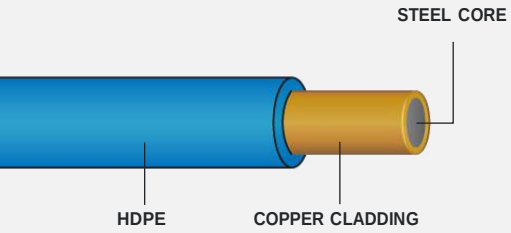
KRIS-TECH PRODUCT SPECIFICATIONS

8 HIGH STRENGTH- CCS TRACER WIRE



BENEFITS & FEATURES

- √ The corrosion resistance and conductivity of solid copper and the strength of fully annealed high-carbon steel
- √ Higher breaking strength than copper
- √ 11% lighter than solid copper
- √ 1005 lb. break load
- √ 30, 45 or 60 mil HMWPE insulation
- √ Bonded metals will not corrode or separate
- √ 'Theft-resistant' (now aftermarket value) and stable price history compared to solid copper
- √ Rated for direct bury
- √ Color-coded in accordance with the American Public Works (APWA) standards for utility identification
- √ Exclusively manufactured by Kris-Tech Wire

APPLICATION

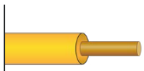
Kris-Tech copper-clad steel (CCS) tracer wire is installed on all non-metallic and metallic underground utilities and wires to enable infrastructure location. CCS tracer wire is ideal for trenching, open cut, and plowing applications when there are no above-ground buildings, roadways, or other obstructions.

PRODUCT DESCRIPTION

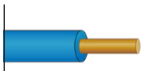
#8 AWG (0.1285" diameter), fully annealed low carbon steel with a high-strength solid copper-clad steel conductor. Insulated with a high molecular weight polyethylene (HMWPE) insulation rated for direct burial use at 30, 60 or 1000 volts

COLOR OPTIONS

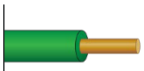
Our tracer wire is manufactured in a range of colors, in conformance with the American Public Works Administration Uniform Color Code. Non-standard colors based on unique customer requirements are also available.



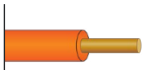
YEL = Natural Gas Lines



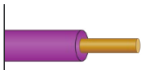
BLU = Potable Water



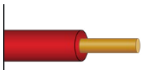
GRN = Sewer Lines



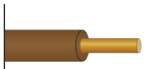
ORG = Fiber Optic or Telecommunications



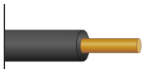
PUR = Reclaimed Water, Irrigation, or Slurry Lines



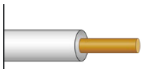
RED = Electrical



BRN = Application for Brown Insulation



BLK = Pet Containment Wire, or Other Uses



WHT = Application for White Insulation

PROUDLY MADE IN THE USA

KrisTech

SPECIFICATIONS

PART# AND TERMS

HDPE750008011-24-* **

- √ 8 AWG-Solid CCS Tracer Wire
- √ 30 Mil HMWPE 30 Volt
- √ 45 Mil HMWPE 600 Volt
- √ 60 Mil HMWPE 1000 Volt
- √ Direct Burial

*** INSULATION COLOR**
YEL=Yellow, BLU=Blue, GRN=Green, ORG=Orange, PUR=Purple, RED=Red, BRN=Brown, BLK=Black, WHT=White

**** SPOOL SIZE IN FEET**

SPOOL LABEL

Wound wire on a compact spool made of plastic or wood.

CONDUCTOR

Kris-Tech Wire copper-clad steel wire is composed of a steel core with a uniform and continuous copper cladding completely bonded to the steel throughout. Wire conforms to ASTM B1010.

SURFACE CONDITION

Wire surface shall be defect-free, including flakes, pits, voids, and grooves. Wire surface shall be smooth, with no excessive copper dust and residual drawing lubricants.

