SVARN
Inspired by possibilities

Powering a green future

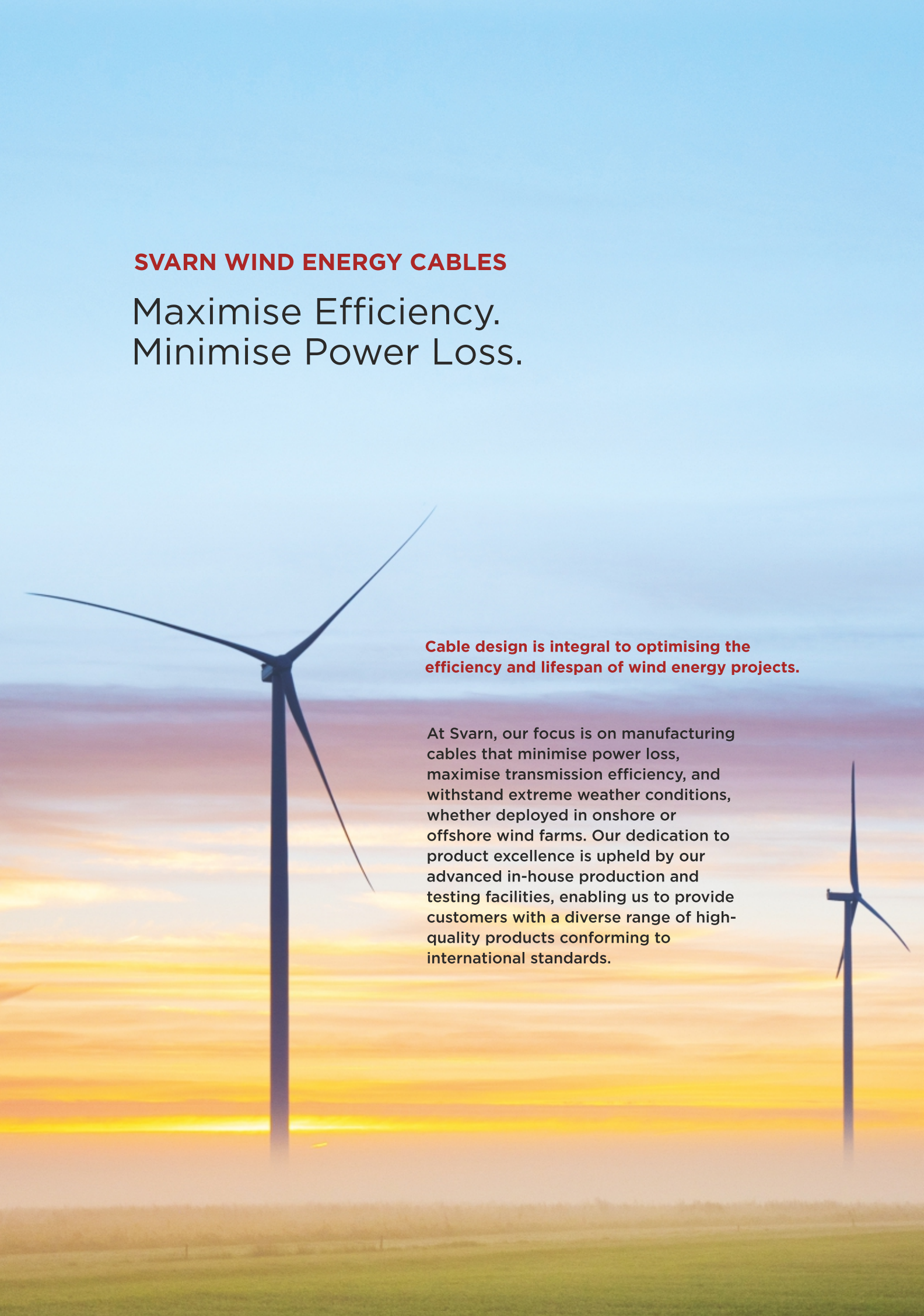
CABLES FOR ONSHORE & OFFSHORE WIND ENERGY PROJECTS

SVARN GROUP

TELECOM | AUTOMOTIVE | DEFENCE | RAILWAYS | POWER | PROJECTS

SVARN WIND ENERGY CABLES

Maximise Efficiency. Minimise Power Loss.



Cable design is integral to optimising the efficiency and lifespan of wind energy projects.

At Svarn, our focus is on manufacturing cables that minimise power loss, maximise transmission efficiency, and withstand extreme weather conditions, whether deployed in onshore or offshore wind farms. Our dedication to product excellence is upheld by our advanced in-house production and testing facilities, enabling us to provide customers with a diverse range of high-quality products conforming to international standards.

