ANHUI FEICHUN SPECIAL CABLE CO., LTD.
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RUSSIAN GOST STANDARD INDUSTRIAL POWER · MINING & ENERGY DISTRIBUTION CABLE SPECIALIST · WWW.FEICHUNCABLES.COM

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CLASS Product Data Sheet | КГЭ-ХЛ · КГЭШ · КГ-ХЛ · КСПЭВ
STANDARDS GOST 11326.0-78 | GOST 11326.4 | IEC 60228 | DIN VDE 0298

✦ FEICHUN GOST INDUSTRIAL CABLE PRODUCT DATA SHEET

GOST Russian Industrial Power Cable PDS

КГЭ-ХЛ Shielded & Cold-Resistant · КГЭШ Underground Mining · КГ-ХЛ Standard Flexible · КСПЭВ Data/Control
Multiple Voltage Grades · GOST & IEC Dual Compliance · Extended Temperature Range

Feichun Engineering Cables · EAEU/Russian Export · tech@feichuncables.com

GOST STANDARD CABLE FAMILY — INDUSTRIAL POWER DISTRIBUTION & MINING APPLICATIONS

КГЭ-ХЛ (6 kV/0.66 kV) · КГЭШ (1.14 kV) · КГ-ХЛ (0.66 kV) · КСПЭВ (Data/Control)

Comprehensive product reference for Russian Federation and EAEU market industrial power cables: the **КГЭ-ХЛ** (cold-resistant shielded flexible rubber cable for medium-voltage mining equipment and open-pit excavator power distribution), the **КГЭШ** (underground mining machine 1.14 kV shielded flexible cable with integrated control and monitoring conductors for coal mining operations), the **КГ-ХЛ** (general-purpose cold-resistant unshielded flexible cable for switchgear and motor feeds), and the **КСПЭВ** (flexible communication and control cable for auxiliary control and safety signalling in industrial installations). All variants comply with GOST 11326.0-78 and deliver compliance certification upon request.

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FC КГЭ-ХЛ 6kV/0.66kV · КГЭШ 1.14kV Mining · КГ-ХЛ 0.66kV · КСПЭВ Control · GOST 11326.0-78 · IEC 60228 · Cold-Resistant Flexible Rubber

КГЭ-ХЛ — COLD-RESISTANT SHIELDED FLEXIBLE RUBBER CABLE · 6 kV / 0.66 kV

1A — КГЭ-ХЛ: OPEN-PIT MINING & EXCAVATOR POWER DISTRIBUTION

КГЭ-ХЛ — SHIELDED, COLD-RESISTANT FLEXIBLE RUBBER CABLE · GOST 11326.0-78 · ДЛЯ ОТКРЫТЫХ ГОРНЫХ РАБОТ И МНОГОКОНЦЕВЫХ КАБЕЛЕЙ

КГЭ-ХЛ (Кабель Гибкий Экранированный Хладостойкий) is the premier choice for high-voltage power delivery to large mobile equipment in open-pit mining operations and dragline excavator installations. The cable is engineered to withstand the extremes of outdoor deployment across the Russian Far East and Siberian regions, where ambient temperatures reach −60 °C. The designation breaks down as: **КГ** — flexible rubber-insulated conductor cable; **Э** — shielded (with semi-conductive rubber screen); **ХЛ** — cold-resistant (frost-resistant elastomer compound throughout). Available in dual voltage ratings: **6 kV** for main power circuits and **0.66 kV (LV)** for auxiliary switchgear feeds, the КГЭ-ХЛ construction combines three heavy-gauge phase conductors (35, 50, 70, or 95 mm² typical) plus one oversized neutral/earth conductor matched to circuit protection requirements.

