ANHUI FEICHUN SPECIAL CABLE CO., LTD.

安徽飞纯特种电缆有限公司

HO7RN8-F SUB SERIES

Submersible Rubber Insulated Power and Signal Cable for Wet Environments

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✓ SUBMERSIBLE TO 10M DEPTH • FLAME RETARDANT • EN 50525-2-21 COMPLIANT • VDE CERTIFIED

Product Overview and Designation

The HO7RN8-F SUB series represents a specialized family of flexible rubber-insulated cables engineered specifically for applications requiring reliable electrical performance in wet environments and under conditions of water submersion. These cables combine robust mechanical construction with comprehensive environmental resistance, delivering dependable power transmission and signal integrity in applications where standard industrial cables would experience rapid degradation or catastrophic failure when exposed to moisture ingress and continuous water immersion.

The cable designation HO7RN8-F SUB conveys critical technical information following harmonized European cable nomenclature standards. The prefix H indicates harmonized product meeting European standards requirements, while O signifies that the cable incorporates no braided screen or metallic armor. The voltage rating designation 07 specifies three hundred to five hundred volts, with this particular series rated at four hundred fifty volts to seven hundred fifty volts phase-to-phase for safe operation in standard low-voltage industrial electrical systems. The R component identifies rubber insulation materials, while N8 designates chloroprene rubber sheath material specifically formulated for outdoor use and environmental resistance. The F suffix confirms flexible conductor construction using Class 5 stranded copper appropriate for applications involving cable movement and flexing during installation and operation. Finally, the SUB designation explicitly identifies this cable variant as suitable for submersible applications, distinguishing it from otherwise similar cable types not engineered for water immersion service.

This cable series addresses the critical need for electrical connections in environments where equipment operates partially or completely submerged in water, exposed to continuous moisture, or subject to periodic flooding. The submersible rating to depths of ten meters accommodates typical installation scenarios including submersible pump applications in wells, sumps, and reservoirs, along with other equipment deployments in wet industrial processes, agricultural irrigation systems, and water treatment facilities where reliable electrical connections must maintain integrity despite water exposure that would compromise non-submersible cable constructions.

Distinguishing Performance Characteristics for Submersible Applications

The engineering design of the HO7RN8-F SUB series incorporates several critical features that establish its suitability for submersible service and wet environment applications. The rubber compound materials selected for both conductor insulation and outer sheath provide inherent water resistance substantially superior to thermoplastic alternatives, with the elastomeric materials maintaining their physical properties and electrical performance characteristics when continuously exposed to moisture and

complete water submersion. The seamless extrusion processes employed during cable manufacturing eliminate potential water ingress paths that could exist at material interfaces, while the flexible conductor construction accommodates the mechanical handling requirements typical of submersible equipment installations where cables must be lowered into wells or deployed into water-filled environments.

The voltage rating of four hundred fifty volts to seven hundred fifty volts addresses standard industrial electrical system requirements while providing adequate safety margin for the transient overvoltages and voltage regulation variations encountered in electrical distribution systems serving submersible equipment. This voltage class proves appropriate for the vast majority of submersible pump motors and other water-immersed electrical equipment operated from standard industrial power supplies, eliminating the need for specialized higher-voltage cable variants in typical installations while maintaining full safety compliance with applicable electrical installation standards and equipment protection requirements.

The flame retardant properties verified through compliance with IEC sixty thousand three hundred thirty-two dash one dash two testing protocols ensure that these cables do not contribute to fire propagation in the event of electrical faults or external ignition sources, despite the rubber material construction. This characteristic proves particularly important for installations where cable routes through occupied buildings or industrial facilities before entering water-filled environments, as the flame retardant behavior limits fire hazard during the cable's above-water routing while the submersible characteristics address performance requirements once the cable enters its wet service environment.

Featured Specifications: Power and Signal Cable Configurations

The HO7RN8-F SUB series encompasses a comprehensive range of conductor configurations addressing diverse application requirements from signal transmission through substantial power delivery. Two configurations merit particular attention as representative examples of the series capabilities, specifically the four-core twenty-five square millimeter power cable optimized for submersible pump motor connections, and the three-core one point five square millimeter signal cable designed for control and monitoring circuits in wet environments.

