

Tapping the flow of clean energy

CABLES FOR HYDROPOWER PROJECTS



SVARN HYDROPOWER CABLES

Setting the standard for hydropower efficiency

Hydropower plants, with their complex design and geographies, demand seamless functionality, where cables play a pivotal role. They facilitate telecommunications, instrumentation, control systems, and monitoring. However, these cables face daunting challenges like temperature variations, dust, and humidity.

Drawing upon our expertise in cabling solutions for critical infrastructures, Svarn offers bespoke cabling and harness solutions perfectly suited for hydroelectric projects. Leveraging years of experience, our offerings guarantee tangible advantages such as enhanced operational reliability, efficiency, and safety for your plant.



Total traceability in our product range



Worldwide recognized certificates



CPR certified cables



Complete range solution for hydro system up to 1.5kV



Cables specifically designed for hydro plant installations



Power and Fiber cables



ABOUT US

At Svarn, we're pioneers in turning big ideas into real-world solutions. Our legacy of innovation, rooted in the essence of "Svarn" or Gold, has thrived since 2005. With over 3,000 dedicated employees, we're constantly pushing the boundaries of technology to benefit our customers and society. Our impact spans across six key industries, supported by seven cutting-edge manufacturing facilities and global offices in strategic locations. Through relentless innovation, we're shaping a prosperous and sustainable future — **inspired by possibilities.**



Know more at www.svarn.com

HO7RN-8-F SVARN HYDRO RUBBER INSULATED CABLE

Designed for versatile use in a range of environments from dry to wet, including workshops with potentially explosive atmospheres, this cable can withstand immersion in fresh water up to depths of 10 meters. However, it is not intended for underwater power transmission or installation in waterways where mechanical damage could pose a hazard.

This cable is well-suited for connections subject to moderate mechanical stresses, such as workshop equipment, large boilers, portable motors, and generators. With a voltage rating of up to 1kV, it is also suitable for fixed installations along floors or shelving, as well as for rotor connections to lifting equipment motors.



CABLE STRUCTURE

- Annealed bare flexible copper conductor class-5
- Rubber insulation
- Rubber with (FR property) Outer sheath

TECHNICAL DATA

- Nominal voltage: 1500 VDC (between conductors as well as conductor and earth)
- Max. permitted voltage: 1800 VDC
- Temperature range: -40°C to 110°C
- (Max. temperature at conductor: 120°C for 20000hrs)
- Test voltage: 3kv (AC)

FEATURES

- Used in extreme weather conditions (UV Resistance)
- High flexibility for fast and easy installation
- Thermal & mechanical stress resistant.
- Flame & fire retardant.
- Suitable for direct burial/ underground installation
- Oil/ grease resistant

