Industrial Wire and Cable Corp.

CATALOG 216

YOUR AMERICAN MANUFACTURER OF WIRE & CABLE

Tracer / Locating Wire

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66 N. Buesching Rd • Lake Zurich, IL 60047

COPPER TRACER WIRE
PRODUCT DESCRIPTION & APPLICATION

Solid hard or soft bare copper conductor. Polyethylene insulated. For use as direct burial perimeter or locating, wire rated 75°C 600 Volt wet or dry locations. Oil and Solvent Resistant, extra tough polyethylene insulation formulated to provide excellent oxidative stability, toughness, and abrasion resistance. Also provides superior environmental and thermal stress-cracking resistance.

- Hard and Soft Bare Copper conductors
- HDPE, HMWPE Insulation
- 600 Volt Insulation, 30 Volt Labeling for Gas Line Detection
- Direct Burial
- Underground Locating Wire
- Tracer Wire
- For Location of Underground Utilities
- RoHS, REACH Compliant
- Sunlight Resistant
- U.L. Listed
- E151077

TRACER / LOCATER – HARD COPPER

IWC PART NUMBER	AWG STRANDING	INSULATION THICKNESS (in)	(mm)	COND. DIA. (in)	(mm)	NOMINAL FIN. O.D. (in)	(mm)	NOMINAL FIN. WT. (lbs/m')	(kg/km)	MAX DC RESISTANCE (Ω/m') @ 20°C	(Ω/km) @ 20°C	NOMINAL BREAK STRENGTH (lbs)	(N)
TLH1830	18(SOL)HB	.030	.762	.040	1.02	.101	2.56	8.11	12.1	6.52	21.4	83	369
TLH1845	18(SOL)HB	.045	1.14	.040	1.02	.131	3.33	10.3	15.3	6.52	21.4	83	369
TLH1630	16(SOL)HB	.030	.762	.051	1.30	.112	2.85	11.6	17.3	4.10	13.5	132	587
TLH1645	16(SOL)HB	.045	1.14	.051	1.30	.142	3.61	14.1	21.0	4.10	13.5	132	587
TLH1430	14(SOL)HB	.030	.762	.064	1.63	.125	3.18	16.5	24.6	2.57	8.45	210	934
TLH1445	14(SOL)HB	.045	1.14	.064	1.63	.155	3.94	19.4	28.9	2.57	8.45	210	934
TLH1230	12(SOL)HB	.030	.762	.081	2.06	.142	3.60	25.0	37.2	1.62	5.31	335	1490
TLH1245	12(SOL)HB	.045	1.14	.081	2.06	.172	4.37	27.8	41.4	1.62	5.31	335	1490
TLH1030	10(SOL)HB	.030	.762	.102	2.59	.163	4.14	37.6	55.2	1.02	3.35	530	2350
TLH1045	10(SOL)HB	.045	1.14	.102	2.59	.193	4.90	42.0	62.5	1.02	3.35	530	2350

