

# TYPE TC - CONTROL OR INSTRUMENTATION - SHIELDED 18 AWG W/ 18 AWG DRAIN WIRE

## ENGINEERING SPECIFICATIONS

### Standards

Underwriters Laboratories Standards UL-66, UL-1277, UL-1581, UL-2556; ASTM Stranding Class B3, B8, B787; NFPA 70 (NEC®) Article 336, 392, 725, 727; NEMA WC 57/ICEA S-73-532; UL 1685-FT4/IEEE 1202 (70,000 Btu/hr) Flame Test; ICEA T-29-520 (210,000 Btu/hr) Flame Test; ARRA 2009 Section 1605 "Buy American" Compliant; RoHS Compliant; MasterSpec Division 26 Sections 260519, 260523; UL Listing #E-179429



Listed E-179429

## CONSTRUCTION

### Conductors

Stranded, uncoated copper conductors per ASTM-B3, ASTM-B8 and ASTM-B787

### Conductor Insulation

High dielectric strength, heat and moisture-resistant, colored Polyvinyl Chloride (PVC) rated for 90°C dry, 75°C wet to meet UL-66 requirements for Type TFFN or TFN wire.

### Drain Wire

18 AWG tinned copper drain wire

### Assembly

The insulated conductors are cabled together with or without fillers as required to form a round compact core. An aluminum shield is applied over the entire assembly prior to jacketing. A Drain Wire made of tinned copper per ASTM B-33 is applied next to aluminum shielding. Nylon rip-cord is supplied for easy stripping.

### Color Coding

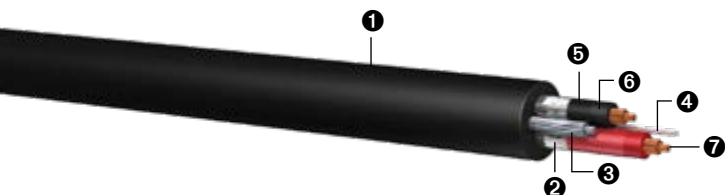
Color-coded insulation with ICEA Method 1

### Overall Jacket

A flame retardant, sunlight-resistant black PVC jackets is applied over shielded core. Sunlight Resistant overall jacket available in all colors by request.

## APPLICATIONS

Primarily used for connecting power devices in commercial and industrial environments. Suitable for installation in channels, ducts, wireways, cable trays, and raceways. Approved for direct burial in wet or dry locations and outdoors in cable trays where sunlight-resistant rating is required. This Type TC tray cable complies with the crush and impact requirements of Type MC cable and is identified for such use with the marking Type TC-ER-JP. Installation shall be permitted between a cable tray and the utilization equipment or device. The cable shall be secured at intervals not exceeding 1.8 m (6 ft). Approved for Class I Division II Hazardous Locations.



- 1 PVC Jacket
- 2 Aluminum/Polyester Tape Shield
- 3 18 AWG Tinned Copper Drain Wire
- 4 Rip Cord
- 5 Nylon Jacket
- 6 High Dielectric Strength PVC Insulation
- 7 THHN/THWN-2 Stranded Copper Conductors

Size (AWG)	No. of Conductors	Outer Jacket Thickness PVC (in)	Outside Diameter (in)	Approximate Net Weight (lbs/1000 ft)	Allowable Ampacity (Amps) <sup>1</sup>		Standard Packaging (ft)
					75°C	90°C	
18 AWG	2 <sup>3</sup>	0.045	0.282	51	6	6	1000' 5000' Reels
	3 <sup>3</sup>	0.045	0.305	61	6	6	1000' 5000' Reels
	4 <sup>3</sup>	0.045	0.320	70	6	6	1000' 5000' Reels
	5 <sup>3</sup>	0.045	0.338	80	6	6	1000' 5000' Reels
	6 <sup>3</sup>	0.045	0.357	89	6	6	1000' 5000' Reels
	7 <sup>3</sup>	0.045	0.377	99	6	6	1000' 5000' Reels
	8 <sup>3</sup>	0.045	0.397	109	6	6	1000' 5000' Reels
	9 <sup>3</sup>	0.045	0.418	118	6	6	1000' 5000' Reels
	10 <sup>3</sup>	0.045	0.438	128	6	6	1000' 5000' Reels
	11 <sup>3</sup>	0.045	0.458	138	6	6	1000' 5000' Reels
12 <sup>3</sup>	0.045	0.469	147	6	6	1000' 5000' Reels	

<sup>1</sup> Ampacity of conductors are based on NFPA 70 (NEC) Section 402.5. See 310.15, 110.14(C) and 240.4(D) for other limitations where applicable. The above data is approximate and subject to normal manufacturing tolerances.