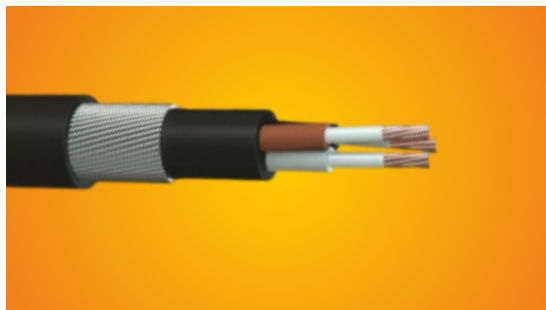


ITEM CODE	NO OF CORES	NOMINAL CROSS SECTIONAL AREA	CONDUCTOR DIAMETER	MINIMUM OVERALL DIAMETER	MAXIMUM OVERALL DIAMETER	NOMINAL WEIGHT
		mm ²	mm	mm	mm	Kg/Km
FGCBHCHO7RN-8-F1C1.5	1	1.5	1.5	5.7	7.2	51
FGCBHCHO7RN-8-F1C2.5	1	2.5	1.9	6.3	8.0	71
FGCBHCHO7RN-8-F1C4.0	1	4	2.4	7.2	9.0	101
FGCBHCHO7RN-8-F1C6.0	1	6	3	7.9	9.9	131
FGCBHCHO7RN-8-F1C10	1	10	3.9	9.5	12.0	201
FGCBHCHO7RN-8-F1C16	1	16	4.9	10.8	13.5	281
FGCBHCHO7RN-8-F1C25	1	25	6.1	12.7	15.8	401
FGCBHCHO7RN-8-F1C35	1	35	7.3	14.3	18.0	511
FGCBHCHO7RN-8-F1C50	1	50	8.9	16.5	20.7	711
FGCBHCHO7RN-8-F3C1.5	3	1.5	1.5	9.2	12.0	151
FGCBHCHO7RN-8-F3C2.5	3	2.5	1.9	10.9	14	211
FGCBHCHO7RN-8-F3C4.0	3	4	2.4	12.7	16.3	281
FGCBHCHO7RN-8-F3C6.0	3	6	3	14.1	18	371
FGCBHCHO7RN-8-F3C10	3	10	3.9	19.1	18.1	661
FGCBHCHO7RN-8-F3C16	3	16	4.9	21.8	27.7	921
FGCBHCHO7RN-8-F3C25	3	25	6.1	26.1	33.1	1361
FGCBHCHO7RN-8-F3C35	3	35	7.3	29.3	37.1	1821
FGCBHCHO7RN-8-F3C50	3	50	8.9	34.1	43.1	2501
FGCBHCHO7RN-8-F4C1.5	4	1.5	1.5	10.2	13.2	191
FGCBHCHO7RN-8-F4C2.5	4	2.5	1.9	12.1	15.6	261
FGCBHCHO7RN-8-F4C4.0	4	4	2.4	14	18.0	351
FGCBHCHO7RN-8-F4C6.0	4	6	3	15.7	20.0	461
FGCBHCHO7RN-8-F4C10	4	10	3.9	20.9	26.6	831
FGCBHCHO7RN-8-F4C16	4	16	4.9	23.8	30.2	1191
FGCBHCHO7RN-8-F4C25	4	25	6.1	28.9	36.7	1721
FGCBHCHO7RN-8-F4C35	4	35	7.3	32.5	41.2	2261
FGCBHCHO7RN-8-F7C1.5	7	1.5	1.5	15	19.1	341
FGCBHCHO7RN-8-F7C2.5	7	2.5	1.9	17.5	21.6	501
FGCBHCHO7RN-8-F12C1.5	12	1.5	1.5	17.6	22.5	531
FGCBHCHO7RN-8-F12C2.5	12	2.5	1.9	20.6	26.3	721
FGCBHCHO7RN-8-F18C1.5	18	1.5	1.5	20.7	26.4	701
FGCBHCHO7RN-8-F24C1.5	24	1.5	1.5	24.3	30.8	961
FGCBHCHO7RN-8-F36C1.5	36	1.5	1.5	27.8	35.3	1361

COMPREHENSIVE CABLING SOLUTIONS FOR HYDROPOWER PROJECTS

CONTROL CABLES

Svarn flexible shielded cables, ranging from 2 to 100 cores, efficiently transport energy, ranging from 300 volts to 1kV, along with low-frequency signals essential for controlling motor drives or generators. These cables play a crucial role in tasks such as breaking, positioning, or optimizing rotor RPMs. Special sheathing is available for ultra-low temperatures, while smaller cables are halogen-free. Our torsion- and oil-resistant cables are designed to last for 20 years and more.

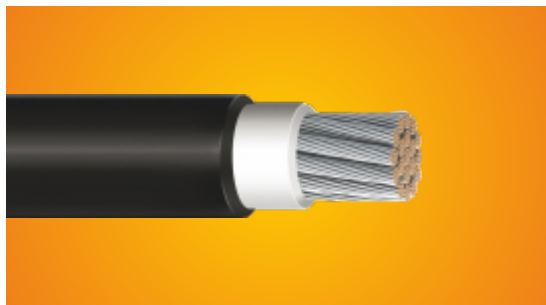
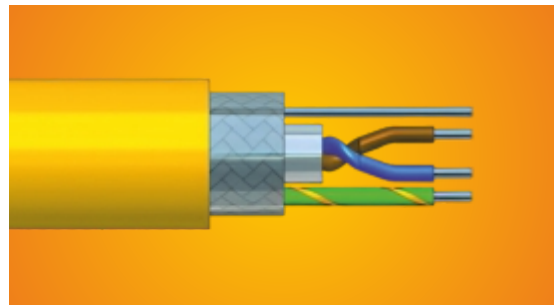


FIRE RESISTANT CABLES

Ensuring continuous functionality during emergencies is critical in hydropower plants. Svarn leads in fire-resistant cable technology, crafting control and power cables specifically for safety systems like emergency lighting, fire detection, and door opening mechanisms. These cables maintain electrical circuit integrity for a defined duration post-fire, enhancing safety for both personnel and the plant itself. Svarn's fire-resistant cables are instrumental in safeguarding lives and infrastructure within hydropower facilities.

FIELDBUS, COAXIAL CABLES

In hydropower plants, Can Bus or Profibus cables ensure precise control over functions such as motor operation, rudder adjustment, and hydraulic systems with their fixed impedance and accurate digital signal transmission. Coaxial cables handle high-frequency data transmission for communication equipment, and instrumentation onboard, while also delivering video signals for surveillance cameras.



LOW-VOLTAGE 120°C FLEXIBLE CABLES WITH EMC

Svarn manufactures LV silicone cables designed specifically for hydropower plants, ideal for connecting generators to transformers. These cables are engineered to withstand extreme heat up to 120°C and are available in a Low-Smoke Zero-Halogen (LSZH) version for added safety.