6 kV & 0.66 kV (U₀/U) | GOST 11326.0-78 | ХЛ −60°C Min



КГЭ-ХЛ · Ø 46–73 mm
3 Phase + PE · Shielded

КГЭ-ХЛ 6 KV & 0.66 KV — REPRESENTATIVE SPECIFICATIONS	
Voltage grade	6 kV & 0.66 kV (standard)
Conductor count & sizing	3×35–3×150 mm² phase + PE
Conductor material	Copper (bare or tinned)
Insulation & sheath	Cold-resistant rubber + shield
Outer diameter range	43–73 mm (dependent on config)
Min. bending radius	10 × OD (mobile, dynamic)
Operating temperature	−60 °C to +60 °C (ХЛ certified)
Compliance	GOST 11326.0-78 / IEC 60228

КГ-ХЛ — GENERAL-PURPOSE COLD-RESISTANT FLEXIBLE CABLE · 0.66 kV UNSHIELDED

2A — КГ-ХЛ: SWITCHGEAR & GENERAL INDUSTRIAL FEEDS

КГ-ХЛ — STANDARD FLEXIBLE RUBBER CABLE, UNSHIELDED · GOST 11326.0-78 · БЮДЖЕТНАЯ ОПЦИЯ

The **КГ-ХЛ** (Кабель Гибкий Хладостойкий) represents the cost-optimized choice for general industrial switchgear applications requiring reliable operation across the extended temperature envelope of Russian winter conditions. Identical to the КГЭ-ХЛ in conductor count and rubber composition, the КГ-ХЛ omits the semi-conductive shielding layer, making it suitable for lower-voltage 0.66 kV circuits where shielding is not mandated by proximity to higher-voltage conductors or sensitive instrumentation. The omission of the shield yields measurable cost reduction, making КГ-ХЛ the standard specification for main switchboard feeds, motor branch circuits, and heating element connections in substations and industrial plants across northern Russia and Kazakhstan.

0.66 kV (U₀/U) | GOST 11326.0-78
Unshielded · Cost Effective



КГ-ХЛ · Ø 10.5–12 mm
3 Phase + PE · Unshielded

КГ-ХЛ 0.66 KV — PHYSICAL & ELECTRICAL	
Conductor config	3×1.5 mm² + 1×1.5 mm² (standard)
Insulation type	Cold-resistant rubber (ХЛ)
Outer diameter	10.5 – 12.0 mm
Copper weight	~58 kg/km
Total cable weight	~210 kg/km
Ampacity (30 °C, free air)	18 A
Min. bending radius (fixed)	5 × OD ≈ 60 mm
Operating temperature	−60 °C to +60 °C

⚠ КГ-ХЛ SELECTION NOTE — WHEN SHIELDING IS NOT REQUIRED

КСПЭВ — INDUSTRIAL CONTROL & COMMUNICATION CABLE · FLEXIBLE INSTALLATION

3A — КСПЭВ: DATA, SIGNAL & LOW-POWER CONTROL

КСПЭВ — INSTALLATION FLEXIBLE CABLE · PVC INSULATION & SHEATH · СЛАБЫЙ ТОК СИГНАЛЫ

The **КСПЭВ** (Кабель Слаботочный ПВЦ Экранированный Витая Пара) serves as the industrial-grade signal and control cable for safety signalling, sensor networks, and low-power instrumentation within mining and power plants. Available in multi-pair configurations with aluminium-polyester foil shielding, it provides rejection of electromagnetic interference from high-voltage power switchgear and machinery. The PVC insulation and outer jacket are optimized for indoor installation where exposure to direct sunlight and extreme temperature swings are not primary concerns. Typical configurations include 4 × 0.5 mm² twisted pair with overall shield for alarm circuits and 2 × 0.5 mm² pairs for dedicated communication links between local control stations and remote sensor nodes.



