



Connecting globally



Mining Cables 2kV-25kV

TELE-FONIKA Cable Americas

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TELE-FONIKA Cable AMERICAS (TFKable) is a US firm with corporate offices and main facility located in Bolingbrook, IL and is a wholly owned subsidiary of TELE-FONIKA Kable S.A. TELE-FONIKA, one of the largest manufacturers of wire and cable in the world, is a fully integrated manufacturer recognized by the industry as a world class producer of quality wire and cable products. The company specializes in electrical wire and cable for **MINING, HEAVY INDUSTRY, UTILITY** and **ENERGY** applications utilizing materials to meet strict mechanical and electrical performance requirements.

KEY STATISTICS

- 100% Polish capital
- Over 25 000 types of wires and cables
- 40% market share in Poland
- 8 manufacturing plants, 6 trading companies, 2 service units
- No 1 the largest cables and wires manufacturer in Eastern Europe
- Over 500 production lines
- 4 places on the European market among technologically advanced cables and wires manufacturers
- Almost 1 bn € annual revenue
- 5 place among rubber cables manufacturers in the world
- Present in more than 80 countries
- 359 international certificates
- One of the top 25 Polish exporters

TFKable Mining brand delivers a full range of specially formulated cables and after sales services for all mining applications. As one of the leading global producers of mining cables, TELE-FONIKA is dedicated to provide the top performing and lowest cost product.

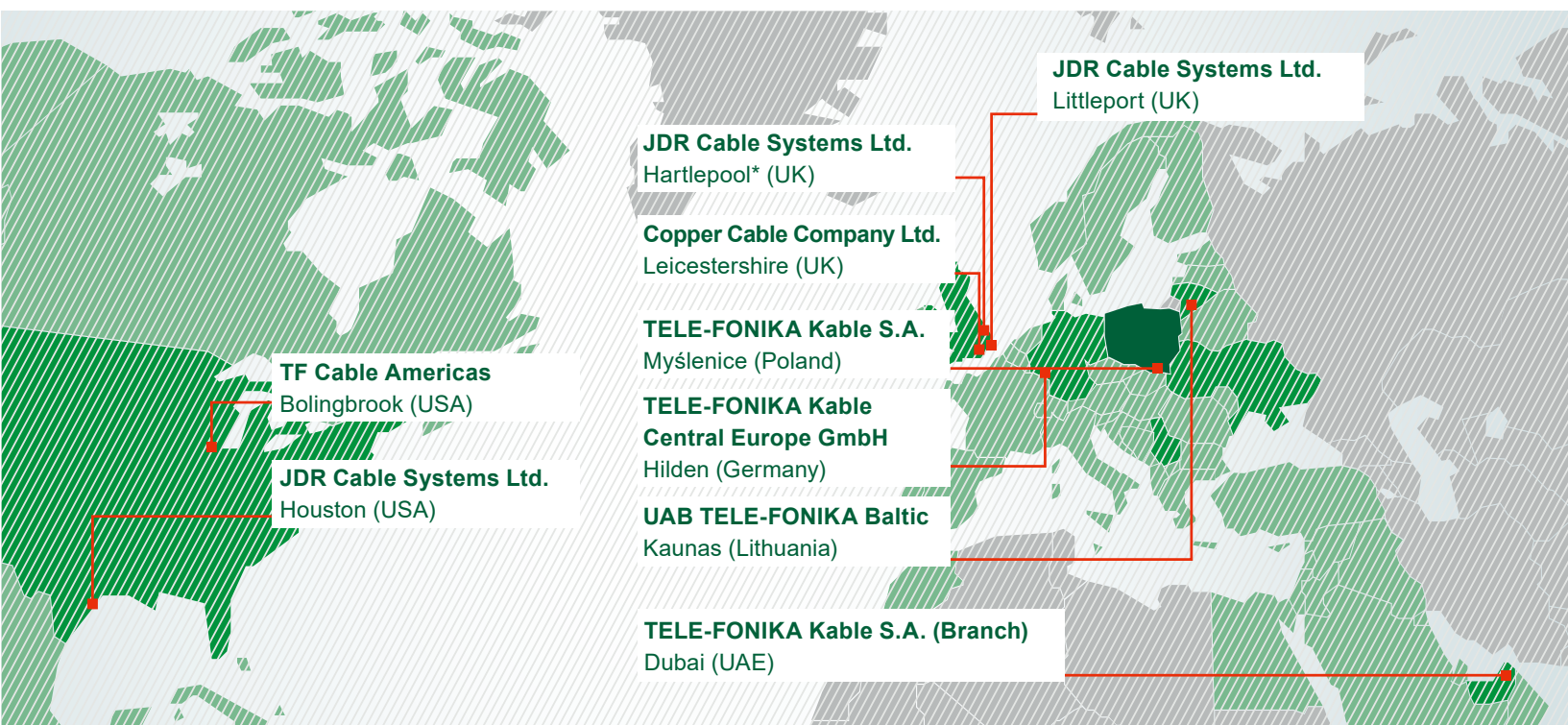
TELE-FONIKA Kable S.A.