TRACER / LOCATER – ANNEALED COPPER

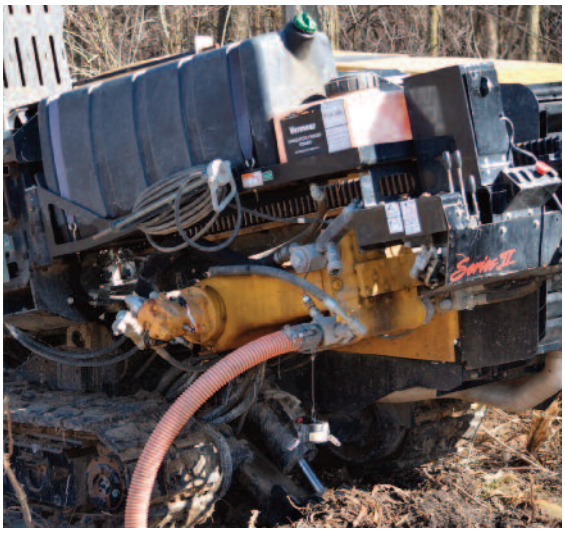
IWC PART NUMBER	AWG STRANDING	INSULATION THICKNESS (in)	(mm)	COND. DIA. (in)	(mm)	NOMINAL FIN. O.D. (in)	(mm)	NOMINAL FIN. WT. (lbs/m')	(kg/km)	MAX DC RESISTANCE (Ω/m') @ 20°C	(Ω/km) @ 20°C	NOMINAL BREAK STRENGTH (lbs)	(N)
TLA1830	18(SOL)BC	.030	.762	.040	1.02	.101	2.56	8.11	12.1	6.52	21.4	41	182
TLA1845	18(SOL)BC	.045	1.14	.040	1.02	.131	3.33	10.3	15.3	6.52	21.4	41	182
TLA1630	16(SOL)BC	.030	.762	.051	1.30	.112	2.85	11.6	17.3	4.10	13.5	65	289
TLA1645	16(SOL)BC	.045	1.14	.051	1.30	.142	3.61	14.1	21.0	4.10	13.5	65	289
TLA1430	14(SOL)BC	.030	.762	.064	1.63	.125	3.18	16.5	24.6	2.57	8.45	103	458
TLA1445	14(SOL)BC	.045	1.14	.064	1.63	.155	3.94	19.4	28.9	2.57	8.45	103	458
TLA1230	12(SOL)BC	.030	.762	.081	2.06	.142	3.60	25.0	37.2	1.62	5.31	165	733
TLA1245	12(SOL)BC	.045	1.14	.081	2.06	.172	4.37	27.8	41.4	1.62	5.31	165	733
TLA1030	10(SOL)BC	.030	.762	.102	2.59	.163	4.14	37.6	55.2	1.02	3.35	261	1160
TLA1045	10(SOL)BC	.045	1.14	.102	2.59	.193	4.90	42.0	62.5	1.02	3.35	261	1160

STANDARD SPECIFICATIONS FOR COPPER CONDUCTOR

ASTM B 1 – 01 Hard Drawn Copper Wire
ASTM B 3 – 01 Soft or Annealed Copper Wire

COPPER CLAD STEEL TRACER WIRE

Copper Clad Steel (CCS) is manufactured by applying a thin layer of pure copper strip over a solid steel core in a highly controlled application of pressure and heat. This unique metallurgical process creates a bimetallic wire combining the physical strength of steel with the excellent conductive properties of copper. With 21% of the conductivity of pure copper conductor, CCS is ideal for transmission of frequency signals where current carry capacity isn't the governing parameter. Copper Cladding greatly enhances the corrosion resistance of the steel core and is insulated with the same super-tough HDPE, HMWPE as our 100% copper wire. CCS tracer wire becomes the ideal solution were extra high tensile strength is required for the most demanding installations and environments.



LOW CARBON FULLY ANNEALED (Copper Clad Soft Steel)

IWC PART NUMBER	AWG STRANDING	INSULATION THICKNESS (in)	(mm)	COND. DIA. (in)	(mm)	NOMINAL FIN. O.D. (in)	(mm)	NOMINAL FIN. WT. (lbs/m')	(kg/km)	MAX DC RESISTANCE (Ω/m') @ 20°C	(Ω/km) @ 20°C	NOMINAL BREAK STRENGTH (lbs)	(N)
CCS1430	14 (SOL)	.030	.762	.064	1.63	.125	3.18	15.1	22.5	12.02	39.44	175	778
CCS1445	14 (SOL)	.045	1.14	.064	1.63	.155	3.94	18.0	26.8	12.02	39.44	175	778
CCS1230	12 (SOL)	.030	.762	.081	2.06	.142	3.61	22.4	33.3	7.56	24.81	282	1254
CCS1245	12 (SOL)	.045	1.14	.081	2.06	.172	4.37	25.6	38.1	7.56	24.81	282	1254
CCS1030	10 (SOL)	.030	.762	.102	2.59	.163	4.14	33.7	50.2	4.76	15.62	455	2024
CCS1045	10 (SOL)	.045	1.14	.102	2.59	.193	4.90	37.3	55.5	4.76	15.62	455	2024
CCS0830	8 (SOL)	.030	.762	.129	3.26	.190	4.83	51.4	76.5	2.99	9.81	710	3158
CCS0845	8 (SOL)	.045	1.14	.129	3.26	.220	5.59	55.6	82.7	2.99	9.81	710	3158

DIRECTIONAL BORING (Copper Clad Steel Hard)