КСПЭВ · Ø 4.8–5.5 mm
Twisted Pairs · Foil Shield

КСПЭВ SIGNAL CABLE — TYPICAL SPECIFICATION	
Conductor configuration	4 × 0.5 mm² (TP), or 2 × 0.5 mm² (single pair)
Insulation material	PVC (Polyvinyl Chloride)
Shielding	Al-PET foil + drain wire
Outer jacket	PVC — Grey/Black standard
Outer diameter	4.8 – 5.5 mm
Copper weight	~19.2 kg/km
Total cable weight	~32 kg/km
DC loop resistance	≤ 36 Ω/km
Electrical capacity	~100 pF/m (typical)
Max. operating current	2 A per conductor (safety margin)
Installation temperature	0 °C to +50 °C

КГЭ-ХЛ — AMPACITY REFERENCE (25 °C AIR, SINGLE CABLE)

CONFIG	VOLTAGE	OD (MM)	CU WT (KG/KM)	CABLE WT (KG/KM)	AMPACITY (A)
3×35+1×16	0.66 kV	38.0	1160	~1950	145 A
3×50+1×16	0.66 kV	42.0	1590	~2450	185 A
3×35+1×16	6 kV	43.0	1160	~2900	150 A
3×50+1×16	6 kV	46.0	1590	~3500	185 A
3×70+1×25	6 kV	50.0	2250	~4550	230 A
3×150+1×50	6 kV	73.0	4800	~8200	365 A

КГЭШ — UNDERGROUND MINING 1.14 KV SHIELDED CABLE · INTEGRATED CONTROL & MONITORING

1B — КГЭШ: DEEP MINING & MECHANISED EXTRACTION

КГЭШ — ШАХТНЫЙ CABLE (MINE-RATED) · ДЛЯ ДОБЫЧИ УГЛЯ И РУДЫ · 1.14 KV WITH CONTROL CORES

The **КГЭШ** (Кабель Гибкий Экранированный Шахтный) is purpose-engineered for deployment in underground coal mines and ore extraction operations where methane/dust explosion hazards demand rigorous design. The **Ш** designation signifies mine-rated (*шахтный*) construction, which requires special flammability testing, conductive inner and outer sheaths, and integrated monitoring conductors for real-time insulation fault detection. The 1.14 kV nominal voltage (1140 V) is standardised across Soviet-era and modern Russian mining operations, matching the transformer secondary voltage at the pit-head power distribution station. Standard configurations pair three heavy power conductors (typically 4–120 mm²) with one or more ground-return and monitoring conductors, providing both circuit ampacity and safety signalling for permissive cutting machine operation.

КГЭШ 1.14 KV — UNDERGROUND MINING CABLE SPECIFICATIONS & AMPACITY

CONFIG	OD (MM)	CU WT (KG/KM)	CABLE WT (KG/KM)	AMPACITY (A)
3×4+1×2.5	20.0	139	~650	38 A
3×10+1×6	25.0	345	~1150	65 A
3×25+1×10	33.0	816	~2100	115 A
3×50+1×10	41.0	1536	~3400	185 A
3×120+1×35	56.0	3792	~6800	325 A

The unshielded КГ-ХЛ is satisfactory for 0.66 kV industrial branch circuits where the cable does not run in parallel with high-voltage (6–35 kV) power conductors or sensitive data/control lines over extended distances. In mixed-voltage environments (common in large mining substations), specify the КГЭ-ХЛ shielded variant instead to prevent capacitive coupling interference. The 18 A base ampacity applies to single-cable conditions; apply appropriate derating (0.70–0.80) when multiple cables are grouped in cable trays or conduit bundles per GOST standards.

MASTER VOLTAGE & APPLICATION REFERENCE

CABLE FAMILY	VOLTAGE	PRIMARY USE	CORE COUNT	TYPICAL CONFIG RANGE
КГЭ-ХЛ	6 kV / 0.66 kV	Open-pit mining equipment; excavators; LV aux feeds	3+1	35–150 mm²
КГЭШ	1.14 kV	Underground coal/ore mining; cutting machines	3+1 to 3+3	4–120 mm²
КГ-ХЛ	0.66 kV	Industrial switchgear; motor feeds; unshielded circuits	3+1	1.5–35 mm²

All variants comply with GOST 11326.0-78 and are cold-resistant (ХЛ) certified to −60 °C minimum. Ampacity figures assume 25 °C ambient single-cable installation; apply derating for grouped cables (0.70–0.80) and elevated ambient temperatures per GOST 11326.4.

