

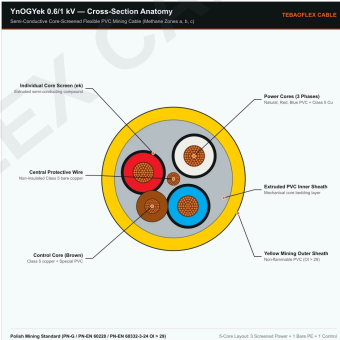
YnOGYek 0.6/1 kV Semi-Conductive Screened Flexible PVC Mining Cable

YnOGYek 0.6/1 kV is a Polish standard individually screened 5-core flexible PVC mining cable designed for auxiliary face equipment, drilling jumbos, pumps, and gate-end control circuits operating in gassy underground coal mines classified under methane hazard classes a, b, and c and coal-dust explosion classes A, B, and C.

1. CABLE CONSTRUCTION

1. Power & Control Conductors	Flexible multi-wire bare annealed copper conductors to PN-EN 60228 Class 5 (3 × 2.5–10 mm² power cores + 1 × 2.5–6 mm² control core).
2. Central Protective Conductor	Non-insulated stranded bare copper protective earth conductor (2.5–10 mm²) positioned at the geometric center of the core assembly.
3. Core Insulation & Identification	Special mining-grade PVC insulation; Power cores identified as Natural, Red, and Blue; Control core identified in Brown.
4. Individual Phase Screens (ek)	Conductive semi-conducting compound extruded concentrically over each insulated power core to capture incipient insulation fault current and equalize radial electric stress.
5. Core Stranding & Inner Sheath	Three screened power cores and one control core helically stranded in direct contact around the central bare copper protective wire, enclosed by an extruded PVC inner sheath.
6. Outer Sheath	Yellow special non-flammable PVC outer sheath with Oxygen Index OI > 29, compliant with PN-EN 60332-1 and PN-EN 60332-3-24 (IEC 60332-3) bundled flame propagation tests.

Cross-Section Anatomy



YnOGYek 0.6/1 kV Cross-Section (5-Core):
Three Class 5 bare copper power cores (Natural, Red, Blue) individually screened with extruded semi-conducting compound plus one brown control core laid around a central non-insulated bare copper protective conductor inside a yellow OI > 29 PVC outer sheath.

2. ELECTRICAL, MECHANICAL & FLAME-RETARDANT DATA

Cable Type Designation	YnOGYek 0.6/1 kV (Semi-Conductive Core-Screened Flexible Mining Cable)
Rated Voltage (Uo/U)	0.6/1 kV (600/1000 V AC)
Routine AC Test Voltage	3.2 kV for power cores 2.0 kV for brown control core
Conductor & PE Architecture	PN-EN 60228 Class 5 bare copper + central non-insulated bare copper earth
Operating Temperature Range	-30°C to +70°C continuous operation
Max. Short-Circuit Temperature	+160°C (5-second short-circuit thermal limit)
Minimum Bending Radius	6 × Overall Diameter (fixed installation) 10 × Overall Diameter (movable duty)
Flame Retardancy & Oxygen Index	Oxygen Index OI > 29; tested to PN-EN 60332-1 and PN-EN 60332-3-24 / IEC 60332-3
Approved Hazardous Mine Zones	Open-pit, strip, and underground mines with or without methane hazard (classes a, b, c) and coal-dust hazard (classes A, B, C)

3. DIMENSIONAL, WEIGHT & ELECTRICAL SPECIFICATIONS

Table 1 — YnOGYek 5-Core (3 Screened Power + 1 Bare Central PE + 1 Control) Dimensions & Weight					
Part Construction (mm²)	Screened Power Cores (n × mm²)	Central Bare Cu PE (mm²)	Control Core (mm²)	Approx. Outer Diameter (mm)	Approx. Cable Weight (kg/km)

3x2.5+2.5+2.5	3 × 2.5	2.5	1 × 2.5	20.2	535
3x4+4+4	3 × 4	4	1 × 4	21.7	660
3x6+6+4	3 × 6	6	1 × 4	24.4	850
3x10+10+6	3 × 10	10	1 × 6	27.7	1150

Table 2 — YnOGYek Phase Electrical Parameters, Capacitance & Current Capacity					
Power Core Cross-Section (mm²)	Max. DC Resistance at 20°C (Ω/km)*	Inductive Reactance at 50 Hz (Ω/km)	Phase Inductivity (mH/km)	Phase Capacitance (µF/km)	Current-Carrying Capacity (A)
2.5	7.98	0.124	0.38	0.42	26
4	4.95	0.114	0.36	0.55	34
6	3.30	0.110	0.35	0.57	45
10	1.91	0.104	0.33	0.62	62

***DC Resistance & Leakage Relay Note:** Maximum DC conductor resistance at 20°C conforms to **PN-EN 60228 Class 5**. Use the published phase capacitance (0.42–0.62 µF/km) when setting capacitive earth-fault compensation on Polish/Czech IT underground mine networks.