



Pro-Trace® HF-CCS PE30 / PE45 Tracer Wire

Spec Sheet

Part# 74XXX.XXXX (X = Variable Information)



PRO-TRACE® HF-CCS
30/45 MIL HDPE TRACER WIRE



DESCRIPTION:

- Low-carbon steel core metallurgically bonded with a copper cladding
- Equal to copper in signal-tracing performance
- Memory, flexibility and feel of copper with 50% higher break-load
- Corrosion, moisture, chemical, acid, oil, impact, crush, and abrasion resistant
- For use in Open-Trench | Plow-In | Inside Conduit
- Available gauges: 8AWG | 10AWG | 12AWG | 14AWG | 16AWG | 18AWG
- Available reel sizes: 500' | 1,000' | 2,500' | 5,000'
- Available insulation thickness: 30 mil (30v) HDPE | 45 mil (600v) HDPE
- All insulation spark tested @5000 VAC (30 mil) & @750 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:

Pro-Trace HF-CCS meets or exceeds all applicable UL Standards, ASTM specifications, and requirements of the National Electrical Code.

- ASTM B910/B190M: Standard Specification for Annealed Copper-Clad Steel Wire
- ASTM B170: Specification for Oxygen-Free Electrolytic Copper
- ASTM D1248: Standard Specification for Polyethylene Plastics Extrusion Materials for Wire and Cable
- UL 2989 (not listed): In accordance with USPSHTC Section 307.8.1, 18AWG Tracer Wire for Water Service Lines

SAMPLE SPECIFICATION:

Tracer wire for open-cut installation shall be a 12 AWG SOLID PRO-TRACE® HF-CCS PE30. Conductor shall be annealed, 21% IACS, copper-clad steel, utilizing a AISI 1006 low carbon steel core with rated break load of 302 lbs (required to meet break load, flexibility, and ASTM B910). Conductor shall be extruded with a 30 mil, high density, high molecular weight polyethylene (HMW-HDPE) pursuant to ASTM D1248. Tracer wire shall be rated for direct burial use at 30 volts and RoHS compliant. Tracer wire shall be PRO-TRACE® HF-CCS PE30 as manufactured by Trident Solutions.

INSULATION (Physical, Mechanical and Electrical Properties)		
Density @ 23°C	ASTM D1505	0.945 g/cm³
Melt Flow Rate	ASTM D1238	0.70 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	-76°C
Melting Temperature	ASTM D3418	260°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 10¹⁵ ohm-cm

CONDUCTOR (Physical, Mechanical and Electrical Properties)						
	18AWG	16AWG	14AWG	12AWG	10AWG	8AWG
Conductor Type	HF-CCS (High Flex Copper Clad Steel)					
Conductor Temper	Annealed					
Steel Grade	AISI 1006					
Copper Grade	UNS C10200					
Break Strength (lbs)	70	111	177	282	448	713
Elongation (ASTM B869)	≥ 15.0%					
Copper Thickness (% of Dia.)	3.0 %					
Copper Weight (Per 1,000')	13.0 %					
Nominal DC Resistance (ohms)	30.399	19.119	12.024	7.562	4.756	2.991

WEIGHTS, MEASUREMENTS & PACKAGING ON NEXT PAGE



Pro-Trace® HF-CCS PE30 / PE45 Tracer Wire

Spec Sheet

Part# 74XXX.XXXX (X = Variable Information)

WEIGHTS, MEASUREMENTS & PACKAGING - PE30

Part Number	Product Description	Conductor O.D.	Finished O.D.	Insulation Thickness (Nominal)	Product Weight: Per 1,000'
74418.XXXX	18 AWG Solid HF-CCS PE30 - 30V	0.0403"	0.101"	0.030"	7 lbs
74416.XXXX	16 AWG Solid HF-CCS PE30 - 30V	0.0508"	0.111"	0.030"	10 lbs
74411.XXXX	14 AWG Solid HF-CCS PE30 - 30V	0.0641"	0.124"	0.030"	15 lbs
74412.XXXX	12 AWG Solid HF-CCS PE30 - 30V	0.0808"	0.141"	0.030"	22.5 lbs
74413.XXXX	10 AWG Solid HF-CCS PE30 - 30V	0.1019"	0.162"	0.030"	34 lbs
74414.XXXX	8 AWG Solid HF-CCS PE30 - 30V	0.1285"	0.189"	0.030"	52 lbs

WEIGHTS, MEASUREMENTS & PACKAGING - PE45

Part Number	Product Description	Conductor O.D.	Finished O.D.	Insulation Thickness (Nominal)	Product Weight: Per 1,000'
74448.XXXX	18 AWG Solid HF-CCS PE45 - 600V	0.0403"	0.131"	0.045"	9.5 lbs
74446.XXXX	16 AWG Solid HF-CCS PE45 - 600V	0.0508"	0.141"	0.045"	12.5 lbs
74441.XXXX	14 AWG Solid HF-CCS PE45 - 600V	0.0641"	0.154"	0.045"	17.5 lbs
74442.XXXX	12 AWG Solid HF-CCS PE45 - 600V	0.0808"	0.171"	0.045"	26 lbs
74443.XXXX	10 AWG Solid HF-CCS PE45 - 600V	0.1019"	0.192"	0.045"	37 lbs
74444.XXXX	8 AWG Solid HF-CCS PE45 - 600V	0.1285"	0.219"	0.045"	55 lbs