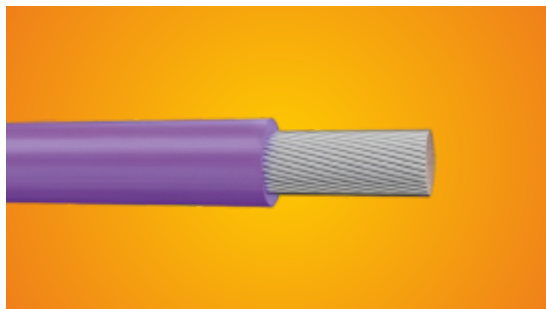
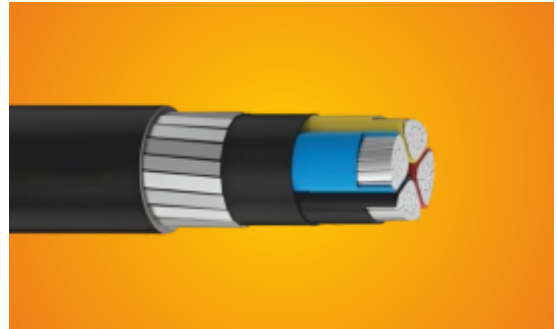
FIBER-OPTIC CABLES

To ensure high data transmission capacity for monitoring and control, Svarn's rugged, halogen-free fibre-optic cables offer Electromagnetic Compatibility (EMC) in energy-dense areas. They are very flexible and can handle high torsion. Large cores (200 microns) make connectivity easier.



POWER & CONTROL CABLES

Svarn unarmoured power and control cables are used for wiring fixed installations not subject to mechanical risks, while armoured cables are recommended for areas where enhanced mechanical protection and electrical screening (Electromagnetic Compatibility) is required. The highly flexible range of cables are recommended for installations and connections in narrow spaces where an optimal bending radius is required. The sectoral conductors of multicore cables provide further space and weight savings on the cable trays.

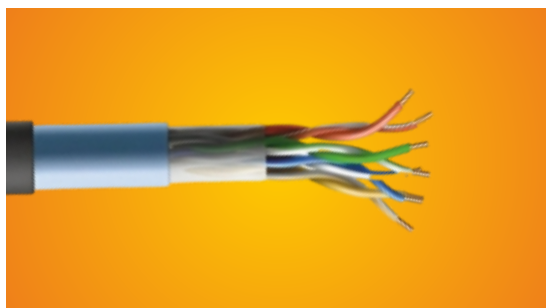


LOW-VOLTAGE LOOP RUBBER CABLES

These cables (up to 1kV) reliably transmit energy produced in the generator to the transformer. They come in Low-Smoke Zero-Halogen (LSZH) versions and are also oil, abrasion, UV and ozone-resistant. Before supply, Svarn rigorously tests these cables for lifetime durability, adhering to strict movement and torsion standards.

LOW-VOLTAGE FIXED INSTALLATION CABLES

Svarn provides hydro OEMs with LV aluminum cables. These cables, whether single or multicore, offer EMC screening. Compared to copper, aluminum single cores are larger yet weigh half as much, making them cost-effective and easier to handle during installation.



ELECTRONIC AND DATA TRANSMISSION CABLES

Thermoplastic Modified (TPM) 2 to 5-core sensor multicore and multipair cables measure water speed, temperatures, and performance parameters, while 2-core Fieldbus cables are used in parallel with energy cables to digitally control all electronic and mechanical devices. 2-core Profibus cables deliver up to 12 Mbit/s for complex control services; and data transmission cables offer Industrial Ethernet speed. Increasingly, all cables are shielded for EMC protection.



BHARAT (INDIA)

CORPORATE OFFICE

Plot No. 1, Site No. 1, 14/3, Mathura Road,
Faridabad - 121003, Haryana

WORKS

Haryana

74th Milestone, Delhi-Mathura Road,
Hodal Toll Plaza, Distt. Palwal-121005

Rajasthan

Plot No. SP5 - 249, 250, RIICO Industrial Area,
Ghiloth, Neemrana, Alwar - 301705

Maharashtra

Gat No. 153/1/1, Village Ambethan, Taluka Khed
(near Dwarka School), Pune - 410501

Uttarakhand

Plot No. 68, 69, 71, 72 & 73, Sector-5, IIE,
Sidcul, Haridwar-249403

ASIA

SINGAPORE

SVARN PTE. LTD.: 7 Temasek Boulevard, #12-07,
Suntec Tower One, Downtown Core, 038987, Singapore

THAILAND

SVARN INFRA (THAILAND) CO LTD: 3656/50,
Green Tower Building, Floor 16th, Rama 4 Road,
Klongton Subdistrict, Klongton District, Bangkok 10110

INDONESIA

PT SVARN GROUP INDONESIA: Innovation Center,
Jababeka Industrial Estate 6, Jl. Samsung,
Block A 3A, Cikarang Utara 17530

VIETNAM

SVARN GROUP LLC: 12B Floor, Cienco 4 Building,
180 Nguyen Thi Minh Khai, Vo Thi Sau Ward,
District 3, Ho Chi Minh City, Vietnam

Contact: Paresh Gupta

M: +91 98107 94010 | E: paresh@svarn.com

MIDDLE EAST

DUBAI

SVARN MIDDLE EAST DWC-LLC
O465, Floor C4, Office Park,
Dubai South, UAE

Contact: J.K. Mishra

M: +971 50118 7209

E: jkmishra@svarn.com