TELE-FONIKA Kable S.A., a privately held wire and cable manufacturer headquartered in Krakow, Poland, is one of the largest wire and cable companies in the world. TF operates 8 plants in Central and Eastern Europe with a distribution network stretching 90 countries. Formed through a series of acquisitions and mergers, TFK has developed world-class technology centers of excellence with state of the art manufacturing operations. Founded in 1992, TF grew rapidly and the operations today are a result of internal development projects supported by strategic investments.

TFKable is the leading medium and high voltage cable manufacturer in Europe with

significant market share in rubber insulated portable power cables used by HEAVY INDUSTRY & MINING. Additionally, the company manufactures products for the TELECOMMUNICATION, SHIP BUILDING, ELECTRONIC and ENERGY sectors.

All manufacturing facilities are ISO 9001, ISO 2000, and ISO 14001 certified. All products are manufactured to public, utility and industrial standards including ICEA, IEEE, and ASTM. Tele-Fonika has over 400 individual certificates issued by more than 30 governing bodies which include UL, CSA, MSHA, SABS, VDE, CE, etc.



*JDR Cable Systems Ltd. (Sales Representative) United States, UK

STANDARD CONSTRUCTION

TELE-FONIKA offers an extra heavy duty grade, reinforced low-layer thermo set jacket providing excellent protection and hazard resistance. For the harshest applications, **TELE-FONIKA'S thermoplastic Polyurethane (TPU)** jacket provides the super tough physical parameters needed for the roughest mining environments and longer service life. TELE-FONIKA'S TPU cable jackets offer superior tensile strength, tear and abrasion resistance when comparing to standard Neoprene.

CONSTRUCTION

TFKable construction includes an integral fill, taped core and double layer jackets. Two pass jackets with the nylon reinforcing open braid and special compound technology applied provide durable bonding of the layers.

INSULATION

Thermosetting hard ethylene propylene insulation compound provides the properties needed for high dielectric strength, ozone resistance, water resistance and treeing. The insulation meets and often exceeds minimum requirements stipulated by UL and ICEA standards.

JACKET

Chloroprene (Neoprene) based compounds provide the physical properties for performance and strength needed to resist the tear, abrasion, oil and are flame retardant. For added durability and reinforcement, TFCA Brand offers the extra tough TPU (polyurethane) jacket.

Standard Construction

SHD-GC 5kV

- 1. Flex-Strand Conductors**
Cabled and Layered in Alternating Directions of Lay
- 2. Conductor Shield**
Semi-Conducting Layer
- 3. Insulation**
90°C Ethylene Propylene Rubber (EPR)
- 4. Grounding Conductors**
Flexible Tinned Copper
- 5. Ground Check Conductor**
Poly-propylene (PP)
- 6. Non-conducting bedding tape**
- 7. Insulation Shield**
Composite Tinned Copper/Fiber Braid
ICEA - Black White Red
CSA - Black Blue Red
- 8. Binder Tape**
Single Faced Rubber Filled
- 9. Reinforcing Braid**
- 10. Extra-Heavy Duty Jacket**
NEOPRENE (NEO)



The diagram shows a cross-section of a cable with the following layers from the center outwards:

- Flex-Strand Conductors
- Conductor Shield
- Insulation
- Grounding Conductors
- Ground Check Conductor
- Non-conducting bedding tape
- Insulation Shield
- Binder Tape
- Reinforcing Braid
- Extra-Heavy Duty Jacket

The cable is labeled "TF Kable" on the jacket.