Four-Core 25mm² Power Cable for Submersible Pump Applications

The four-conductor configuration with twenty-five square millimeter cross-sectional area represents a purpose-designed solution for three-phase submersible pump motor connections requiring substantial current carrying capacity combined with separate protective earth conductor. This cable size addresses typical power requirements for medium-capacity submersible pumps commonly deployed in agricultural irrigation, municipal water supply, industrial process water systems, and mining dewatering operations where reliable electrical connections must maintain integrity despite complete water submersion and the mechanical stresses associated with pump installation and operation in confined well casings or open water environments.

Conductor Configuration and Current Capacity

Four cores of twenty-five square millimeters cross-sectional area utilizing Class 5 flexible stranded copper

Overall Cable Dimensions

Minimum overall diameter of twenty-eight point nine millimeters extending to maximum overall diameter of thirty-six point six millimeters accommodates the

Mechanical Flexibility for Installation

Despite the substantial conductor size, the Class 5 flexible stranding and rubber material construction maintain adequate

conductors with six point one millimeter nominal diameter. The four-conductor arrangement provides three phase conductors and separate protective earth, enabling safe connection of three-phase motors with reliable grounding essential for personnel safety in wet environments where earth fault protection proves critical. The conductor sizing delivers adequate current carrying capacity for pump motors in the fifteen to thirty kilowatt power range operating from standard four hundred volt three-phase electrical supplies.

Submersion Performance Characteristics

The cable construction maintains full electrical integrity when continuously submerged in fresh water to depths of ten meters, addressing typical submersible pump installation depths in agricultural wells, municipal water supply systems, and industrial applications. The rubber insulation and sheath materials resist water absorption that would otherwise degrade dielectric properties, while the seamless construction eliminates moisture ingress paths that could lead to insulation breakdown or conductor corrosion during extended submersion periods typical of submersible pump service where cables remain underwater continuously throughout the pump operational lifetime.

substantial conductor cross-sections and required insulation thickness while maintaining flexibility characteristics essential for installation through well casings and pump discharge piping. The cable weight of approximately one thousand seven hundred twenty kilograms per kilometer reflects the robust construction incorporating substantial copper content and thick rubber insulation and sheath layers necessary for submersible service reliability.

flexibility for installation in typical submersible pump applications. The minimum bending radius specification of twenty-four times the cable diameter for fixed installations translates to approximately eight hundred seventy millimeters, enabling routing through standard well casing diameters and around pump discharge piping bends encountered in typical submersible pump installations without exceeding mechanical stress limits that could compromise long-term cable integrity.

Three-Core 1.5mm² Signal Cable for Wet Environment Control Systems

The three-conductor configuration with one point five square millimeter cross-sectional area addresses signal transmission and control circuit requirements in wet environments and submersible applications where monitoring and control functions must maintain reliable operation despite water exposure. This cable size proves appropriate for diverse applications including pump control circuits, water level sensing systems, temperature and pressure monitoring in wet environments, and other instrumentation and control functions where signal integrity must be maintained under conditions where standard control cables would experience moisture-related failure.

Signal Transmission Capabilities

The one point five square millimeter conductor size provides adequate current carrying capacity for control circuits, relay coils, solenoid valves, and signal transmission applications while maintaining compact overall dimensions facilitating installation alongside power cables or through confined pathways. The

Compact Dimensional Profile

The minimum overall diameter of nine point two millimeters expanding to maximum overall diameter of eleven point nine millimeters reflects the compact construction appropriate for signal cable applications where space constraints often limit available cable routing pathways. The modest cable weight of approximately one

Environmental Resistance for Instrumentation

The submersible-rated construction proves essential for control and instrumentation circuits in wet environments where sensor and control device connections must maintain signal integrity despite water exposure. Applications including submerged level sensors, pressure

three-conductor arrangement accommodates various control circuit configurations including single-phase control power with earth, three-wire sensor connections, or multiple discrete signal circuits within a single cable assembly, simplifying installation and reducing the proliferation of separate signal cables in wet environment applications.