APPLICATION — SAFETY INTERLOCKS, ALARM CIRCUITS, SENSOR BUS

КСПЭВ is specified for mine-to-surface safety signalling (permit-to-operate circuits for powered cutting machines and haulage systems), temperature and pressure sensor reporting networks, pump and compressor status monitoring, and emergency shutdown signal distribution. The foil shield, when properly grounded at the source end, attenuates 50/60 Hz power-line frequency interference and VHF industrial radio transmissions common in mining installations. Maximum cable run length is typically 500 m per GOST, beyond which repeater amplifiers or fibre-optic transition stations are employed.

GOST STANDARDS & COMPLIANCE FRAMEWORK

- **GOST 11326.0-78:** General Technical Specifications for High-Frequency Coaxial Cable (РК series) — Establishes nominal dimensions, conductor geometry, impedance tolerance, dielectric consistency, and electrical loss parameters for the primary cable families. This standard forms the baseline for all КГ, КГЭ, and КГЭ-ХЛ variants supplied to the EAEU market.
- **GOST 11326.4:** Supplementary specification governing the electrical and mechanical behaviour of flexible shielded cables under dynamic bending and abrasion conditions typical of mine-haulage and surface-mobile-equipment deployment. Mandates periodic bend-testing protocols to ensure braid coverage and insulation integrity after repeated flexing cycles.
- **Cold-Resistance (ХЛ) Certification:** All ХЛ-designated cables undergo low-temperature impact and flexibility testing at −60 °C to confirm that insulation and jacket materials remain pliable and do not develop micro-cracks or loss of electrical properties. This testing is critical for polar and Siberian operations where ambient temperatures routinely drop below −40 °C.
- **Mining Equipment Approvals:** КГЭШ cables designated for underground mining operations must additionally comply with mining-specific flammability standards (non-halogens, smoke limitations) and carry burn-rate certification from authorized Russian mining safety inspection bodies.

SPECIFICATIONS, ORDERING & TECHNICAL SUPPORT

Complete cable designation must specify voltage grade, conductor sizing, sheath colour (where applicable), and desired coil/drum length. Examples:

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КГЭ-ХЛ 3×70+1×25 6 kV, 100 m coil, bare copper
КГЭШ 3×25+1×10 1.14 kV, 50 m drum, tinned conductor
КГ-ХЛ 3×1.5+1×1.5 0.66 kV, 500 m drum
КСПЭВ 4×0.5 signal, 300 m spool
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GOST 11326.0-78 compliance certificates available upon request at time of order. Lead times 2–4 weeks for bulk orders. Custom voltage grades and conductor counts available per OEM engineering consultation.

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КГЭ-ХЛ 6 kV · КГЭ-ХЛ 0.66 kV · КГЭШ 1.14 kV · КГ-ХЛ 0.66 kV · КСПЭВ Signal · GOST 11326.0-78 · Cold-Resistant ХЛ · Mining Approved · EAEU Certified

All data nominal, subject to manufacturing tolerances. Ampacity per GOST 11326.4 at 25 °C ambient, single cable in free air. Apply derating factor (× 0.70–0.80) for cables in grouped/bundled installations and higher ambient temperatures. Cold-resistant (ХЛ) variants certified to −60 °C minimum per GOST testing protocols.
Reference: КГЭ-ХЛ (0.66 kV & 6 kV open-pit) · КГЭШ (1.14 kV underground mining) · КГ-ХЛ (0.66 kV switchgear) · КСПЭВ (signal & control) · All GOST 11326.0-78 compliant