



Copper PE45 Tracer Wire Solid or Stranded

Spec Sheet

PE45 Part# 741XXXXX (X = Variable Information)

COPPER (Solid or Stranded) PE45 HDPE TRACER WIRE



DESCRIPTION:

- Oxygen-free dead soft annealed copper conductor
- High-density, high molecular weight polyethylene (HDPE) insulation
- Corrosion, moisture, chemical, acid, oil, impact, crush, and abrasion resistant
- For Direct Burial | Boring
- Available gauges: 8 AWG | 10 AWG | 12 AWG | 14 AWG
- Available reel sizes: 500' | 1,000' | 2,500' | 5,000'
- Available insulation thickness: 45 mil (600v)
- All insulation spark tested @7500 VAC (45 mil)
- Insulation colors: Red | Yellow | Orange | Green | Blue | Purple | White | Black | Brown
- RoHS Compliant and works with connectors you already use

STANDARDS & REFERENCES:

Copper PE45 meets or exceeds all applicable UL Standards, ASTM specifications, and requirements of the National Electrical Code.

- ASTM B-3: Standard Specification for Soft or Annealed Copper Wire.
- ASTM B170: Standard Specification for Oxygen-Free Electrolytic Copper.
- ASTM D1248: Standard Specification for Polyethylene Plastics Extrusion Materials for Wire and Cable.

SAMPLE SPECIFICATION:

Tracer wire shall be a #12 AWG SOLID PRO-TRACE COPPER PE45. Tracer wire shall consist of a soft-drawn, oxygen free copper conductor with a minimum break load of 197 lbs. Conductor shall be extruded with a 45 mil, high density, high molecular weight polyethylene (HMW-HDPE) pursuant to ASTM D1248. Tracer wire shall be rated for direct burial use at 600 volts and RoHS compliant. Tracer wire shall be as manufactured by Trident Solutions or approved equal and made in the USA.

INSULATION (Physical, Mechanical and Electrical Properties)

Density @ 23°C	ASTM D792	0.945 g/cm ³
Melt Flow Rate	ASTM D1238	0.8 g/10 min
Tensile Strength	ASTM D638	3,400 psi
Tensile Strength Retention	ASTM D638	90% after 48 hours @ 100°C
Tensile Elongation	ASTM D638	500%
Tensile Elongation Retention	ASTM D638	90% after 48 hours @ 100°C
Environmental Stress Cracking	ASTM D1693	0 failures @ 48 hours
Thermal Stress Cracking	ASTM D2951	0 failures @ 96 hours
Brittleness Temperature	ASTM D746	0 failures @ -76°C
Melting Temperature	ASTM D3418	130 °C
Oxidative Induction Time	ASTM D3895	170 min @ 200°C
Dielectric Constant	ASTM D1531	2.32 @ 1 MHz
Dissipation Factor	ASTM D1531	0.00006 @ 1 MHz
DC Volume Resistivity @ 23°C	ASTM D257	> 1 x 10 ¹⁵ ohm-cm

CONDUCTOR (Physical, Mechanical and Electrical Properties)

	14AWG	12AWG	10AWG	8AWG	6AWG
Conductor Type	Copper				
Conductor Temper	Soft-Drawn				
Rated Break Load (lbs)	124	197	313	479	762
Elongation	25 %	25 %	25 %	30 %	30 %
Rated Tensile Strength (psi)	38,500	38,500	38,500	37,000	37,000
Nominal DC Resistance (ohms)	2.525	1.588	0.999	0.628	0.395

WEIGHTS, MEASUREMENTS & PACKAGING (Solid)

Part Number	Product Description	Conductor O.D.	Finished O.D.	Insulation Thickness (Nominal)	Product Weight: Per 1,000'
74103.XXXX	14 AWG Solid Copper PE45 - 600V	0.0641"	0.124"	0.045"	19 lbs
74104.XXXX	12 AWG Solid Copper PE45 - 600V	0.0808"	0.141"	0.045"	27 lbs
74105.XXXX	10 AWG Solid Copper PE45 - 600V	0.1019"	0.162"	0.045"	40 lbs
74106.XXXX	8 AWG Solid Copper PE45 - 600V	0.1285"	0.189"	0.045"	66 lbs
74107.XXXX	6 AWG Solid Copper PE45 - 600V	0.1620"	0.252"	0.045"	90 lbs
74108.XXXX	14 - 7 AWG STR Copper PE45 - 600V	0.0726"	0.163"	0.045"	20 lbs
74110.XXXX	12 - 7 AWG STR Copper PE45 - 600V	0.0915"	0.182"	0.045"	28 lbs
74112.XXXX	10 - 7 AWG STR Copper PE45 - 600V	0.1155"	0.206"	0.045"	41 lbs
74114.XXXX	8 - 7 AWG STR Copper PE45 - 600V	0.1458"	0.236"	0.045"	67 lbs
74116.XXXX	6 - 7 AWG STR Copper PE45 - 600V	0.1836"	0.274"	0.045"	91 lbs