安徽飞纯特种电缆有限公司

ANHUI FEICHUN SPECIAL CABLE CO., LTD.

TECHNICAL SPECIFICATION

Revision: 2025

TYPE SHD-GC MINING CABLE

SELF-SUFFICIENT LEDS FOR VISUAL CONTROL

Three Conductor Round Portable Cables with Grounding Conductors, Ground Check, and Transparent TPU Jacket

6/10 kV

FEATURED SPECIFICATION

8kV 3×3/0 + 1×2/0 + 1×4 AWG

VOLTAGE RATING 8,000 V	POWER CONDUCTORS 3 × 3/0 AWG
GROUNDING CONDUCTOR 1 × 2/0 AWG	GROUND CHECK 1 × 4 AWG
OUTSIDE DIAMETER 77.89 mm	APPROX. WEIGHT 8,101 kg/km

PRODUCT OVERVIEW

Designed for rugged mining environments, this Heavy-Duty SHD-GC Mining Cable with LED Indicators delivers exceptional durability, flexibility, and safety. It features tinned copper conductors, EPR insulation, and an extra-heavy-duty TPU jacket, providing superior resistance to moisture, chemicals, abrasion, and extreme temperatures. The built-in self-sufficient LED indicators enhance visibility in dark conditions, preventing accidental damage and ensuring continuous operation. With voltages from 2 kV to 25 kV, this cable is ideal for both underground and open-pit mining applications, offering maximum reliability and protection for mining equipment and personnel.

CABLE CONSTRUCTION



1. **Flexible Tinned Copper Conductors**
   Soft and flexible copper wires with a tin coating to improve durability and conductivity
2. **Extruded Conductor Shielding**
   A protective layer around the conductor to enhance electrical performance and safety
3. **EPR (Ethylene-Propylene Rubber) Insulation**
   High-quality rubber insulation in natural color, offering flexibility and resistance to heat and chemicals
4. **Extruded Insulation Shielding**
   Additional layer over insulation to improve electrical shielding and safety

5

Copper & Textile Braid Shield

Combination of tinned copper and colored textile braid surrounding each phase conductor for extra protection and interference reduction

6

Flexible Bare Copper Conductor

Soft, tinned, and uncoated copper strands to ensure good electrical performance and flexibility

7

Yellow XLP Ground Check Conductor

Cross-linked polyethylene insulated ground conductor with yellow color for easy identification and extra durability

8

Stranded Uninsulated Tinned Copper

Multiple strands of tinned copper wire without insulation, used for grounding

9

Unified Grounding Braid

Tinned copper braid that connects the phase conductor shields and LED devices for better grounding

10

Self-Sufficient LED Indicators

Built-in LED lights serving as visual indicators for monitoring the cable's status

11

Internal Circular PVC Layer

Transparent and flexible PVC layer that helps maintain the cable's round shape

12

Mylar Tape

Thin protective layer that adds insulation and shields against interference

13

Transparent TPU Outer Jacket

Durable, flexible, and transparent thermoplastic polyurethane covering for overall protection and visibility

KEY PROPERTIES

- Highly reliable – Built for long-lasting performance
- Low moisture absorption – Resists water and humidity
- Flexible conductors – Easy to handle and install
- Superior flexibility – Adapts well to movement and bending
- Acid and alkaline resistance – Withstands harsh chemicals
- High-temperature resistance – Operates safely in extreme heat
- Impact and abrasion resistance – Handles rough use
- Moisture and flame resistance – Reduces fire hazards
- Strong tensile strength – Resists stretching forces
- Sunlight and oil resistance – Outdoor performance
- Compression resistance – Maintains shape under pressure
- Ozone and tear resistance – Environmental protection

SPECIAL FEATURES

EXTRA HEAVY-DUTY TPU JACKET

Provides maximum durability and safety for operators, making it suitable for both underground and open-pit mining applications.

