TIGER® BRAND

TUNNELING POWER CABLES

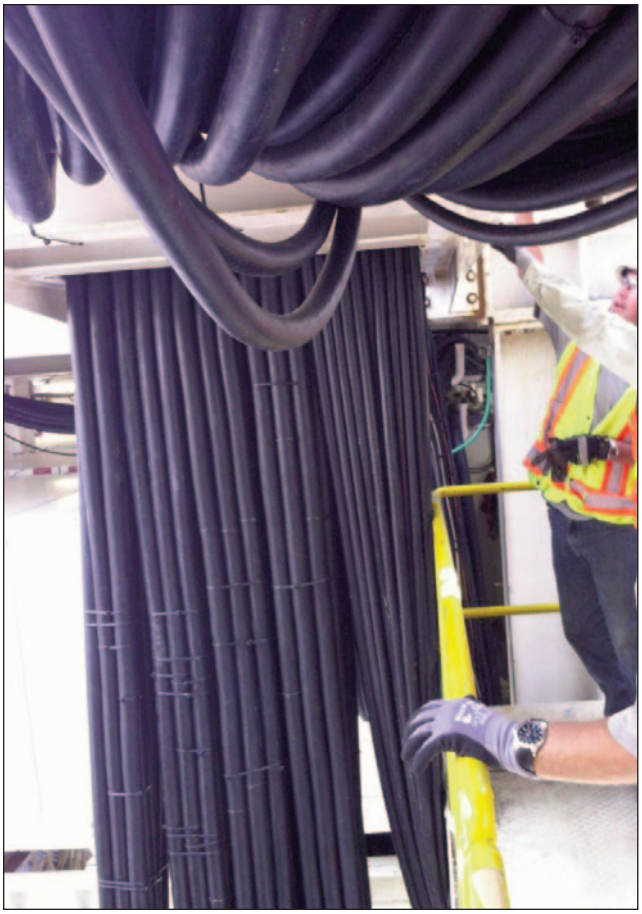
AmerCable

COMMITTED TO MORE PRODUCTIVE TUNNELING

Tiger® Brand mining cables have powered some of the world's biggest TBMs.

No matter what size your TBM, AmerCable has a tunnel cable productivity solution for your TBM project. Our innovatively engineered and manufactured cables are designed for your toughest conditions. As the leading producer of mining and tunneling cables in North America, AmerCable is dedicated to producing:

- cables that last longer in harsh tunneling environments
- cables designed to help provide greater levels of safety and productivity
- innovative jobsite cable delivery solutions



INNOVATION & SUPPORT

- Designing insulating and jacketing materials that are more flexible with greater resistance to abrasion and moisture
- Cable constructions that last longer providing reduced down time for increased production
- New product development that addresses environmental, safety and cost reduction issues specific to your mining application
- AmerCable is an ISO-9001 certified manufacturer

To support the world's largest TBM at the Seattle SR-99 tunnel project, AmerCable designed and built a unique cable payout tray system that mounted directly on the unit.

FIELD SUPPORT

Our highly experienced field application engineers are available 24/7 for on-site evaluation and solutions. They also conduct education and training sessions that address safety, splicing and cable handling issues.

36-442
TYPE G-GC ROUND 3/C MOLD-CURED JACKET UP TO 2000 VOLTS

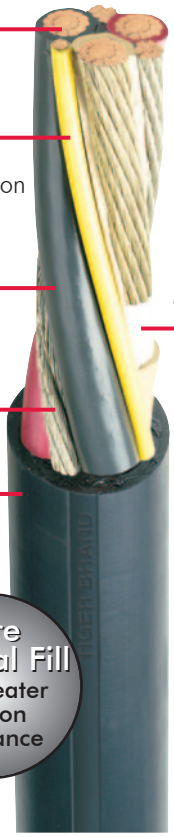
Conductors
Flexible tinned copper

Ground Check Conductor[2]
Flexible tinned copper with yellow polypropylene insulation

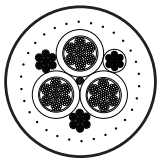
Insulation
90°C ethylene-propylene rubber (EPR)

Ground Wires
Flexible tinned copper

Jacket[1]
Reinforced mold-cured thermosetting Chlorinated Polyethylene (CPE) Jacket. |Cable identification via permanent marking.