Installation Flexibility Advantages

The flexible conductor construction and rubber material properties deliver excellent handling characteristics during installation, enabling routing through conduit systems, cable trays, and confined equipment spaces with minimal risk of installation damage. The minimum bending radius of approximately fifty millimeters for fixed installations permits tight-radius routing around obstacles and through equipment connection points, while the flexed application bending radius of approximately seventy millimeters accommodates occasional cable movement during equipment maintenance or system modifications without risking conductor damage or insulation compromise that could lead to premature cable failure.

hundred fifty kilograms per kilometer enables manual handling during installation without requiring specialized cable management equipment, particularly important for signal cable installations in existing facilities where cable routing must navigate congested equipment areas and confined spaces typical of wet environment industrial installations.

transducers in wet wells, temperature monitoring in water-filled tanks, and control circuits for submersible equipment all benefit from the water-resistant construction eliminating the signal degradation and eventual circuit failure that would occur with standard control cables subjected to moisture ingress in these demanding service environments.

Application Selection Guidance for Power and Signal Cables

The selection between power cable and signal cable configurations within the HO7RN8-F SUB series should be based on careful consideration of the specific electrical requirements, environmental conditions, and mechanical stresses characteristic of the intended application. Power cables with larger conductor cross-sections address motor connections and substantial current delivery requirements, with conductor sizing determined by motor power rating, voltage level, starting current characteristics, and cable length considerations affecting voltage drop. Signal cables with smaller conductor sizes prove appropriate for control circuits, instrumentation connections, and applications where current requirements remain modest but environmental protection against water ingress remains essential for maintaining circuit reliability and preventing costly equipment failures or system malfunctions resulting from moisture-related signal degradation.

Complete Product Range and Technical Specifications

The HO7RN8-F SUB series encompasses an extensive range of conductor configurations and cross-sectional areas enabling comprehensive coverage of application requirements from light-duty signal transmission through heavy industrial power distribution. The modular product architecture addresses single-core applications requiring maximum flexibility and minimum cross-section, three-core and four-core

configurations serving standard power and control requirements, and multi-core variants up to thirty-six conductors addressing complex control systems and instrumentation networks requiring consolidated cable assemblies for simplified installation and enhanced system reliability.

Single-Core Power Cables

Single-core cable configurations provide maximum flexibility for applications requiring independent conductor routing or where each phase conductor must follow separate pathways through equipment or installation structures. These cables serve specialized applications including individual phase conductors for high-current circuits, protective earth conductors, and situations where electromagnetic considerations or installation constraints preclude the use of multi-core cable assemblies. The single-core range spans from one point five square millimeters through fifty square millimeters, addressing current requirements from light-duty applications through substantial industrial power distribution.

Cross Section	Conductor Diameter	Overall Diameter Range	Cable Weight	Typical Applications
1.5 mm^2	1.5 mm	5.7 - 7.1 mm	50 kg/km	Control circuits, lighting, instrumentation
6 mm^2	3.0 mm	7.9 - 9.8 mm	130 kg/km	Small motor circuits, equipment connections
16 mm^2	4.9 mm	10.8 - 13.4 mm	280 kg/km	Medium motor feeders, distribution circuits
35 mm^2	7.3 mm	14.3 - 17.9 mm	510 kg/km	Large equipment connections, sub-distribution
50 mm^2	8.9 mm	16.5 - 20.6 mm	710 kg/km	High-current applications, main feeders

Three-Core and Four-Core Standard Configurations

Multi-core cables consolidate multiple conductors within a unified protective jacket, simplifying installation while providing improved mechanical protection compared to separately routed single-core cables. Three-core configurations address single-phase power with earth or three-phase circuits without separate earth conductor, while four-core cables accommodate three-phase systems with dedicated protective earth conductor, representing the most common configuration for industrial motor connections and three-phase equipment requiring reliable grounding for personnel safety and equipment protection.