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TRANSPARENT TPU COMPOUND

Allows clear visibility of built-in LED indicators. High-clarity TPU material prevents fading even under strong sunlight, keeping visibility high.

SELF-SUFFICIENT LED INDICATORS

- Help prevent cable damage by alerting workers to its location
- Reduce the risk of electrical interruptions caused by moving equipment
- Improve safety in dark environments by making the cable easy to spot
- Do not require extra wiring when connecting plugs or joints
- Maximum efficiency for monitoring SHD-GC cables in low-light conditions

TECHNICAL SPECIFICATIONS

POWER CONDUCTOR SPECIFICATIONS

VOLTAGE (V)	CALIBRE (AWG/KCMIL)	CONDUCTOR SIZE (MM^2)	POWER CONDUCTORS	CONDUCTOR Ø (MM)
5,000	4/0	107.2	3	14.77
8,000	2/0	67.43	3	11.62
8,000	**3/0**	**85.01**	**3**	**13.09**
8,000	4/0	107.2	3	14.77
15,000	2/0	67.43	3	11.62

VOLTAGE (V)	CALIBRE (AWG/KCMIL)	CONDUCTOR SIZE (MM^2)	POWER CONDUCTORS	CONDUCTOR Ø (MM)
15,000	4/0	107.2	3	14.77

INSULATION SPECIFICATIONS

VOLTAGE (V)	CALIBRE (AWG/KCMIL)	INSULATION THICKNESS (MM)	INSULATION Ø (MM)
5,000	4/0	2.86	21.55
8,000	2/0	3.90	20.48
8,000	**3/0**	**3.90**	**21.95**
8,000	4/0	3.90	23.25
15,000	2/0	5.46	23.59
15,000	4/0	5.46	26.75

GROUNDING CONDUCTOR SPECIFICATIONS

VOLTAGE (V)	CALIBRE (AWG/KCMIL)	GROUND CONDUCTORS	GROUND SIZE (AWG)	GROUND AREA (MM^2)
5,000	4/0	2	1	42.40
8,000	2/0	2	3	26.70
8,000	**3/0**	**2**	**2**	**33.60**
8,000	4/0	2	1	42.40
15,000	2/0	2	3	26.70
15,000	4/0	2	1	42.40

GROUND CHECK & OVERALL DIMENSIONS

VOLTAGE (V)	CALIBRE (AWG/KCMIL)	GROUND CHECK (AWG)	GROUND CHECK Ø (MM)	OUTSIDE Ø (MM)	WEIGHT (KG/KM)	PACKING
5,000	4/0	6	5.14	76.05	8,402	REEL
8,000	2/0	4	6.49	74.86	7,080	REEL
8,000	**3/0**	**4**	**6.49**	**77.89**	**8,101**	**REEL**
8,000	4/0	4	6.49	80.43	9,117	REEL
15,000	2/0	4	6.49	80.34	7,870	REEL
15,000	4/0	4	6.49	87.28	10,216	REEL

STANDARDS & COMPLIANCE

STANDARD

ICEA S-75-381

CSA STANDARD

CSA C22.2 No. 96

CSA CERTIFICATION

CSA 1365588

INSTALLATION TYPE

Visible (On-Ground)

TEMPERATURE RATINGS

NORMAL OPERATION

90°C

OVERLOAD CONDITIONS

130°C

SHORT CIRCUIT

250°C

MATERIAL COMPOSITION

INSULATION COMPOUND

Ethylene-Propylene Rubber (EPR)

JACKET COMPOUND

Thermoplastic Polyurethane (TPU)

VOLTAGE OPTIONS

2 kV, 5 kV, 8 kV, 15 kV, 25 kV

ORDERING INFORMATION

TO PLACE AN ORDER, PLEASE SPECIFY:

- Cable type (Round SHD-GC)
- Conductor size
- TPU jacket type
- Voltage rating
- Self-Sufficient LED indicators
- Required cable length (in feet)

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