See back cover for jacket colors and color/stripe options.



Pump Application Construction

36-442 is available with insulated grounds for pump applications that require this specification.

APPLICATION

Especially suitable for use with mobile mining and tunneling equipment. Type G-GC is for applications where grounding conductors and a ground check conductor are required. Recommended maximum continuous conductor temperature is 90°C. Suitable for shallow water submersion.

Cable carries "P-7K-184-MSHA" marking indicating listing by the Mine Safety and Health Administration and the Pennsylvania Department of Environmental Protection.

Tiger® Brand Mining Cable meets or exceeds ICEA Standards S-75-381/NEMA WC-58, ASTM B-172 and B-33.

RATINGS & APPROVALS

- Mine Safety & Health Administration 7K-184-MSHA.
- Pennsylvania Department of Environmental Protection P-184.
- Tiger® Brand Mining Cables meet or exceed ICEA Standards S-75-381 & CSA Standards C 22.2 #96.
- Canadian Standards Association File 82346, FT1, FT5, -50°C Type SHD-GC, SHD-BGC up to 25kV Type W, G, G-GC, G-BGC up to 2kV
- RETIE

36-519

TYPE SHD-GC 3/C

MOLD-CURED CPE JACKET

15000 VOLTS

Conductors
Flexible tinned copper

Ground Check Conductor[2]
Flexible tinned copper with yellow polypropylene insulation

Strand Shield
Semi-conducting layer

Ground Wires
Flexible tinned copper

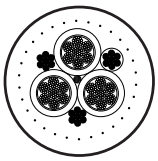
Insulation
90°C ethylene-propylene rubber (EPR)

Insulation Shielding
Semi-conducting tape

Jacket[1]
Reinforced mold-cured thermosetting Chlorinated Polyethylene (CPE) Jacket. Cable identification via permanent marking.

Insulation Shielding
Tinned copper and color coded nylon braid

Assembly
Taped core



See back cover for jacket colors and color/stripe options.

APPLICATION

Heavy-duty high voltage portable power cable for use in circuits not exceeding the rated voltage. Recommended maximum continuous conductor temperature in 90°C. Suitable for shallow water submersion.

Cable carries "P-184-MSHA" marking indicating acceptance as flame resistant by the Pennsylvania Department of Environmental Protection and the Mine Safety and Health Administration.

Tiger® Brand Mining Cable meets or exceeds ICEA Standards S-75-381/NEMA WC-58, ASTM B-172 and B-33.

RATINGS & APPROVALS

- Mine Safety & Health Administration 184-MSHA.
- Pennsylvania Department of Environmental Protection P-184.
- Insulated Cable Engineers Association S-75-381/NEMA WC-58. Design standard for mining cables.
- Canadian Standards Association C22.2 No. 96 File 82346, FT1, FT5, -50°C CSA Phase Color ID available on MTO Type SHD-GC, SHD-BGC up to 25kV SHD-GC meets FT4 requirements

36-525

TYPE SHD-GC 3/C

MOLD-CURED CPE JACKET
25000 VOLTS

Conductors
Flexible tinned copper

Ground Check Conductor[2]
Flexible tinned copper with yellow polypropylene insulation

Strand Shield
Semi-conducting layer

Ground Wires
Flexible tinned copper

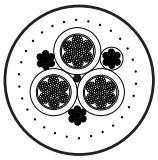
Insulation Shielding
Semi-conducting rubber and semi-conductive tape

Jacket[1]
Reinforced mold-cured thermosetting Chlorinated Polyethylene (CPE) Jacket. Cable identification via permanent marking.

Insulation Shielding
Tinned copper and color coded nylon braid

Insulation
90°C ethylene-propylene rubber (EPR)

Assembly
Taped core



See back cover for jacket colors and color/stripe options.

APPLICATION

Heavy-duty high voltage portable power TBM cable for use in circuits not exceeding the rated voltage. Recommended maximum continuous conductor temperature in 90°C. Suitable for shallow water submersion.