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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

For more information please contact: ***Paresh Gupta*** *– paresh@svarn.com*

SVARN RUBBER LOOP CABLE / SVARN LOW VOLTAGE WIND CABLE

- Torsion resistant
- UV resistant
- Oil resistant
- VDE, CE, UL, BS complied

SVARN TOWER CABLE

- Low voltage cable
- Multi-stranded flexible cable
- VDE, CE, UL, BS complied
- Both in copper + aluminum conductor

LV POWER CONTROL CABLE

- For connection of wind turbine to transformer

Total traceability in our product range

Worldwide recognized certificates

CPR certified cables

Complete range solution for solar system up to 1.5kv

Cables specifically designed for solar installations

Power and Fiber cables

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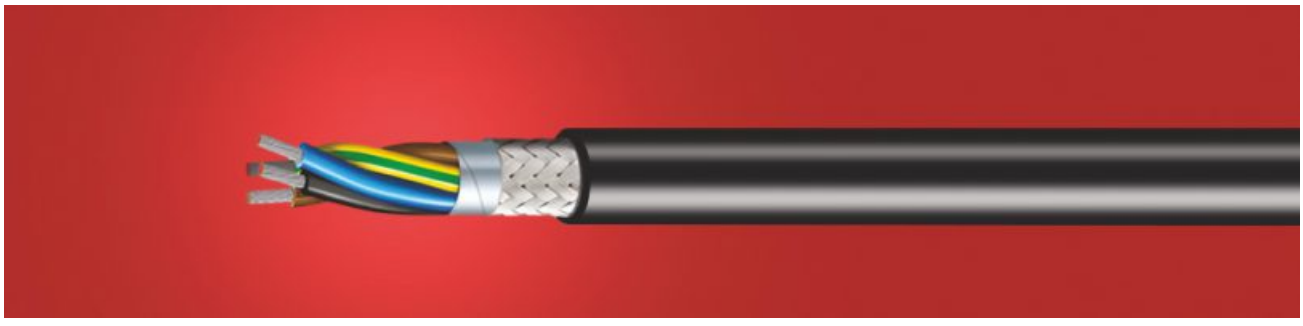
RUBBER LOOPED SCREENED CABLE

Svarn rubber looped screened power cables are specifically engineered to meet the demands of harsh conditions typically encountered in wind turbines. Their design focuses on durability, flexibility, and resistance to mechanical stress, making them ideal for outdoor installations where they may be subjected to environmental elements like wind, rain, and temperature variations.



CABLE STRUCTURE

- Annealed bare copper conductor
- EPR (Ethylene Propylene Rubber) insulated
- TWCB (Tinned wire copper braid) screened
- HF-EVA (Halogen Free Ethylene-Vinyl Acetate) outer sheath

TECHNICAL DATA

- Nominal voltage: 0.6- 1kv
- Temperature range: -40°C to 90°C
- Test voltage: 3kv (AC)
- Torsion Resistance: ± 100°/m
- Maximum tensile load: 15N/mm^2 (in operation)
- Minimum bending radius: 6x Overall dia
- As per IEC 60502-1, IEC 60228, EN 50363

FEATURES

- Used in extreme weather conditions (UV Resistance)
- Flexibility for fast and easy installation
- Thermal stress resistant
- High Flexibility
- Flame & fire retardant
- Suitable for direct burial/ underground installation
- Oil resistant
- Suitable for under the permanent influence of seawater, Ozone resistant
- Torsion resistant

ITEM CODE	NO OF CORES & CROSS SECTIONAL AREA	OVERALL DIA OF CABLE	APPROX. WEIGHT OF CABLE
	Sq.mm	mm	Kg/Km
FGCBWC4C1.5	4X1.5	10	151
FGCBWC4C4	4 X 4	13.5	301
FGCBWC5C2.5	5 X 2.5	15	301
FGCBWC12C1.5	12X1.5	16	401
FGCBWC12C2.5	12 X 2.5	23	621
FGCBWC25C0.75	25 X 0.75	18	501
FGCBWC25C1	25 X 1	20	551
FGCBWC32C1.5	32 X 1.5	26	950
FGCBWC42C1.5	42 X 1.5	35	1701

RUBBER LOOPED UNSCREENED CABLE

Svarn rubber looped unscreened power cables are tailored for specific application conditions within wind turbines, particularly for use in fired and mobile installations situated indoors. These cables are engineered to meet the unique requirements of indoor environments, where they may be subject to different stresses and environmental factors compared to outdoor installations.

CABLE STRUCTURE

- Annealed bare copper conductor
- EPR (Ethylene Propylene Rubber) insulated
- HF-EVA (Halogen Free Ethylene-Vinyl Acetate) outer sheath

TECHNICAL DATA

- Nominal voltage: 0.6- 1kv
- Temperature range: -40°C to 90°C
- Test voltage: 3kv (AC)
- Torsion Resistance: ± 100°/m
- Maximum tensile load: 15N/mm^2 (in operation)

FEATURES

- Used in extreme weather conditions (UV Resistance)
- Flexibility for fast and easy installation
- Thermal stress resistant
- High Flexibility
- Flame & fire retardant
- Oil resistant
- Torsion resistant