FULL PRODUCT DESCRIPTION

- √ Tracer wire shall be a #8 AWG (0.1285” diameter) fully annealed, low carbon steel, high strength solid copper-clad steel conductor (HS-CCS) rated at 30, 600 or 1000 volts
- √ Insulated with 30, 45 or 60 mil, high molecular weight polyethylene (HMWPE) insulation rated for direct burial use.
- √ HS-CCS conductor must meet or exceed 21% conductivity for locate purposes
- √ Break load of 1005 lbs.
- √ HMWPE insulation is RoHS compliant and utilizes virgin-grade materials
- √ Insulation colors meet the APWA color code standard for buried utility identification

PRINT LINE

- √ Permanent physical markings: surface print legend on insulation will repeat at a minimum interval of every two linear feet
- √ Ink colors include Black ink for Yellow, Blue, Red, Orange, Purple, Brown, White, and Green insulation, and White ink for Black insulation
- √ Kris-Tech wire #8 AWG HS-CCS tracer wire — 30, 45 or 60 mil HMWPE voltage direct burial only

CLADDING

The steel and copper interface has a metallurgical bond achieved through a high heat and pressure bonding process — the established process for porosity-free material

- **Steel** is high strength, with 0.54 carbon or greater, and verified to meet all required mechanical properties.
- **Copper** is UNS-C10200, OF Copper as per ASTM B-170 (latest revision). High conductivity, oxygen-free copper is used to provide optimal signal performance

KrisTech

INSULATION

The following is a description of the properties of the materials used in Kris-Tech high strength tracer wire insulation

MATERIAL DESCRIPTION

- √ Insulation is made up of a copolymer high molecular weight polyethylene (HMWPE) designed explicitly for insulating highspeed copper wire
- √ It contains the obligatory levels and types of primary antioxidant and metal deactivator additives to meet most Wire and Cable industry requirements
- √ HMWPE material is produced with an excellent balance of surface smoothness, tensile and elongation properties, processing ease, abrasion toughness, environmental stress crack, thermal stress crack resistance, and electrical consistency
- √ Insulation conforms to ASTM D1248

QUALITY ASSURANCE

Every Kris-Tech product is manufactured to exact specifications using our rigorous quality control system that ensures products are defect-free and meet or exceed all performance requirements.

SPECIFICATIONS

PHYSICAL, MECHANICAL, & ELECTRICAL PROPERTIES

The wire shall conform to the properties listed in Table 1 & Table 2.

Table 1: Physical, Mechanical, and Electrical Properties

#8 AWG CCS Low Carbon Steel	21% HS CCS Conductor
1. General Specifications	
Wire Hardness	High Strength(HS)
Base Alloy Material	Low carbon steel
2. Dimensions	
Diameter, nominal	3.26 mm / 0.1283 in
Diameter, minimum	3.21 mm / 0.1264 in
Cross section Area, nominal	8.3mm^2 / 16.38 kcmil
Net Weight	66.72 Kg/Km / 44.83 lb/Kft
Copper Thickness, minimum	0.0308 mm / 0.0012 in
Density, typical	7.9800 g/cm^3 / 0.2880 lb/in^3
3. Electrical Specifications	
Electrical Conductivity (IACS), nomonal	21%
DC Resistance, maximum	9.658 Ω/Km, 3,043 Ω/Kft
4. Mechanical Specifications	
Breaking Load, minmium	4,470 N / 1005 lb_f
Tensile Strength, maximum	900 N/mm2 / 130,534 psi
Tensile Strength, minimum	750N/mm2 / 108,779 psi
Wire Elongation, minimum	1% (actual 1.5%)

*Diameter tolerances: ±1%

Table 2: Physical, Mechanical, and Electrical Properties

High Molecular Weight Polyethylene Insulator	Value
1. Physical Specifications	
Density (ASTM D1505)	0.920 g/cm³
Melt Mass-Flow Rate (ASTM D1238)	0.70 g/10min
Brittleness Temperature (ASTM D746)	< -76.1°C
2. Mechanical Specifications	
Tensile-Yield (ASTM D638)	12.0 Mpa
Tensile-Break (ASTM D638)	15.2 Mpa
Tensile-Elongation (Break) (ASTM D638)	650%
3. Electrical Specifications	
Volume Resistivity (ASTM D257)	>10E+15 Ω*cm
Dielectric Constant (ASTM D150)	2.29
Dissipation Factor (ASTM D150)	6.0E-05