Cable carries "P-184-MSHA" marking indicating acceptance as flame resistant by the Pennsylvania Department of Environmental Protection and the Mine Safety and Health Administration.

Tiger® Brand Mining Cable meets or exceeds ICEA Standards S-75-381/NEMA WC-58, ASTM B-172 and B-33.

RATINGS & APPROVALS

- Mine Safety & Health Administration 184-MSHA.
- Pennsylvania Department of Environmental Protection P-184.
- Insulated Cable Engineers Association S-75-381/NEMA WC-58. Design standard for mining cables.
- Canadian Standards Association C22.2 No. 96 File 82346, FT1, FT5, -50°C CSA Phase Color ID available on MTO Type SHD-GC, SHD-BGC up to 25kV SHD-GC meets FT4 requirements

TYPE MP-GC 3/C MINE POWER FEEDER

5/8/15KV • 100% LEVEL (GROUNDED)

36-601/602/604
MOLD-CURED JACKET

Conductors
Copper

Ground Check Conductor
8 AWG 7-wire copper with yellow polypropylene insulation

Strand Shield
Semi-conducting layer

Insulation
90°C ethylene-propylene rubber (EPR)

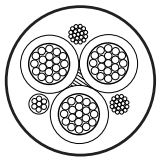
Ground Wires
Tinned copper

Insulation Shielding
Semi-conducting layer under copper tape (phase identification provided)

Assembly
Taped core

Jacket[1]
Mold-cured thermosetting Chlorinated Polyethylene (CPE) Jacket.
Cable identification via permanent marking.

See back cover for jacket colors and color/stripe options.



621/622/624
PVC JACKET

Conductors
Copper

Ground Check Conductor
8 AWG 7-wire copper with yellow polypropylene insulation

Strand Shield
Semi-conducting layer

Insulation
90°C cross-linked polyethylene

Fillers

Binder Tape

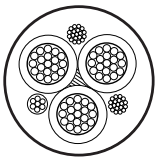
Ground Wires
Tinned Copper

Insulation Shielding
Semi-conducting layer under copper tape (phase identification provided)

Assembly
Taped core

Jacket[1]
Polyvinyl chloride (PVC), cable identification via permanent surface marking.

PVC jacket color options are the same as CPE. See back cover.



RATINGS & APPROVALS

- Mine Safety & Health Administration.
- Pennsylvania Department of Environmental Protection.
- Insulated Cable Engineers Association S-75-381.
- Canadian Standards Association C22.2 #96.1, File 82346, FT5, -35°C Type MP-GC, MPF up to 35kV
- RETIE

RATINGS & APPROVALS

- Mine Safety & Health Administration.
- Pennsylvania Department of Environmental Protection.
- Insulated Cable Engineers Association S-75-381 up to 25kV.
- Canadian Standards Association C22.2 #96, File 82346, FT5, -35°C Type MP-GC, MPF up to 25kV
- RETIE

37-102 CIR

CIR® POWER CABLE (CRUSH & IMPACT RESISTANT)

THREE & FOUR CONDUCTOR + GROUND
UL LISTED AS TYPE TC-ER •0.6/1KV • RATED 90°C

Insulation
GEXOL® cross-linked flame retardant polyolefin, meeting the requirements for Type P of IEEE 1580 and Type X110 of UL 1309/CSA 245. 600V/IEC 1000V.

Conductor
Soft annealed flexible stranded tinned copper per IEEE 1580 Table 11.

Safer to Handle
CIR® has no sharp metal armor edges that imperil worker's hands during splicing and installation of connectors

Jacket
A black, flame retardant, oil, abrasion, chemical and sunlight resistant thermoplastic compound meeting UL 1309/ CSA 245 and IEEE 1580.

APPLICATION

A flexible alternative to Type MC cable where application requires crush and impact protection.