<sup>2</sup> Type TC only **PRINT LEGEND:** ENCORE WIRE CORPORATION (size) TYPE SHIELDED TC CABLE TFFN CDRS SUN-RES 600V DIR-BUR (UL) DATE/TIME/OPER/QC

<sup>3</sup> Type TC-ER-JP **PRINT LEGEND:** ENCORE WIRE CORPORATION (size) TYPE SHIELDED TC-ER-JP CABLE TFFN CDRS SUN-RES 600V DIR-BUR (UL) DATE/TIME/OPER/QC

# TYPE TC - CONTROL OR INSTRUMENTATION - SHIELDED 16 AWG W/ 16 AWG DRAIN WIRE

## ENGINEERING SPECIFICATIONS

### Standards

Underwriters Laboratories Standards UL-66, UL-1277, UL-1581, UL-2556; ASTM Stranding Class B3, B8, B787; NFPA 70 (NEC®) Article 336, 392, 725, 727; NEMA WC 57/ICEA S-73-532; UL 1685-FT4/IEEE 1202 (70,000 Btu/hr) Flame Test; ICEA T-29-520 (210,000 Btu/hr) Flame Test; ARRA 2009 Section 1605 "Buy American" Compliant; RoHS Compliant; MasterSpec Division 26 Sections 260519, 260523; UL Listing #E-179429



Listed E-179429

## CONSTRUCTION

### Conductors

Stranded, uncoated copper conductors per ASTM-B3, ASTM-B8 and ASTM-B787

### Conductor Insulation

High dielectric strength, heat and moisture-resistant, colored Polyvinyl Chloride (PVC) rated for 90°C dry, 75°C wet to meet UL-66 requirements for Type TFFN or TFN wire.

### Drain Wire

16 AWG tinned copper drain wire

### Assembly

The insulated conductors are cabled together with or without fillers as required to form a round compact core. An aluminum shield is applied over the entire assembly prior to jacketing. A Drain Wire made of tinned copper per ASTM B-33 is applied next to aluminum shielding. Nylon rip-cord is supplied for easy stripping.

### Color Coding

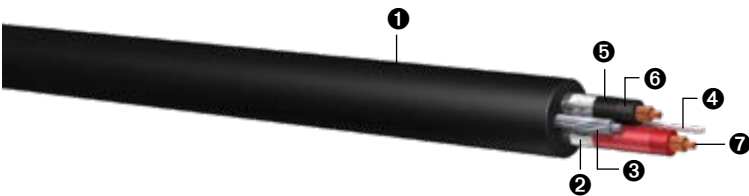
Color-coded insulation with ICEA Method 1

### Overall Jacket

A flame retardant, sunlight-resistant black PVC jackets is applied over shielded core. Sunlight Resistant overall jacket available in all colors by request.

## APPLICATIONS

Primarily used for connecting power devices in commercial and industrial environments. Suitable for installation in channels, ducts, wireways, cable trays, and raceways. Approved for direct burial in wet or dry locations and outdoors in cable trays where sunlight-resistant rating is required. This Type TC tray cable complies with the crush and impact requirements of Type MC cable and is identified for such use with the marking Type TC-ER-JP. Installation shall be permitted between a cable tray and the utilization equipment or device. The cable shall be secured at intervals not exceeding 1.8 m (6 ft). Approved for Class I Division II Hazardous Locations.



- 1 PVC Jacket
- 2 Aluminum/Polyester Tape Shield
- 3 16 AWG Tinned Copper Drain Wire
- 4 Rip Cord
- 5 Nylon Jacket
- 6 High Dielectric Strength PVC Insulation
- 7 THHN/THWN-2 Stranded Copper Conductors

Size (AWG)	No. of Conductors	Outer Jacket Thickness PVC (in)	Outside Diameter (in)	Approximate Net Weight (lbs/1000 ft)	Allowable Ampacity (Amps) <sup>1</sup>		Standard Packaging (ft)
					75°C	90°C	
16 AWG	2 <sup>2</sup>	0.045	0.310	62	8	8	1000' 5000' Reels
	3 <sup>3</sup>	0.045	0.337	76	8	8	1000' 5000' Reels
	4 <sup>3</sup>	0.045	0.353	88	8	8	1000' 5000' Reels
	5 <sup>3</sup>	0.045	0.374	101	8	8	1000' 5000' Reels
	6 <sup>3</sup>	0.045	0.396	113	8	8	1000' 5000' Reels
	7 <sup>3</sup>	0.045	0.419	126	8	8	1000' 5000' Reels
	8 <sup>3</sup>	0.045	0.442	139	8	8	1000' 5000' Reels
	9 <sup>3</sup>	0.045	0.466	152	8	8	1000' 5000' Reels
	10 <sup>3</sup>	0.045	0.489	165	8	8	1000' 5000' Reels
	11 <sup>3</sup>	0.045	0.512	178	8	8	1000' 5000' Reels
	12 <sup>3</sup>	0.045	0.525	190	8	8	1000' 5000' Reels

<sup>1</sup> Ampacity of conductors are based on NFPA 70 (NEC) Section 402.5. See 310.15, 110.14(C) and 240.4(D) for other limitations where applicable. The above data is approximate and subject to normal manufacturing tolerances.

<sup>2</sup> Type TC only **PRINT LEGEND:** ENCORE WIRE CORPORATION (size) TYPE SHIELDED TC CABLE TFFN CDRS SUN-RES 600V DIR-BUR (UL) DATE/TIME/OPER/QC.

<sup>3</sup> Type TC-ER-JP **PRINT LEGEND:** ENCORE WIRE CORPORATION (size) TYPE SHIELDED TC-ER-JP CABLE TFFN CDRS SUN-RES 600V DIR-BUR (UL) DATE/TIME/OPER/QC.

# TYPE TC - CONTROL OR INSTRUMENTATION - SHIELDED 14 AWG W/ 16 AWG DRAIN WIRE

## ENGINEERING SPECIFICATIONS

### Standards

Underwriters Laboratories Standards UL-83, UL-1277, UL-1581, UL-2556; ASTM Stranding Class B3, B8, B787; NFPA 70 (NEC®) Article 336, 392, 725, 727; NEMA WC 57/ICEA S-73-532; UL 1685-FT4/IEEE 1202 (70,000 Btu/hr) Flame Test; ICEA T-29-520 (210,000 Btu/hr) Flame Test; ARRA 2009 Section 1605 "Buy American" Compliant; RoHS Compliant; MasterSpec Division 26 Sections 260519, 260523; UL Listing #E-179429



Listed E-179429

## CONSTRUCTION

### Conductors

Stranded, uncoated copper conductors per ASTM-B3, ASTM-B8 and ASTM-B787

### Conductor Insulation

High dielectric strength, heat and moisture-resistant, colored Polyvinyl Chloride (PVC) rated for continuous at 90°C dry or wet to meet UL-83 requirements for Type THHN or THWN-2 wire.

### Drain Wire

16 AWG tinned copper drain wire

### Assembly

The insulated conductors are cabled together with or without fillers as required to form a round compact core. An aluminum shield is applied over the entire assembly prior to jacketing. A Drain Wire made of tinned copper per ASTM B-33 is applied next to aluminum shielding. Nylon rip-cord is supplied for easy stripping.

### Color Coding

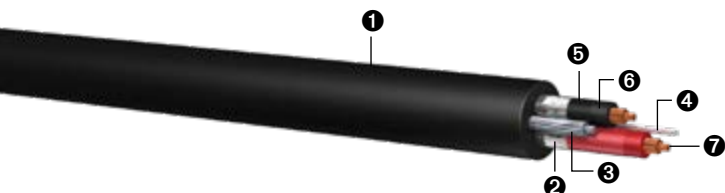
Color-coded insulation with ICEA Method 1

### Overall Jacket

A flame retardant, sunlight-resistant black PVC jackets is applied over shielded core. Sunlight Resistant overall jacket available in all colors by request.

## APPLICATIONS

Primarily used for connecting power devices in commercial and industrial environments. Suitable for installation in channels, ducts, wireways, cable trays, and raceways. Approved for direct burial in wet or dry locations and outdoors in cable trays where sunlight-resistant rating is required. This Type TC tray cable complies with the crush and impact requirements of Type MC cable and is identified for such use with the marking Type TC-ER-JP. Installation shall be permitted between a cable tray and the utilization equipment or device. The cable shall be secured at intervals not exceeding 1.8 m (6 ft). Approved for Class I Division II Hazardous Locations.



- 1 PVC Jacket
- 2 Aluminum/Polyester Tape Shield
- 3 16 AWG Tinned Copper Drain Wire
- 4 Rip Cord
- 5 Nylon Jacket
- 6 High Dielectric Strength PVC Insulation
- 7 THHN/THWN-2 Stranded Copper Conductors

Size (AWG)	No. of Conductors	Outer Jacket Thickness PVC (in)	Outside Diameter (in)	Approximate Net Weight (lbs/1000 ft)	Allowable Ampacity (Amps) <sup>1</sup>		Standard Packaging (ft)
					75°C	90°C	
14 AWG	2 <sup>2</sup>	0.045	0.328	82	20	25	1000' 5000' Reels
	3 <sup>3</sup>	0.045	0.356	101	20	25	1000' 5000' Reels
	4 <sup>3</sup>	0.045	0.374	120	20	25	1000' 5000' Reels
	5 <sup>3</sup>	0.045	0.397	139	20	25	1000' 5000' Reels
	6 <sup>3</sup>	0.045	0.420	157	20	25	1000' 5000' Reels
	7 <sup>3</sup>	0.045	0.445	177	20	25	1000' 5000' Reels
	8 <sup>3</sup>	0.045	0.470	196	20	25	1000' 5000' Reels
	9 <sup>3</sup>	0.045	0.495	215	20	25	1000' 5000' Reels
	10 <sup>3</sup>	0.045	0.520	234	20	25	1000' 5000' Reels
	11 <sup>3</sup>	0.045	0.546	253	20	25	1000' 5000' Reels
	12 <sup>3</sup>	0.045	0.559	271	20	25	1000' 5000' Reels

<sup>1</sup> Ampacity of conductors are based on NFPA 70 (NEC) Section 310.15(B)(16). See 310.15, 110.14(C) and 240.4(D) for other limitations where applicable. The above data is approximate and subject to normal manufacturing tolerances.

<sup>2</sup> Type TC only **PRINT LEGEND:** ENCORE WIRE CORPORATION (size) TYPE SHIELDED TC CABLE THHN OR THWN-2 CDRS SUN-RES 600V DIR-BUR (UL) DATE/TIME/OPER/QC

<sup>3</sup> Type TC-ER-JP **PRINT LEGEND:** ENCORE WIRE CORPORATION (size) TYPE SHIELDED TC-ER-JP CABLE THHN OR THWN-2 CDRS SUN-RES 600V DIR-BUR (UL) DATE/TIME/OPER/QC

# TYPE TC - CONTROL OR INSTRUMENTATION - SHIELDED 12 AWG W/ 16 AWG DRAIN WIRE

## ENGINEERING SPECIFICATIONS

### Standards

Underwriters Laboratories Standards UL-83, UL-1277, UL-1581, UL-2556; ASTM Stranding Class B3, B8, B787; NFPA 70 (NEC®) Article 336, 392, 725, 727; NEMA WC 57/ICEA S-73-532; UL 1685-FT4/IEEE 1202 (70,000 Btu/hr) Flame Test; ICEA T-29-520 (210,000 Btu/hr) Flame Test; ARRA 2009 Section 1605 "Buy American" Compliant; RoHS Compliant; MasterSpec Division 26 Sections 260519, 260523; UL Listing #E-179429



Listed E-179429

## CONSTRUCTION

### Conductors

Stranded, uncoated copper conductors per ASTM-B3, ASTM-B8 and ASTM-B787

### Conductor Insulation

High dielectric strength, heat and moisture-resistant, colored Polyvinyl Chloride (PVC) rated for continuous at 90°C dry or wet to meet UL-83 requirements for Type THHN or THWN-2 wire.

### Ground Conductor

16 AWG tinned copper drain wire

### Assembly

The insulated conductors are cabled together with or without fillers as required to form a round compact core. An aluminum shield is applied over the entire assembly prior to jacketing. A Drain Wire made of tinned copper per ASTM B-33 is applied next to aluminum shielding. Nylon rip-cord is supplied for easy stripping.

### Color Coding

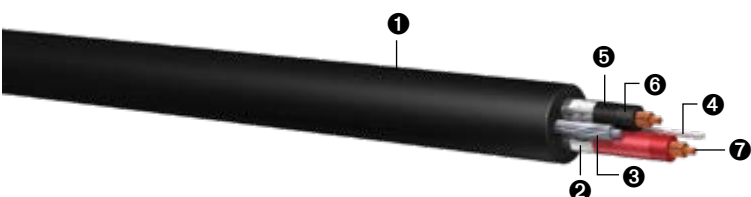
Color-coded insulation with ICEA Method 1

### Overall Jacket

A flame retardant, sunlight-resistant black PVC jackets is applied over shielded core. Sunlight Resistant overall jacket available in all colors by request.

## APPLICATIONS

Primarily used for connecting power devices in commercial and industrial environments. Suitable for installation in channels, ducts, wireways, cable trays, and raceways. Approved for direct burial in wet or dry locations and outdoors in cable trays where sunlight-resistant rating is required. This Type TC tray cable complies with the crush and impact requirements of Type MC cable and is identified for such use with the marking Type TC-ER-JP. Installation shall be permitted between a cable tray and the utilization equipment or device. The cable shall be secured at intervals not exceeding 1.8 m (6 ft). Approved for Class I Division II Hazardous Locations.



- 1 PVC Jacket
- 2 Aluminum/Polyester Tape Shield
- 3 16 AWG Tinned Copper Drain Wire
- 4 Rip Cord
- 5 Nylon Jacket
- 6 High Dielectric Strength PVC Insulation
- 7 THHN/THWN-2 Stranded Copper Conductors

Size (AWG)	No. of Conductors	Outer Jacket Thickness PVC (in)	Outside Diameter (in)	Approximate Net Weight (lbs/1000 ft)	Allowable Ampacity (Amps) <sup>1</sup>		Standard Packaging (ft)
					75°C	90°C	
12 AWG	2 <sup>2</sup>	0.045	0.366	106	25	30	1000' 5000' Reels
	3 <sup>3</sup>	0.045	0.399	133	25	30	1000' 5000' Reels
	4 <sup>3</sup>	0.045	0.420	158	25	30	1000' 5000' Reels
	5 <sup>3</sup>	0.045	0.447	185	25	30	1000' 5000' Reels
	6 <sup>3</sup>	0.060	0.504	230	25	30	1000' 5000' Reels
	7 <sup>3</sup>	0.060	0.533	257	25	30	1000' 5000' Reels
	8 <sup>3</sup>	0.060	0.562	285	25	30	1000' 5000' Reels
	9 <sup>3</sup>	0.060	0.592	312	25	30	1000' 5000' Reels
	10 <sup>3</sup>	0.060	0.621	339	25	30	1000' 5000' Reels
	11 <sup>3</sup>	0.060	0.650	366	25	30	1000' 5000' Reels
	12 <sup>3</sup>	0.060	0.666	392	25	30	1000' 5000' Reels

<sup>1</sup> Ampacity of conductors are based on NFPA 70 (NEC) Section 310.15(B)(10). See 310.15, 110.14(C) and 240.4(D) for other limitations where applicable.

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.

<sup>2</sup> Type TC only **PRINT LEGEND:** ENCORE WIRE CORPORATION (SIZE) TYPE SHIELDED TC CABLE THHN OR THWN-2 CDRS SUN-RES 600V DIR-BUR (UL) DATE/TIME/OPER/QC

<sup>3</sup> Type TC-ER-JP **PRINT LEGEND:** ENCORE WIRE CORPORATION (SIZE) TYPE SHIELDED TC-ER-JP CABLE THHN OR THWN-2 CDRS SUN-RES 600V DIR-BUR (UL) DATE/TIME/OPER/QC

# TYPE TC - CONTROL OR INSTRUMENTATION - SHIELDED 10 AWG W/ 16 AWG DRAIN WIRE

## ENGINEERING SPECIFICATIONS

### Standards

Underwriters Laboratories Standards UL-83, UL-1277, UL-1581, UL-2556; ASTM Stranding Class B3, B8, B787; NFPA 70 (NEC®) Article 336, 392, 725, 727; NEMA WC 57/ICEA S-73-532; UL 1685-FT4/IEEE 1202 (70,000 Btu/hr) Flame Test; ICEA T-29-520 (210,000 Btu/hr) Flame Test; ARRA 2009 Section 1605 "Buy American" Compliant; RoHS Compliant; MasterSpec Division 26 Sections 260519, 260523; UL Listing #E-179429



Listed E-179429

## CONSTRUCTION

### Conductors

Stranded, uncoated copper conductors per ASTM-B3, ASTM-B8 and ASTM-B787

### Conductor Insulation

High dielectric strength, heat and moisture-resistant, colored Polyvinyl Chloride (PVC) rated for continuous at 90°C dry or wet to meet UL-83 requirements for Type THHN or THWN-2 wire.