SHD-GC 2kV, 8kV-25kV construction elements will differ. Please refer to the cable specification for details.

KEY FEATURES

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Long term experience of manufacturing demonstrates a proven track record of manufacturing products for underground and surface mine applications. This has generated the ability to develop and produce a very extensive range of mining cables that provide the following features.

- **FLEXIBILITY:** Excellent flexibility and torsion resistance due to superior construction and applied materials – Tinned and Rope lay conductors and pure integral filling.
- **WORKING SAFETY:** Maximum working safety due to applying individual shielding and minimizing induction of mutual electromotive forces.
- **DURABILITY:** Excellent abrasion, compression, tear and flame resistance.
- **MECHANICAL:** High Dielectric strength, excellent resistivity, excellent resistance to flame (low flammability), good elongation capability, low flexural modulus, excellent resistance to water absorption, oils and fuels.



KEY FEATURES

MINING CABLE TYPES

 <p>TF Kable</p>	<p>Industrial Portable Power Cable 2kV Multi conductor W 90°C 2kV (UL) C(UL) MSHA</p>
 <p>TF Kable</p>	<p>Industrial Portable Power Cable 2kV Multi conductor G 90°C (UL) C(UL) MSHA</p>
 <p>TF Kable</p>	<p>Industrial Portable Power Cable 2kV Multi conductor G-GC 90°C (UL) C(UL) MSHA</p>
 <p>TF Kable</p>	<p>Mining Portable Power Cable 2kV G-GC 90°C (UL) C(UL) MSHA</p>
 <p>TF Kable</p>	<p>Shielded Mining Portable Power Cable SHD-GC SHD-PGC 90°C MSHA CSA</p>
 <p>TF Kable</p>	<p>Mine Power Feeder Cable MP-GC 90°C MSHA</p>

REGULATORY APPROVALS

MSHA	Mine Safety & Health Administration USA	W, G, G-GC, SHD-GC, MP-GC
UL	Underwriter's Laboratories USA	W, G, G-GC
c(UL)	Canadian Underwriter's Laboratorie USA	W, G, G-GC
CSA	Canadian Standards Association Canada	W, G, G-GC, SHD-GC, MP-GC

THE LEADER IN MINING CABLE QUALITY AND PERFORMANCE

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Chloroprene (Neoprene) or Chlorinated Polyethylene (CPE) and TPU colored jackets have the same physical properties as the black jackets with added visibility for mine applications. The jackets meet and often exceed the requirements of extra heavy or heavy duty cross linked jackets of ICEA S-75-381 WC 58-1991.

Available Colors:

Red, Yellow, Green, Orange/silver reflective tape (clear TPU version only), Blue, and Black

- **Couplers** A range of couplers are stocked for shovel, drill and dragline applications (up to 25kV)
- **Molded Pot Heads**
- **Installations**

TELE-FONIKA in cooperation with its network of partnerships spread nationwide offers a full line of cable stock, cable couplers, pot heads, and other accessories. Combined with the ability to offer cable repairs along with first hand engineering support, **TELE-FONIKA Cable AMERICAS BECOMES THE TURN KEY CHOICE FOR MINING CABLES.**



MINING CABLE APPLICATIONS

Extra heavy duty, outer jackets have exceeded their performance in the most severe mining conditions throughout the world. Europe, North/South America, Australia, and Asia are some of the key regions that have found TF to be the industry standard for the most stringent mining applications.