FEATURES

- MSHA approved (2-7 conductors)
- Complies with the requirements for TC-ER-HL per UL 2225 (Up to 1-inch OD)
- Rated TC-ER (Greater than 1-inch OD)
- Exceeds CSA cold bend /cold impact (-40°C / -35°C)
- Brittlepoint as per ASTM D 746-07 exceeds -65°C for Jacket and -75°C for Insulation
- Gas & vapor tight – impervious to water & air

CIR vs. TYPE MC

- Smaller bend radius (up to 40% smaller)
- Reduced tray fill (up to 35% less)
- Considerably more flexible

RATINGS & APPROVALS

- MSHA approved (3 & 4 Conductor Cables)
- UL Listed as TC-ER-HL – suitable for Class 1, Div 1 and Zone 1 environments (cables up to 1" OD)
- UL Listed as Type TC-ER – suitable for use in Class I, Div 2 and Zone 2 environments (cables greater than 1" OD)
- UL Listed as Marine Shipboard Cable (E111461)
- American Bureau of Shipping (ABS)
- Flame Retardant – IEEE 1202
- 90°C temperature rating

36-501

VFD POWER CABLE

SHIELDED • 2000 VOLTS

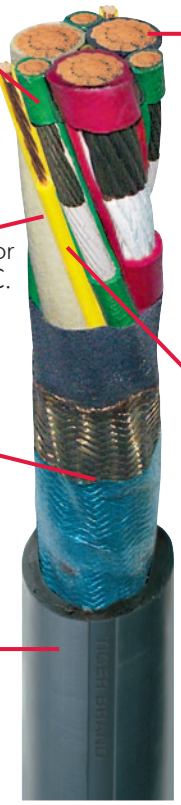
3 CONDUCTORS + 3 GROUNDS + GROUND CHECK(S)

Ground Conductors (x3)
Flexible tinned rope stranded conductors per ASTMB-172 and B-33, Insulated and colored green

Insulation
Type II EPDM (EPR) suitable for continuous operation at 90°C. Ozone resistant.

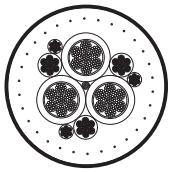
Shield
Overall tinned copper braid plus aluminum/ polyester tape providing 100% coverage

Jacket
Reinforced mold-cured thermosetting Chlorinated Polyethylene (CPE) Jacket. Cable identification via permanent marking.



Power Conductor
Extra flexible tinned rope stranded conductors per ASTM-172 and B-33

Ground Check[1] Wire(s) Optional
Flexible tinned copper with yellow insulation. Center ground check available



See back cover for jacket colors and color/stripe options.

Other VFD Constructions Available:
- Low Smoke Halogen-Free
- Crush & Impact Resistant (CIR®)
- Type TC-ER

APPLICATION

A flexible, braid and foil shielded, 2kV power cable specifically engineered for use in variable frequency AC motor drive (VFD) applications.

Cable carries "P-184-MSHA" marking indicating acceptance as flame resistant by the Pennsylvania Department of Environmental Protection and the Mine Safety and Health Administration.

Tiger® Brand Mining Cable materials meet or exceed ICEA Standard S-75-381/NEMA WC-58 for Type SHC constructions. ASTM B-172 and B-33.

RATINGS & APPROVALS

- 90°C Temperature Rating
- Tiger® Brand Mining Cable materials meet or exceed ICEA Standard S-75-381/ NEMA WC-58.
- Mine Safety & Health Administration 7K-184-MSHA.
- Pennsylvania Department of Environmental Protection P-7K-184.
- Canadian Standards Association File 82346 2kV CSA Phase Color ID available on MTO

SAFETY, TRAINING & EDUCATION

MineCable-Safe is an investment in **Safety** and **Productivity** that brings the knowledge and experience of our field engineers to your project.

High voltage cables require special handling to get maximum service life and keep personnel safe. **Can you identify the difference between a productivity problem and a safety issue? Our experts can.**

36-202-118

UNDERGROUND LIGHTING CABLE

2- 9 CONDUCTORS • 110 VOLTS

Power Conductors
Extra flexible stranded per ASTM B-174

Insulation
Chemically cross-linked, non-chlorinated thermosetting, flame retardant polyolefin

Jacket
Thermoplastic Polyurethane (TPU)
Black - standard
Orange - optional

APPLICATION

A flexible insulated cable for use in tunnel lighting systems. The TPU jacket provides extra-tough physical characteristics needed in the underground mining environment. Cable is available with full copper braid shielding upon request.

