EpN 78/53 Heavy-Duty Mining Cable

Professional Grade EPR Insulated Power Cable for Extreme Industrial Conditions

6/10 kV
NOMINAL VOLTAGE

+90°C
MAX OPERATING TEMP

EPR + CR
INSULATION TYPE

Class 5
CONDUCTOR CLASS

Technical Specifications

Compliance Standards

Primary Standards: SRPS N.C5.374, DIN VDE 0250 Part 813
Conductor Standard: SRPS N.C0.015 (IEC 60228)
Insulation Standard: SRPS N.C0.190

Electrical Characteristics

PARAMETER	3.6/6 KV VERSION	6/10 KV VERSION	NOTES
Nominal Voltage (U0/U)	3.6/6 kV	6/10 kV	Phase-to-earth/Phase-to-phase

Test Voltage	11 kV	17 kV	AC test voltage
Max Operating Temperature	+90°C	+90°C	Continuous operation
Short Circuit Temperature	+250°C	+250°C	Maximum 5 seconds

Environmental Operating Ranges

INSTALLATION TYPE	MINIMUM TEMPERATURE	MAXIMUM TEMPERATURE	APPLICATION
Mobile Installation	-25°C	+40°C	Excavators, cranes, mobile equipment
Fixed Installation	-30°C	+40°C	Permanent installations, underground

Cable Construction Details

Main Conductor

Material: Tinned copper conductor, Class 5 flexibility
Standard: SRPS N.C0.015 (IEC 60228)
Configuration: 3 power cores with fine wire stranding for maximum flexibility

Insulation System

Primary Insulation: EPR rubber (GI3) compound
Semi-Conductive Layers: Rubber compound/tape around each core
Screen: Tinned copper wire braid for electromagnetic protection

Control & Protection

Command-Control Conductor: Tinned copper Class 5 with EPR insulation
Protective Conductors: 2 cores in intermediate spaces

Sheath System

Inner Sheath: Synthetic rubber (GP2) compound
Outer Sheath: Polychloroprene CR (Neoprene) in red color

Earth Protection: Integrated grounding system

Properties: Oil resistant, flame retardant, abrasion resistant

Installation Note: Minimum bending radius is 12D (where D = cable diameter). Exceeding this specification may damage internal conductors and void warranty.

Available Configurations

CONSTRUCTION (MM^2)	6/10 KV DIAMETER (MM)	6/10 KV WEIGHT (KG/KM)	3.6/6 KV DIAMETER (MM)	3.6/6 KV WEIGHT (KG/KM)	COPPER CONTENT (KG/KM)
3×16+2×6+10	34.4	2426	31.0	1845	672
3×25+2×10+10	36.8	2810	33.0	2129	825
3×35+2×10+10	39.4	3145	35.7	2414	957
3×35+2×16+10	41.2	3366	37.6	2619	1071
3×50+2×16+16	44.5	3934	40.5	3057	1236
3×50+2×25+10	45.7	4150	41.6	3244	1347
3×50+2×25+16	47.5	4465	43.2	3520	1395
3×70+2×35+16	52.0	5447	47.9	4493	1674

Industrial Applications

✓ Surface mining operations and pit excavation

✓ Heavy excavators and earth-moving equipment

✓ Industrial cranes and lifting machinery

✓ Shipyard power distribution systems

- ✓ Quarry and stone processing facilities
- ✓ Steel mills and metallurgical plants
- ✓ Port and harbor heavy machinery
- ✓ Construction site temporary power
- ✓ Oil and gas drilling platforms
- ✓ Underground mining equipment

Performance Characteristics

Fire Safety & Chemical Resistance

PROPERTY	STANDARD	PERFORMANCE LEVEL
Flame Retardancy	IEC 60332-1	Single cable vertical flame test compliant
Oil Resistance	DIN VDE 0472-803, Method A	Resistant to mineral oils and hydraulic fluids
Abrasion Resistance	SRPS N.C0.190	GP7 grade compound for heavy-duty applications

Designation Code Explanation

EpN 78/53 Breakdown:

- **Ep:** EPR (Ethylene Propylene Rubber) insulation
- **N:** Polychloroprene (CR Neoprene) outer sheath
- **78:** Rubber core with semi-conductive layers, protective cores in intermediate spaces, inner rubber sheath
- **53:** Metallic braid screen around each core with inner rubber sheath