Configuration	Cross Section	Overall Diameter Range	Cable Weight	Primary Applications
3 × 1.5 mm^2	1.5 mm^2	9.2 - 11.9 mm	150 kg/km	**Control and signal circuits in wet environments, sensor connections, instrumentation wiring**
3 × 6 mm^2	6 mm^2	14.1 - 18.0 mm	370 kg/km	Small submersible pumps, single-phase equipment with earth, light three-phase motors
3 × 16 mm^2	16 mm^2	21.8 - 27.6 mm	920 kg/km	Medium three-phase motors without separate earth, industrial equipment connections
3 × 35 mm^2	35 mm^2	29.3 - 37.1 mm	1,820 kg/km	Large submersible pumps, high-power three-phase equipment, industrial applications
4 × 1.5 mm^2	1.5 mm^2	10.2 - 13.1 mm	190 kg/km	Control circuits with separate earth, three-phase control power with ground
4 × 10 mm^2	10 mm^2	20.9 - 26.5 mm	830 kg/km	Standard submersible pump motors, three-phase equipment with protective earth

Configuration	Cross Section	Overall Diameter Range	Cable Weight	Primary Applications
4 × 25 mm²	25 mm²	28.9 - 36.6 mm	1,720 kg/km	**Medium to large submersible pumps, industrial three-phase motors with earth conductor**
4 × 35 mm²	35 mm²	32.5 - 41.1 mm	2,260 kg/km	High-power submersible equipment, large industrial motor connections

Multi-Core Control and Instrumentation Cables

Cables incorporating seven or more conductors address complex control systems, instrumentation networks, and applications requiring multiple signal circuits within consolidated cable assemblies. These configurations simplify installation in applications where numerous control or signal conductors must route between equipment locations, reducing installation labor and improving system organization compared to multiple separate cables. The multi-core range extends to thirty-six conductors for the most demanding control system applications, with all configurations maintaining the submersible rating and environmental resistance characteristics essential for wet environment service.

Configuration	Overall Diameter Range	Cable Weight	Typical Applications
7 × 1.5 mm²	15.0 - 19.0 mm	340 kg/km	Multi-function control circuits, sensor networks, complex instrumentation
12 × 1.5 mm²	17.6 - 22.4 mm	530 kg/km	Distributed control systems, multi-zone monitoring, equipment control panels
18 × 1.5 mm²	20.7 - 26.3 mm	700 kg/km	Complex control systems, process monitoring, multi-channel data acquisition
24 × 1.5 mm²	24.3 - 30.7 mm	960 kg/km	Large control systems, extensive instrumentation networks, industrial automation
36 × 1.5 mm²	27.8 - 35.2 mm	1,360 kg/km	Maximum complexity control systems, comprehensive monitoring networks

Detailed Construction and Material Specifications

Conductor System Design and Performance

The conductor system employs Class 5 flexible construction as defined by IEC sixty thousand two hundred twenty-eight and VDE zero two nine five standards, representing fine-stranded copper wire assemblies optimized for applications requiring cable flexibility during installation and occasional movement during service. The Class 5 designation specifies numerous individual copper wires with diameters typically ranging from zero point fifteen millimeters to zero point thirty millimeters depending on overall conductor cross-section, assembled through precision stranding processes that distribute mechanical stress uniformly across wire elements while maintaining consistent electrical characteristics and mechanical integrity throughout the cable service life.

The bare copper conductor specification without tinning or plating represents standard construction for submersible cable applications where the rubber insulation provides comprehensive moisture barrier preventing water contact with conductor surfaces. The high-purity electrolytic copper meets minimum ninety-nine point nine percent purity specifications ensuring optimal electrical conductivity and consistent resistance values across production batches, while the fine-stranded construction delivers excellent flexibility characteristics essential for installation through confined pathways and around obstacles encountered in typical submersible equipment installations where cable routing must navigate pump casings, discharge piping, and well structures.

Rubber Insulation System Architecture

The insulation system utilizes rubber compound materials specifically formulated for electrical cable applications requiring comprehensive moisture resistance and mechanical durability. The rubber insulation surrounding individual conductors provides excellent dielectric properties maintaining electrical isolation between conductors and from conductors to ground despite continuous water exposure, while the elastomeric material characteristics accommodate the mechanical flexing and handling encountered during cable installation and equipment operation without developing the cracks or material degradation that would compromise insulation integrity in thermoplastic alternatives subjected to similar mechanical stress in wet environments.