RATINGS & APPROVALS

- 90°C Temperature Rating
- Tiger® Brand Mining Cable materials meet or exceed industry standards

EXPERTISE IN TUNNELING PROJECTS

PROJECT PLANING: AmerCable is the industry leader in product and project support. From initial planning to delivered product, we're with you every step of the way. Our Tiger® Brand cables have powered some of the largest TBMs in the world.

CABLES: AmerCable has flexible, dynamic cables that are popular in the tunneling industry. If you have an unusual application or specific design requirement, such as the addition of fiber optic, our design team will develop a cable package that meets your requirements.

LOGISTICS: AmerCable will work with you to assure your project is kept on time with the cables you need, when you need them.

37-103-TR-GEXOL®

TRANSIT CABLE 1/C

LOW SMOKE HALOGEN-FREE • FLAME RESISTANT
EXTREMELY FLEXIBLE • 2KV • RATED 90°C

Conductor
Soft annealed flexible stranded tinned copper per IEEE 1580 Table 11.

Insulation/Jacket
GEXOL®-HF low smoke, Halogen-Free flame retardant cross-linked, polyolefin insulation meeting the requirements for Type LSE or LSX of IEEE 1580 plus a black low smoke Halogen-Free flame retardant polyolefin jacket meeting IEEE 1580. 2000V/IEC 1000V.

Sheath (Optional)
A black low smoke halogen-free flame retardant polyolefin, meeting IEEE 1580.

Armor (Optional)
Basket weave wire armor per IEEE 1580 and UL 1309/ CSA 245.
Bronze standard.
Tinned copper available by request.

Also Available in Fire Resistant: IEC 60331 Construction

APPLICATION

AmerCable's Transit Power Cables are your best choice when safety, mechanical toughness and long-term reliability are important.

FEATURES

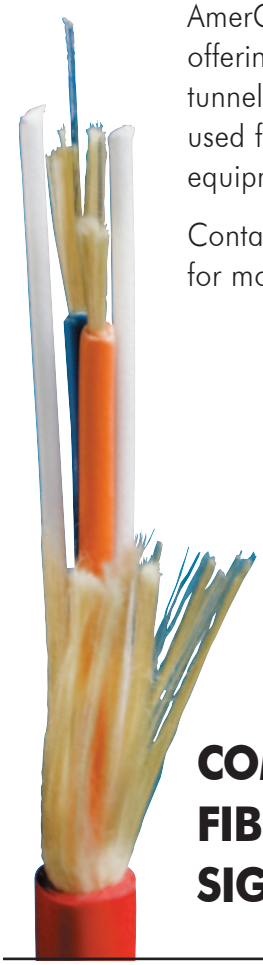
- Totally HALOGEN-FREE EPR/XLPO cable construction.
- Flame retardant: IEC 332-3 Category A and IEEE 1202.
- Emits low smoke and no toxic fumes
- High strand count conductors make this product more flexible and easier to install than IEC 60092-350 Series cables.
- Severe cold durability: exceeds CSA cold bend/cold impact (-40°C/-35°C).
- Meets New York State Combustion Toxicity Registration Law.
- Excellent heat & moisture resistance.
- Rated 90°C wet, 105°C dry.
- Completed cable passes IEEE 383 flame test.
- Optional braid armor of bronze, aluminum or tinned copper.

RATINGS & APPROVALS

- 90°C Temperature Rating
- ABS 99-BT5905-X
- NRTL Classified to IEEE STD. 1580
- Transport Canada
- Det Norske Veritas (DNV) (pending)