IWC PART NUMBER	AWG STRANDING	INSULATION THICKNESS (in)	(mm)	COND. DIA. (in)	(mm)	NOMINAL FIN. O.D. (in)	(mm)	NOMINAL FIN. WT. (lbs/m')	(kg/km)	MAX DC RESISTANCE (Ω/m') @ 20°C	(Ω/km) @ 20°C	NOMINAL BREAK STRENGTH (lbs)	(N)
CCH1430	14 (SOL)	.030	.762	.064	1.63	.125	3.18	15.1	22.5	12.02	39.44	467	2077
CCH1445	14 (SOL)	.045	1.14	.064	1.63	.155	3.94	18.0	26.8	12.02	39.44	467	2077
CCH1230	12 (SOL)	.030	.762	.081	2.06	.142	3.61	22.4	33.3	7.56	24.81	754	3354
CCH1245	12 (SOL)	.045	1.14	.081	2.06	.172	4.37	25.6	38.1	7.56	24.81	754	3354
CCH1030	10 (SOL)	.030	.762	.102	2.59	.163	4.14	33.7	50.2	4.76	15.62	1305	5805
CCH1045	10 (SOL)	.045	1.14	.102	2.59	.193	4.90	37.3	55.5	4.76	15.62	1305	5805
CCH0830	8 (SOL)	.030	.762	.129	3.26	.190	4.83	51.4	76.5	2.99	9.81	1945	8652
CCH0845	8 (SOL)	.045	1.14	.129	3.26	.220	5.59	55.6	82.7	2.99	9.81	1945	8652

STANDARD SPECIFICATIONS FOR COPPER CLAD STEEL

ASTM B910/B910M-07 Annealed Copper-Clad Steel Wire

INSULATION MATERIAL TABLE (HMWPE)

High Molecular Weight, High Density Polyethylene Insulation
ASTM D 1248 Type III, Class A, Category 4 Grade E8, E9

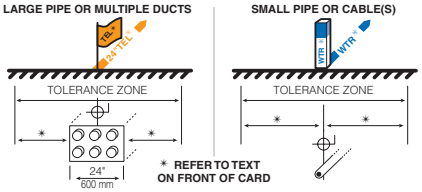
PROPERTIES	TEST METHODS	TYPICAL VALUES
Physical		
Density, 23°C	ASTM D 1505	0.945 g/cm
Melt Index	ASTM D 1238	0.8 g/10 min
Tensile Strength	ASTM D 638	3400psi (22.1 Mpa)
Tensile Strength Retention after 48 hrs @100°C		90%
Tensile Elongation	ASTM D 638	500%
Tensile Elongation Retention after 48 hrs @ 100°C		90%
Environmental Stress Crack Resistance, F 100% Igepal, 50°F	ASTM D 1693	>48 hours
Brittleness Failures @-76°C	ASTM D 746	0%
Thermal Stress Crack F	ASTM D 2951	>96 hours
Oxidative Induction Time	ASTM D 4565	
200°C - After 4 weeks of cable filler immersion		170 min 80 min
Electrical		
Dielectric Constant, 100KH, 1 MHz		
Original	ASTM D 1531	2.32
After Milling (ASTM D 1248)	ASTM D 1531	2.32
After 14 days Water Immersion at 23°C	ASTM D 1531	2.32
Dissipation Factor, 1 MHZ		
Original	ASTM D 1531	0.00006
After Milling (ASTM D 1248)	ASTM D 1531	0.00006
After 14 days Water Immersion at 23°C	ASTM D 1531	0.00006
DC Volume Resistivity at 23°C	ASTM D 257	>1x10 ohm-cm

Tests are made in accordance with current ASTM Methods.
Values are typical, and not to be construed as specifications.

APWA UNIFORM COLOR CODE

- **WHITE** - Proposed Excavation
- **PINK** - Temporary Survey Markings
- **RED** - Electric Power Lines, Cables, Conduit and Lighting Cables
- **YELLOW** - Gas, Oil, Steam, Petroleum or Gaseous Materials
- **ORANGE** - Communication, Alarm or Signal Lines, Cables or Conduit
- **BLUE** - Potable Water
- **PURPLE** - Reclaimed Water, Irrigation and Slurry Lines
- **GREEN** - Sewers and Drain Lines

TYPICAL MARKING



Industrial Wire & Cable Corp. certifies its products comply with the requirements of REACH European Regulation 1907l2006.

AVAILABLE IN THE FOLLOWING INSULATION COLORS

CONDUCTOR	1	2	3	4
COLOR	Red	White	Green	Blue
CONDUCTOR	5	7	9	12
COLOR	Yellow	Orange	Pink	Purple

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RoHS COMPLIANT

All products proudly manufactured in the USA.

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