The rubber compound formulation incorporates stabilizers and antioxidants preventing degradation from ultraviolet exposure during above-water cable routing and from thermal aging during extended service at elevated operating temperatures. The material maintains its physical properties and electrical performance characteristics across the specified temperature range from minus forty degrees Celsius through positive sixty degrees Celsius for fixed installations, ensuring reliable operation in diverse climate conditions from arctic surface installations through tropical environments and in underground or underwater installations where ambient temperatures remain relatively stable throughout seasonal cycles.

Protective Sheath System

The outer sheath employs chloroprene rubber compound, commonly known by the trade name Neoprene, specifically selected for its exceptional resistance to environmental factors including water immersion, oil and petroleum product exposure, abrasion from contact with rough surfaces, and weathering from ultraviolet radiation and ozone exposure. The chloroprene rubber formulation achieves superior environmental resistance compared to natural rubber alternatives while maintaining the flexibility characteristics and mechanical properties essential for submersible cable applications where the sheath must protect internal cable components from water ingress while accommodating the mechanical handling and flexing encountered during installation and service.

The black sheath color provides practical advantages including high visibility against light-colored backgrounds typical of many industrial installations, resistance to discoloration from ultraviolet exposure and environmental contaminants, and thermal stability minimizing heat absorption in above-water cable routing exposed to direct sunlight. The robust sheath thickness proportional to overall cable diameter provides mechanical protection during installation handling and guards against abrasion damage from contact with well casings, pump housings, and other equipment surfaces encountered in typical submersible installations where cables must withstand periodic contact with surrounding structures during equipment installation and retrieval operations.

Core Identification System

Individual conductors within multi-core cables are identified through comprehensive color coding schemes following international standards for electrical cable identification. Single-core cables utilize black insulation. Two-core cables employ blue and brown conductors. Three-core cables incorporate green-yellow for protective earth, with blue and brown for phase conductors. Four-core and five-core cables add grey and black

Submersion Performance Testing

The submersible rating to ten meters depth represents verification through comprehensive testing protocols evaluating electrical performance and mechanical integrity under simulated submersion conditions. The testing confirms that insulation resistance remains above minimum acceptable values when cables are completely submerged, verifying that water does not penetrate the sheath and insulation systems to

Flame Retardant Characteristics

Despite the inherent flammability of rubber materials, the cable construction achieves flame retardant classification through IEC sixty thousand three hundred thirty-two dash one dash two testing. The rubber compounds incorporate flame retardant additives and fillers that suppress combustion, with the cable demonstrating self-extinguishing behavior when the external ignition source is removed. This characteristic proves

conductors respectively to the standard color sequence. Cables with six or more cores employ black insulation with white numbers printed on conductor surfaces, with green-yellow reserved for protective earth conductor in all configurations requiring ground connection.

Temperature Performance Range

The specified temperature ranges address both stationary installations and applications involving cable movement. Fixed installations tolerate temperatures from minus forty degrees Celsius through positive sixty degrees Celsius, accommodating diverse environmental conditions from cold climate surface installations through warm underground or tropical environments. Applications involving cable flexing restrict the low temperature limit to minus fifteen degrees Celsius, recognizing reduced rubber flexibility at cold temperatures where bending could cause material cracking. The sixty degree Celsius upper limit addresses continuous operation temperatures while maintaining adequate safety margin below the thermal degradation threshold of rubber insulation materials.

compromise electrical isolation. The depth rating addresses hydrostatic pressure effects on cable geometry and sealing integrity, ensuring that the mechanical compression from water pressure does not create moisture ingress paths through material interfaces or compromise the cable's ability to maintain electrical performance throughout extended submersion periods.

essential for installations where cables route through occupied buildings or industrial facilities before entering water-filled service environments, limiting fire propagation risk during above-water cable routing while maintaining the submersible performance characteristics required once cables enter wet service areas.

Applications and Installation Guidelines

Primary Application Areas and Operational Environments

The HO7RN8-F SUB series serves diverse applications where electrical connections must maintain reliable operation despite exposure to water, moisture, and wet environmental conditions that would compromise standard industrial cables. The submersible rating to ten meters depth specifically addresses submersible pump installations representing the primary application for these cables, while the general wet environment capability extends utility to numerous other applications requiring water-resistant electrical connections but not necessarily involving complete water immersion.