ELECTRO-OPTICAL CABLES

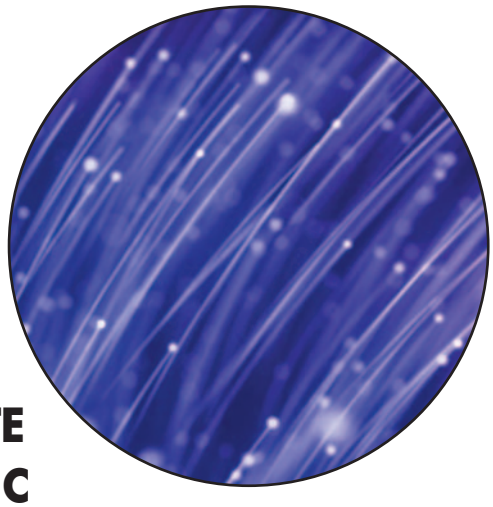
POWER & HIGH-SPEED DATA IN ONE CABLE



AmerCable is the only cable manufacturer offering electro-optical cables for mining or tunneling applications. Fiber optic cable is used for high-speed data gathering from equipment or remote control usage.

Contact your AmerCable rep for more information.

COMPOSITE ELECTRO-OPTICAL POWER CABLES

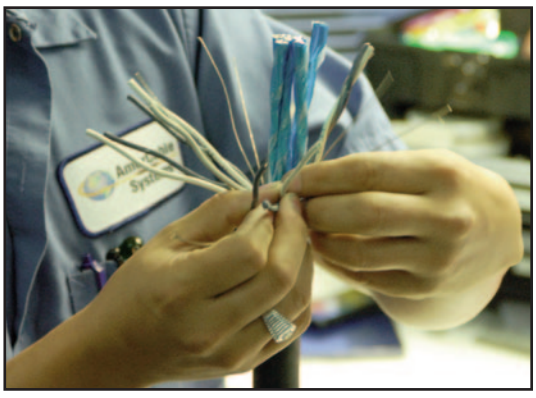


COMPOSITE FIBER OPTIC SIGNAL CABLES

FACTORY INSTALLED CABLE ASSEMBLIES

Professionally assembled at our AmerCable Systems facility in Katy, Texas, our team of experienced technicians mate cables and connectors that match your specifications and perform in the harshest operating conditions.

Factory prepared cable assemblies or terminations are a reliable way to lower your overall cable connectivity costs through enhanced reliability, reduced handling and lower installation time.



JACKET COLORS & STRIPES

AMERCABLE CPE JACKETS

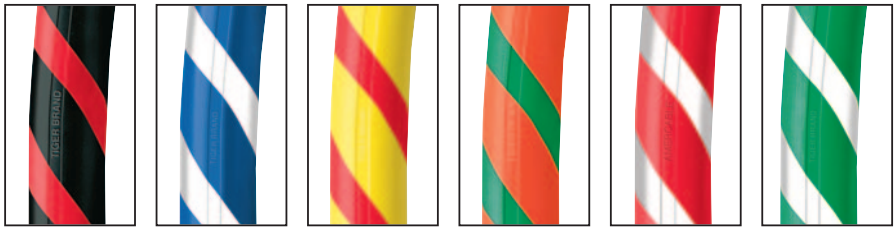
AmerCable's thermoset Chlorinated Polyethylene (CPE) jacket provides the physical performance and strength needed to resist wear, tear, abrasion and compression cuts caused by everyday use. This tough, durable jacket is a proven performer in tunnel projects and mines throughout the world. Tiger Brand cables are available in black (standard) and five optional colors. Colored cables provide extra safety through visual circuit identification and have the same performance specifications as our standard black cable.

Black *(standard)* | Blue | Green | Orange | Yellow | Red

TIGER STRIPES – STANDARD

AmerCable's standard **Tiger Stripes** provide additional color combinations by vulcanizing a contrasting colored stripe into the jacket of our round CPE cables.

Shown are a few examples of the many possible jacket / stripe combinations.



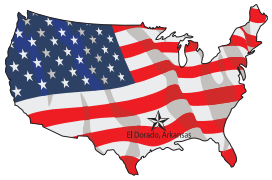
Black/Red | Blue/White | Yellow/Red | Orange/Green | Red/White | Green/White

Consult your AmerCable rep for a complete list of stripe options.

TIGER STRIPES – REFLECTIVE

AmerCable's reflective **Tiger Stripes** can extend cable life by reducing run-overs in low visibility situations and **improve mine safety** by providing easier visual circuit identification.

Black *(standard)* | Blue | Green | Orange | Yellow | Red



Made in America

FOLLOW US!

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