UNDERGROUND MINES		SURFACE MINES	
Primary Application Usages / Cable Recommendations		Primary Application Usages / Cable Recommendations	
Shuttle Car	TYPE W ROUND 4/C 2kV; TYPE G-GC ROUND 3/C 2kV	Dragline	SHD-GC 3/C NEOPRENE 8kV; SHD-GC 3/C TPU 8kV; SHD-GC 3/C NEOPRENE 15kV; SHD-GC 3/C TPU 15kV; SHD-GC 3/C NEOPRENE 25kV; SHD-GC 3/C TPU 25kV
Continuous Miner	TYPE W ROUND 4/C 2kV; TYPE G-GC ROUND 3/C 2kV; SHD-CGC 3/C 2kV; SHD-CGC 3/C 5kV; SHD FLAT 3/C 2kV; SHD-GC 3/C 5kV	Shuttle Car	TYPE W ROUND 4/C 2kV; TYPE G-GC ROUND 3/C 2kV
Longwall Miner	SHD-GC 3/C 2kV; SHD-PCG LONGWALL 2kV, 5kV; SHD-CGC 3/C 2kV; SHD-CGC 3/C 5kV; SHD-GC 3/C 5kV	Continous Miner	SHD-GC 3/C NEOPRENE 2kV; SHD-GC 3/C TPU 2kV; SHD-GC 3/C NEOPRENE 5kV; SHD-GC 3/C TPU 5kV; TYPE W ROUND 4/C 2kV; TYPE G-GC ROUND 3/C 2kV
Pumps	TYPE W ROUND 4/C 2kV; TYPE G-GC ROUND 3/C 2kV; SHD-GC 3/C 2kV	Longwall Mining Equipment (Shearers, Conveyors, Crushers, Stageloaders)	SHD-GC 3/C NEOPRENE 2kV; SHD-GC 3/C TPU 2kV; SHD-GC 3/C NEOPRENE 5kV; SHD-GC 3/C TPU 5kV
Roof Bolter	ROUND 3/C 2kV; SHD-GC 3/C 2kV	Blast Hole Driller	SHD-GC 3/C NEOPRENE 2kV; SHD-GC 3/C TPU 2kV; SHD-GC 3/C NEOPRENE 5kV; SHD-GC 3/C TPU 5kV; SHD-GC 3/C NEOPRENE 8kV; SHD-GC 3/C TPU 8kV; TYPE W ROUND 4/C 2kV; TYPE G-GC ROUND 3/C 2kV
Mine Power Feeder Vertical	MP-GC 3/C EPR/CPE 5-kV15kV	Loading Machines	SHD-GC 3/C NEOPRENE 5kV; SHD-GC 3/C TPU 5kV; SHD-GC 3/C NEOPRENE 8kV; SHD-GC 3/C TPU 8kV; SHD-GC 3/C NEOPRENE 15kV; SHD-GC 3/C TPU 15kV
Mine Power Feeder Horizontal	MP-GC 3/C XLPE/PVC 5kV-15kV	Pumps	SHD-GC 3/C NEOPRENE 2kV; SHD-GC 3/C TPU 2kV; TYPE W ROUND 4/C 2kV; TYPE G-GC ROUND 3/C 2kV
Boring Machine	MP-GC 3/C EPR/CPE 5KV-15kV; MP-GC 3/C XLPE/PVC 5KV-15kV	Roof Bolter	SHD-GC 3/C NEOPRENE 2kV; SHD-GC 3/C TPU 2kV

MINING CABLE APPLICATIONS

REELING Cable Type	Reeling Applications
SHD-GC NEOPRENE, CPE TYPE G-GC 3/C 2kV, TYPE W 3/C & 4/C 2kV	Monspiral Level Wind Random Wind Reeler On Gantry Cranes, Container Cranes, Log Handling Cranes, Stacker/Reclaimers Ports, Shipyards, Lumber Mills, Steel Mills, Mines

TELE-FONIKA STRENGTHS

- **Warehousing and Global Product Reach (Covering Virtually Every Continent)**
Short delivery time from factories / Global facilities / Stock on demand
- **Flexibility and Special Arrangements for Long Term Contracts**
Pricing / Quality / Value
- **Widely Diversified Cable Range**
25,000 different types of cable constructions with various mining cable jacket types
- **Advanced Technology/ R&D and Constant Cost Reduction Initiatives**
- **TFKable Value Promise**
HV cable systems / Mining cable terminations and accessory supply / Terminating and kitting / Stock on hand

The information contained in this document, including the tables and drawings, are provided for illustrative purposes only and not a commercial offer; nor may it constitute the basis for pursuing any claim against TELE-FONIKA Kable S.A. The suitability of any product including properties, should be made by a qualified person; having already gained the appropriate permissions and documentation, to ensure compliance with any applicable law or regulation.

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