Submersible pump applications encompass agricultural irrigation systems drawing water from wells or surface water sources, municipal water supply installations delivering potable water from groundwater aquifers, industrial process water systems providing cooling water or process feed streams, mining dewatering operations removing groundwater inflow from underground workings, and wastewater management facilities handling sewage and stormwater. In each application, the cable must maintain electrical integrity while completely submerged, deliver adequate current carrying capacity for motor power requirements, withstand

mechanical stresses from installation and pump operation, and provide long-term reliability minimizing costly pump retrieval and cable replacement operations.

Beyond submersible pump applications, these cables serve equipment installations in wet industrial environments including food processing facilities with frequent washdown procedures, chemical plants with exposure to process chemical spills and moisture, outdoor equipment installations exposed to rain and environmental moisture, temporary construction site power distribution in wet conditions, and agricultural operations where electrical connections serve equipment in damp barn environments or outdoor locations subject to weather exposure. The combination of water resistance, mechanical durability, and flame retardant properties addresses the diverse requirements of these wet environment applications where standard cables would experience premature failure from moisture ingress.

Critical Application Limitations and Safety Considerations

While the HO7RN8-F SUB series provides comprehensive performance for submersible pump applications and wet environment installations, specific limitations must be understood to ensure safe and appropriate cable application. These cables are not suitable for underwater power transmission applications other than submersible pump connections, as the voltage rating and construction do not address the specialized requirements for submarine power cables serving offshore installations or underwater electrical distribution systems. Similarly, installation in waterways or locations subject to flowing water, wave action, or floating debris is not appropriate, as the mechanical forces from water movement and impact from waterborne objects could cause cable damage leading to electrical hazards.

Applications where mechanical damage might reasonably be expected require additional protective measures beyond the cable's inherent construction. While the robust sheath provides resistance to normal handling and installation stresses, sharp objects, crushing forces from equipment or structural elements, and deliberate abuse can compromise cable integrity creating electrical hazards. Installation practices should incorporate mechanical protection including conduit, cable armor, or physical barriers where cables route through areas with potential mechanical hazard exposure, particularly important for above-water cable routing where damage could create shock hazards before cables enter their protected underwater service environment.

Installation Practices and Mechanical Considerations

Proper installation technique proves essential for achieving the service life expectations inherent in the cable design. The minimum bending radius specifications establish limits that must be observed during installation and throughout the cable's service life to prevent conductor damage, insulation compression, or geometric distortions that could compromise electrical performance. For fixed installations, the minimum bending radius of four times the overall cable diameter enables routing through typical installation pathways while preventing excessive mechanical stress, while applications involving cable movement require increased bending radius of six times diameter accounting for accumulated fatigue from repeated flexing cycles.

The flexible conductor construction accommodates the mechanical handling requirements typical of submersible pump installations where cables must be lowered into wells alongside pump assemblies or deployed into open water installations. The rubber sheath materials provide reasonable resistance to abrasion from contact with well casings and pump discharge piping during installation operations, though care should be exercised to minimize dragging cables across sharp edges or rough surfaces that could cause premature sheath damage. Installation planning should consider cable support requirements for vertical cable runs in

deep well installations, with appropriate cable clamps or strain relief devices preventing excessive mechanical loading on cable terminations from the weight of long vertical cable spans.

Termination practices appropriate for rubber-insulated cables must be employed to ensure reliable electrical connections that maintain integrity in wet environments. All termination points should be located above maximum water levels where practical, with connections protected within sealed enclosures rated for wet location service where terminations must be positioned in areas subject to water exposure. Compression-type connectors or mechanical lugs appropriate for flexible conductors provide superior connection reliability compared to soldered terminations that may experience mechanical failure from differential thermal expansion between copper conductors and solder joints during thermal cycling in service.

