



### Features

- Fire Rated
- Installed on steel tray with steel fittings
- Moisture Resistant
- Installs in steel raceway/conduit with steel fittings
- Low Smoke, Halogen free design
- Flexible for installation ease
- Easy stripability
- Available in long lengths
- No special tools, connectors, or procedures
- Easily pulled (low friction jacket)
- VITALink 2000 Fire-Rated cable is patented: U.S. Patent #7538275 B2 5-26-2009

### Scope

VITALink® 2000 is a unique cable which offers superior fire endurance capabilities along with the well-established benefits and features associated with NEC Type TC cable designs. This cable is suitable for use in circuits where the maintenance of circuit integrity is an absolute necessity to allow the operation of systems or equipment vital to life or safety under emergency conditions. It has applications in the petroleum industry for MOV instrumentation, communication systems and other critical functions where fire survivability is essential.

### Performance Standards

- Passes API 2218 flame test per UL 1709 oven test at 2000°F for 20 minutes with heat flux of 65,000 ± 5000 BTU/h – ft<sup>2</sup> (204 ± 16 kw/m<sup>2</sup>)
- UL Listed, NEC Type TC in accordance with UL Standard No. 1277
- Approved and marked with the “Sunlight Resistant” designation
- Singles UL Type RFFH-3
- Singles wet rated per UL44/CSA 22.2 No. 38 Section 5.4 Long Term Insulation Resistance in Water Test
- Approved and marked with “FT-4” flame test designation
- CUL Listed as CEC Type CIC in accordance with CSA Standard C22.2 No. 239
- CUL Listed as CEC Type TC in accordance with CSA Standard C22.2 No. 230
- ABS Recognized for marine ship- board
- -ER meets the crush and impact requirement of Type MC cable and can be used per NEC 336.10 (7) for extended runs

\* 90°C dry, 75°C wet per NEC

### Construction

**Conductor:** Stranded, nickel coated copper

**Thermal Barrier:** Inorganic layer

**Insulation System:** Proprietary Low Smoke Zero Halogen thermoset Fire-Roc layer and thermoset low smoke zero halogen covering

**Circuit Identification:** ICEA Method 3: Black insulation with printed numbers and color names — black and white for pairs — black, white and red for triads. In addition, legs other than black have colored stripe in the named color.

**Shield and Binder Tape:** As required, shields are copper polyester laminated tape with flexibly stranded copper drain wire. Individual pairs or triads may be shielded or unshielded. Cables may have overall shields if required.

**Jacket:** Black Low-Smoke Zero Halogen Polyolefin (colors available on request)

## 600 Volt – Pairs

**Size:** 16 AWG – 19/29 nickel-coated copper, thermal barrier layer, .045" low-smoke zero-halogen thermoset ceramifiable insulation and .015" black low-smoke zero-halogen thermoset conductor jacket (nominal diameter 0.235", 5.97 mm)

Product Code	Conductor Size AWG	Shields	Jacket Thickness		Nominal Diameter		Net Weight		Minimum Bending Radii <sup>1</sup>		Ampacity <sup>2</sup> (Amps)
			(inch)	(mm)	(inch)	(mm)	(lbs./1000 ft.)	(kg/m)	(inch)	(cm)	
VP02016-003	1	NS	.060	1.52	0.61	15.5	185	0.275	4.88	12.4	8
VP02016-005	1	SP	.060	1.52	0.62	15.7	193	0.287	4.96	12.6	8
VP04016-009	2	SP/OS	.080	2.03	1.07	27.2	465	0.692	8.56	21.7	6.4
VP08016-005	4	SP/OS	.080	2.03	1.24	31.5	585	0.870	9.92	25.2	5.6
VP16016-005	8	SP/OS	.080	2.03	1.65	41.9	1000	1.488	13.2	33.5	4
VP24016-007	12	SP/OS	.110	2.79	2.08	52.8	1625	2.418	16.64	42.3	3.6

## 600 Volt – Triads

**Size:** 16 AWG – 19/29 nickel-coated copper, thermal barrier layer, .045" low-smoke zero-halogen thermoset ceramifiable insulation and .015" black low-smoke zero-halogen thermoset conductor jacket (nominal diameter 0.235", 5.97 mm)

Product Code	Conductor Size AWG	Shields	Jacket Thickness		Nominal Diameter		Net Weight		Minimum Bending Radii <sup>1</sup>		Ampacity <sup>2</sup> (Amps)
			(inch)	(mm)	(inch)	(mm)	(lbs./1000 ft.)	(kg/m)	(inch)	(cm)	
VP03016-008	1	NS	.060	1.52	0.63	16.0	210	0.312	5.04	12.8	8
VP03016-007	1	ST	.060	1.52	0.65	16.5	226	0.336	5.2	13.2	8

Shields: NS = not shielded. SP = shielded pair. ST = shielded triad. OS = overall shield.

Drain wires are 16 AWG 26/0.010" bare copper.

Maximum direct current resistance of each leg of one pair or triad cable is 6.3896 Ohms/1000 feet at 20°C.

<sup>1</sup>Minimum Bending Radii are instructive for permanent training.

<sup>2</sup>Ampacity based on API 14FZ for nickel-coated copper conductor (27% nickel), 75°C, 600V adjustment factors from NEC 2011 Table 310.15(b)(2)(a) for more than three current carrying conductors.



Marmon Engineered Wire & Cable LLC  
A Berkshire Hathaway Company