ground	Green

Additional colors available subject to ERO

SmartColorID Legend:

