

# Polyrad® ULTRA Wire

600 V, Single-Conductor, 125°C, Reduced Weight, Smaller Diameter, Dual Wall

Through our wealth of experience in providing effective cabling solutions for challenging and hazardous environments, General Cable responds to yet another industry demand. As developments and opportunities in transit technology drive the adoption of more sophisticated train networks, available space decreases and becomes more costly. As a result, the transit industry is experiencing an increasing demand for the reduction of both size and weight of cabling systems. Polyrad® ULTRA wire offers better performance, reduced weight and smaller diameters, defining the next generation of cable, ideal where high-density cabling is required. Polyrad® ULTRA singles can be designed into multi-conductor constructions that are 600 Volt and rated 125°C, ideal for high-density cabling applications.

UP TO 33% WEIGHT & SPACE SAVINGS



**Product Construction:**

**Conductor:**

- 22 AWG thru 10 AWG soft annealed tinned copper per ASTM B33, B8 and B172

**Dual Insulation:**

- Polyrad® ULTRA flame-retardant, low-smoke irradiated Cross-linked Polyolefin (XLPO)
- Cross-linked fluoropolymer

**Print:**

- GENERAL CABLE® (WC) POLYRAD® ULTRA 125°C XXAWG 600 V

**Options:**

- Available in multi-conductor constructions
- Available in colors other than dark gray

**Applications:**

- Ideally suited for use where high-density cabling is required, as this wire offers both size and weight advantages
- Engineered and manufactured for both original equipment and retrofit use in electronics equipment

**Applications (cont'd):**

- Utilized where environmental factors require wire characteristics to perform with a high degree of flame retardancy and excellent moisture-stable electrical values. Where reliability is the major concern and where maximum performance will be demanded
- For use on all types of heavy- and light-rail cars, rapid transit cars and diesel-electric locomotives

**Features:**

- Reduced diameter and lighter-weight transit wire — up to 33% smaller in diameter and lighter in weight than conventional Polyrad® XT 600 V
- Temperature rating at 125°C for long life, higher ampacities and protection from thermal overloads
- Outstanding thermal stability at elevated temperatures
- Maximum flame retardance
- Excellent low-temperature performance; suitable for installation in sub-zero conditions

**Features (cont'd):**

- Extra-tough, mechanically rugged irradiated thermoset insulation
- Resistant to most oils and chemicals
- Meets cold bend test at -55°C

**Compliances:**

- Industry:**
  - ICEA S-95-658
  - RoHS Compliant
- Flame Test:**
  - IEEE 1202 (70,000 BTU/hr)
  - IEEE 383 (70,000 BTU/hr)
  - VW-1
- Other:**
  - BSS 7239
  - SMP 800-C
  - ASTM E662
  - NFPA 130 STD 2010
  - ASTM 1354

**Packaging:**

- Standard reel put-up

POLYRAD® ULTRA 600 V

CATALOG NUMBER	CONDUCTOR (AWG) SIZE AND STRANDING		NOMINAL CONDUCTOR DIAMETER		NOMINAL INSULATION THICKNESS		NOMINAL JACKET THICKNESS		COPPER WEIGHT		NOMINAL CABLE DIAMETER		NET CABLE WEIGHT		AMPACITY (FREE AIR 40°C AMBIENT) 125°C
			INCHES	mm	MILS	mm	MILS	mm	LBS./1000'	kg/km	INCHES	mm	LBS./1000'	kg/km	
369550	22	19/34	0.030	0.76	10	0.254	5	0.127	2	3	0.060	1.53	4	6	14
369560	20	19/32	0.038	0.97	10	0.254	5	0.127	4	6	0.068	1.73	6	9	17
369570	18	19/30	0.048	1.22	10	0.254	5	0.127	6	9	0.078	1.98	8	12	19
369580	16	19/29	0.054	1.37	10	0.254	5	0.127	8	12	0.084	2.13	10	15	25
369590	14	19/27	0.067	1.70	10	0.254	5	0.127	12	18	0.097	2.46	15	22	42
369600	12	19/25	0.086	2.18	10	0.254	5	0.127	19	28	0.116	2.95	23	34	55
369610	10	65/28	0.111	2.82	10	0.254	5	0.127	33	49	0.141	3.58	37	55	72

Dimensions and weights are nominal; subject to industry tolerances.

**Color Code Chart**

(Including but not limited to)

ORDERING SUFFIX	COLOR	ORDERING SUFFIX	COLOR
00	Dark Gray	05	Green
02	Red	08	Light Gray
04	Yellow	09	White



# Polyrad® ULTRA Multi-Conductor Cable

600 V, 125°C, Shielded or Non-Shielded

Through a wealth of experience providing effective cabling solutions for challenging and hazardous environments, General Cable responds to yet another industry demand by defining the next generation of cable — Polyrad® ULTRA. As developments and opportunities in transit technology drive the adoption of more sophisticated transit infrastructures, available space decreases. Consequently, the transit industry is experiencing an increasing demand for reduced size and weight of cabling systems. Ideal wherever space is at a premium and high-density cabling is required, Polyrad® ULTRA cables offer better performance, reduced weight and smaller diameters. Polyrad® ULTRA singles are designed into multi-conductor 600 Volt constructions rated at 125°C to meet a variety of high-density cabling applications.

**Product Construction:**

**Conductor:**

- 22 AWG thru 10 AWG soft annealed tinned copper per ASTM B33, B8 and B172

**Insulation:**

- Polyrad® ULTRA flame-retardant, low-smoke irradiated Cross-linked Polyolefin (XLPO)
- Cross-linked fluoropolymer

**Shield Options:**

- Tinned copper braid
- Foil with drain wire
- Non-shielded

**Jacket:**

- Polyrad® XT flame-retardant, low-smoke irradiated Cross-linked Polyolefin (XLPO)

**Print** (Including but not limited to):

- GENERAL CABLE® (WC) POLYRAD® ULTRA XX/COND XXAWG SHIELDED 125°C 600 V YEAR/MONTH

**Options:**

- Available in E1, E2 or Method 4 color codes

**Applications:**

- Ideally suited for use where high-density cabling is required, as these cables offer both size and weight advantages
- Engineered and manufactured for both original equipment and retrofit use in electronic equipment
- Utilized where environmental factors require cable characteristics to perform with a high degree of flame retardancy and excellent moisture-stable electrical values. Where reliability is the major concern and where maximum performance will be demanded
- For use on all types of heavy- and light-rail cars, rapid transit cars and diesel-electric locomotives

**Features:**

- Reduced diameter and lighter-weight transit cable - 25% smaller in diameter and lighter in weight than conventional Polyrad® XT 600 V
- Temperature rating at 125°C for long life, higher ampacities and protection from terminal overloads
- Higher ampacities and simplified installations possible due to small outside diameters, flexible stranding and insulation



**Features (cont'd.):**

- Outstanding thermal stability at elevated temperatures
- Maximum flame retardance
- Excellent low-temperature performance; suitable for installation in sub-zero conditions
- Extra-tough, mechanically rugged irradiated thermoset insulation and jacket
- Resistant to most oils and chemicals

**Compliances:**

- Industry:
  - ICEA S-95-658
  - RoHS Compliant

**Compliances: (cont'd.):**

- **Flame Test:**
  - IEEE 1202 (70,000 BTU/hr)
  - IEEE 383 (70,000 BTU/hr)
  - VW-1
- **Other:**
  - BSS 7239
  - SMP 800-C
  - ASTM E662
  - NFPA 130 STD 2010
- **Packaging:**
  - Standard reel put-up

**TWO CONDUCTOR POLYRAD® ULTRA NON-SHIELDED**

CATALOG NUMBER	AWG		INSULATED DIAMETER		JACKET THICKNESS		CABLE DIAMETER		NET CABLE WEIGHT	
	SIZE	STRANDING	INCHES	mm	MILS	mm	INCHES	mm	LBS./1000'	kg/km
398540	22	19/34	0.060	1.53	20	0.51	0.165	4.2	14	21
398550	20	19/32	0.068	1.73	20	0.51	0.180	4.6	18	27
398560	18	19/30	0.078	1.98	20	0.51	0.200	5.1	23	34
387700	16	19/29	0.084	2.13	20	0.51	0.215	5.5	28	42
398570	14	19/27	0.097	2.46	20	0.51	0.240	6.1	39	58
398580	12	19/25	0.116	2.95	20	0.51	0.275	7.0	56	83
398590	10	65/28	0.147	3.81	20	0.51	0.345	8.8	88	131

**TWO CONDUCTOR POLYRAD® ULTRA SHIELDED - 36 AWG TINNED COPPER BRAID - 85% MINIMUM COVERAGE**

398600	22	19/34	0.060	1.53	20	0.51	0.185	4.7	23	34
398610	20	19/32	0.068	1.73	20	0.51	0.200	5.1	30	45
398620	18	19/30	0.078	1.98	20	0.51	0.220	5.6	36	54
387710	16	19/29	0.084	2.13	20	0.51	0.235	6.0	42	61
398630	14	19/27	0.097	2.46	20	0.51	0.260	6.6	54	80
398640	12	19/25	0.116	2.95	20	0.51	0.300	7.6	73	109
398650	10	65/28	0.147	3.81	20	0.51	0.365	9.3	112	167

**THREE CONDUCTOR POLYRAD® ULTRA NON-SHIELDED**

398660	22	19/34	0.060	1.53	20	0.51	0.175	4.5	19	28
398670	20	19/32	0.068	1.73	20	0.51	0.190	4.8	25	37
398680	18	19/30	0.078	1.98	20	0.51	0.210	5.3	32	48
398690	16	19/29	0.084	2.13	20	0.51	0.225	5.7	38	57
398700	14	19/27	0.097	2.46	20	0.51	0.250	6.4	52	77
398710	12	19/25	0.116	2.95	20	0.51	0.290	7.4	78	116
398720	10	65/28	0.147	3.81	20	0.51	0.360	9.2	127	189

**THREE CONDUCTOR POLYRAD® ULTRA SHIELDED - 36 AWG TINNED COPPER BRAID - 85% MINIMUM COVERAGE**

398730	22	19/34	0.060	1.53	20	0.51	0.195	5.0	29	43
398740	20	19/32	0.068	1.73	20	0.51	0.210	5.3	37	55
387730	18	19/30	0.078	1.98	20	0.51	0.235	6.0	45	67
398750	16	19/29	0.084	2.13	20	0.51	0.245	6.2	52	77
398760	14	19/27	0.097	2.46	20	0.51	0.275	7.0	69	103
398770	12	19/25	0.116	2.95	20	0.51	0.315	8.0	96	143
398780	10	65/28	0.147	3.81	20	0.51	0.385	9.8	149	222

The multi-conductor cables shown in the following tables are merely a sampling of General Cable's wide range of products. Other conductor sizes, designs and/or specific installation requirements are available to meet virtually all the cabling needs of the transit and locomotive industry. For more information, contact General Cable's Transit inside sales at [info@generalcable.com](mailto:info@generalcable.com).