### Drain Wire

16 AWG tinned copper drain wire

### Assembly

The insulated conductors are cabled together with or without fillers as required to form a round compact core. An aluminum shield is applied over the entire assembly prior to jacketing. A Drain Wire made of tinned copper per ASTM B-33 is applied next to aluminum shielding. Nylon rip-cord is supplied for easy stripping.

### Color Coding

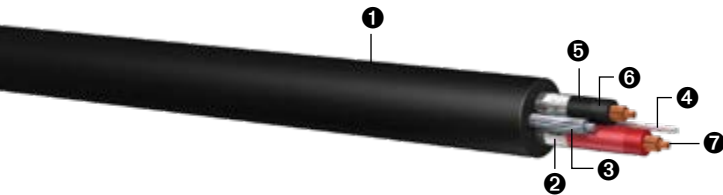
Color-coded insulation with ICEA Method 1

### Overall Jacket

A flame retardant, sunlight-resistant black PVC jackets is applied over shielded core. Sunlight Resistant overall jacket available in all colors by request.

## APPLICATIONS

Primarily used for connecting power devices in commercial and industrial environments. Suitable for installation in channels, ducts, wireways, cable trays, and raceways. Approved for direct burial in wet or dry locations and outdoors in cable trays where sunlight-resistant rating is required. This Type TC tray cable complies with the crush and impact requirements of Type MC cable and is identified for such use with the marking Type TC-ER-JP. Installation shall be permitted between a cable tray and the utilization equipment or device. The cable shall be secured at intervals not exceeding 1.8 m (6 ft). Approved for Class I Division II Hazardous Locations.



- 1 PVC Jacket
- 2 Aluminum/Polyester Tape Shield
- 3 16 AWG Tinned Copper Drain Wire
- 4 Rip Cord
- 5 Nylon Jacket
- 6 High Dielectric Strength PVC Insulation
- 7 THHN/THWN-2 Stranded Copper Conductors

Size (AWG)	No. of Conductors	Outer Jacket Thickness PVC (in)	Outside Diameter (in)	Approximate Net Weight (lbs/1000 ft)	Allowable Ampacity (Amps) <sup>1</sup>		Standard Packaging (ft)
					75°C	90°C	
10 AWG	2 <sup>2</sup>	0.045	0.438	154	35	40	1000' 5000' Reels
	3 <sup>3</sup>	0.045	0.479	195	35	40	1000' 5000' Reels
	4 <sup>3</sup>	0.045	0.505	236	35	40	1000' 5000' Reels
	5 <sup>3</sup>	0.060	0.569	297	35	40	1000' 5000' Reels
	6 <sup>3</sup>	0.060	0.603	339	35	40	1000' 5000' Reels
	7 <sup>3</sup>	0.060	0.640	381	35	40	1000' 5000' Reels
	8 <sup>3</sup>	0.060	0.677	423	35	40	1000' 5000' Reels
	9 <sup>3</sup>	0.060	0.714	465	35	40	1000' 5000' Reels
	10 <sup>3</sup>	0.080	0.791	546	35	40	1000' 5000' Reels
	11 <sup>3</sup>	0.080	0.828	590	35	40	1000' 5000' Reels
	12 <sup>3</sup>	0.080	0.847	630	35	40	1000' 5000' Reels

<sup>1</sup> Ampacity of conductors are based on NFPA 70 (NEC) Section 310.15(B)(16). See 310.15, 110.14(C) and 240.4(D) for other limitations where applicable. 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.

<sup>2</sup> Type TC only **PRINT LEGEND:** ENCORE WIRE CORPORATION (size) TYPE SHIELDED TC CABLE THHN OR THWN-2 CDRS SUN-RES 600V DIR-BUR (UL) DATE/TIME/OPER/QC

<sup>3</sup> Type TC-ER-JP **PRINT LEGEND:** ENCORE WIRE CORPORATION (size) TYPE SHIELDED TC-ER-JP CABLE THHN OR THWN-2 CDRS SUN-RES 600V DIR-BUR (UL) DATE/TIME/OPER/QC