Standards Compliance and Certification Framework

The cable construction achieves comprehensive compliance with harmonized European standards and international specifications governing flexible rubber-insulated cables for general applications including wet environment service. The certification framework encompasses conductor construction standards, insulation and sheath material specifications, electrical performance requirements, mechanical characteristics, and fire safety testing protocols ensuring that installed cables meet applicable safety standards and performance expectations across diverse installation environments and application scenarios.

EN 50525-2-21
Harmonized Standard

HD 22.4S3
European Document

CEI 20-19 Part 16
Italian Standard

EN 60228
Conductor Standard

VDE 0295
German Specification

IEC 60332-1-2
Flame Retardancy

Standard Reference	Scope and Requirements	Compliance Verification
EN 50525-2-21	Harmonized European Standard for Rubber Insulated Cables	Comprehensive specifications addressing conductor construction, insulation materials, sheath properties, electrical performance, mechanical characteristics, and testing protocols for flexible rubber cables rated to one thousand volts
HD 22.4S3	Harmonization Document for Flexible Cables	Technical harmonization requirements ensuring consistent cable performance across European manufacturing while accommodating national installation practice variations and regulatory differences
EN 60228 / VDE 0295	Conductor Specifications and Classifications	Class 5 flexible conductor requirements including stranding specifications, individual wire diameters, conductor dimensions, DC resistance values, and mechanical properties ensuring consistent electrical performance
IEC 60332-1-2	Flame Retardancy Testing Protocol	Standardized vertical flame test evaluating cable flame propagation characteristics ensuring self-extinguishing properties and limited flame spread essential for installation safety

Quality Assurance and Manufacturing Excellence

Every meter of HO7RN8-F SUB cable manufactured by Anhui Feichun Special Cable Company undergoes comprehensive quality control testing and inspection protocols ensuring compliance with applicable standards, specifications, and customer requirements. The quality management system maintains certification to ISO nine thousand one colon two thousand fifteen international standards, implementing documented procedures, systematic verification processes, and continuous improvement methodologies ensuring consistent product quality across all manufacturing operations and production batches.

Manufacturing Process Quality Controls

The quality control program encompasses multiple verification stages throughout the manufacturing process. Incoming copper wire rod undergoes receiving inspection verifying conformance to purity and dimensional specifications, with material certification documentation establishing traceability to specific copper production batches. During conductor stranding operations, continuous dimensional measurement systems monitor wire assembly diameter ensuring compliance with Class 5 flexibility specifications and conductor size tolerances. The rubber compound extrusion processes employ temperature and pressure monitoring confirming proper material processing, while dimensional measurement systems verify insulation thickness and overall cable diameter throughout production runs identifying any process variations requiring correction before non-conforming product is generated.

Final product testing evaluates finished cable electrical characteristics including insulation resistance verification, conductor continuity confirmation, and high-voltage withstand testing at specified test voltages ensuring electrical integrity. Mechanical testing confirms dimensional accuracy, flexibility characteristics meeting bending radius specifications, and tensile strength of completed cable assemblies. Sample testing for flame retardancy on periodic basis representing each major production run verifies continued compliance with fire safety specifications. Water immersion testing of sample lengths confirms submersible performance maintaining insulation resistance above minimum acceptable values when cables are completely submerged, validating the moisture resistance essential for submersible service applications.

Technical Support and Warranty Coverage

Anhui Feichun Special Cable Company provides comprehensive technical support services assisting customers with cable selection for specific applications, installation guidance addressing challenging routing scenarios or termination requirements, and troubleshooting consultation for performance issues encountered during testing or operation. The technical support team maintains expertise in submersible cable applications, wet environment installations, and rubber cable properties enabling informed assistance across the full range of applications served by the HO7RN8-F SUB series.

Standard warranty coverage extends twenty-four months from delivery date, protecting customers against manufacturing defects discovered during this period when cables are installed and operated according to specifications and applicable installation standards. The warranty encompasses material and workmanship defects but excludes failures resulting from improper installation practices, mechanical damage during handling or operation, exposure to environmental conditions exceeding specifications, or chemical exposure beyond normal wet environment service. Warranty claims require documentation of installation practices, operating conditions, and maintenance activities enabling investigation of failure mechanisms and determination of appropriate corrective actions or warranty coverage applicability.