ITEM CODE	NO OF CORES & CROSS SECTIONAL AREA	OVERALL DIA OF CABLE	APPROX. WEIGHT OF CABLE
	Sq.mm	mm	Kg/Km
FGCBWC3C25	3 X 25	27.5	1501
FGCBWC3C35	3 X 35	31	1961
FGCBWC3C50	3 X 50	36	2641
FGCBWC3C70	3 X 70	40.5	3151
FGCBWC3C95	3 X 95	46.5	4576
FGCBWC3C120	3 X 120	50.5	4591
FGCBWC4C25	4 x 25	30.5	1871
FGCBWC4C35	4 x 35	34.5	2321
FGCBWC4C50	4 x 50	39	3101
FGCBWC4C70	4 x 70	43.5	4241
FGCBWC4C95	4 x 95	51.5	5716
FGCBWC4C120	4 x 120	56	6950

For more information please contact: ***Paresh Gupta*** *– paresh@svarn.com*

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SINGLE CORE COPPER TOWER CABLE

Svarn single core copper tower cables are designed to meet the rigorous demands of wind farm installations, whether they are fixed or mobile. XLPO (cross-linked polyethylene) insulation provides excellent electrical properties, thermal stability, and resistance to environmental factors, making it well-suited for use in both stationary and mobile wind turbine setups.

CABLE STRUCTURE

- Flexible tinned copper conductor
- XLPO insulated

TECHNICAL DATA

- Rated voltage: 0.6 - 1kv
- Temperature range: -55°C to 145°C
- Test voltage: 3.5 kv
- Bending radius (Min): 6x cable dia
- Bending radius (Max): 10x cable dia
- As per IEC 60502 standard

FEATURES

- Used in extreme weather conditions (UV Resistance)
- Oil & chemical resistant
- Flexibility and stripability for fast and easy installation
- Thermal stress resistant
- Flame and fire retardant
- Halogen free: low smoke emission & toxicity during fire
- Ozone resistant
- Torsion resistant

ITEM CODE	NO OF CORES & CROSS SECTIONAL AREA	OVERALL DIA OF CABLE	APPROX. WEIGHT OF CABLE
	Sq.mm	mm	Kg/Km
FGCBWC1C6	1 X 6	5.4	71
FGCBWC1C10	1 X 10	6.8	120
FGCBWC1C16	1 X 16	8.5	181
FGCBWC1C25	1 X 25	10.3	271
FGCBWC1C35	1 X 35	11.8	374
FGCBWC1C50	1 X 50	13.9	529
FGCBWC1C70	1 X 70	16	729
FGCBWC1C95	1 X 95	18.5	967
FGCBWC1C120	1 X 120	20.5	1231
FGCBWC1C150	1 X 150	22.1	1531
FGCBWC1C185	1 X 185	24.8	1881
FGCBWC1C240	1 X 240	27.7	2501

For more information please contact: ***Paresh Gupta*** *– paresh@svarn.com*

SINGLE CORE COPPER E-BEAM TOWER CABLE

Svarn single core copper e-beam tower cables are specialised cables designed for use in wind turbine applications, particularly within the tower structure. These cables are specifically engineered to meet the unique requirements of wind turbine installations, providing efficient power transmission while withstanding the mechanical stresses and environmental conditions.

CABLE STRUCTURE

- Flexible tinned copper conductor
- Electron Beam Cross Linked insulation
- Electron Beam Cross Linked outer sheath

TECHNICAL DATA

- Rated voltage: 1.8 / 3 kv
- Temperature range: -40°C to 155°C
- Test voltage : 6 kv
- Bending radius (Min): 6x cable dia
- Bending radius (Max): 10x cable dia
- As per IEC 60502 standard

FEATURES

- Used in extreme weather conditions (UV Resistance)
- Oil & chemical resistant
- Flexibility and stripability for fast and easy installation
- Thermal stress resistant
- Flame and fire retardant
- Highly short circuit & earth fault resistant cable
- Ozone resistant
- Torsion resistant

ITEM CODE	NO OF CORES & CROSS SECTIONAL AREA	OVERALL DIA OF CABLE	APPROX. WEIGHT OF CABLE
	Sq.mm	mm	Kg/Km
FGCBWC1C1.5	1 X 1.5	6.99	68
FGCBWC1C2.5	1 x 2.5	7.45	83
FGCBWC1C4	1 x 4	8.8	120
FGCBWC1C6	1 x 6	9.39	148
FGCBWC1C10	1 x 10	10.72	209
FGCBWC1C16	1 x 16	11.81	283
FGCBWC1C25	1 x 25	13.7	405
FGCBWC1C35	1 x 35	14.91	522
FGCBWC1C50	1 x 50	16.43	691
FGCBWC1C70	1 x 70	18.2	912
FGCBWC1C95	1 x 95	20.64	1214
FGCBWC1C120	1 x 120	22.3	1484
FGCBWC1C150	1 x 150	23.95	1802
FGCBWC1C185	1 x 185	26.04	2192
FGCBWC1C240	1 x 240	29.07	2795
FGCBWC1C300	1 x 300	30.31	3414

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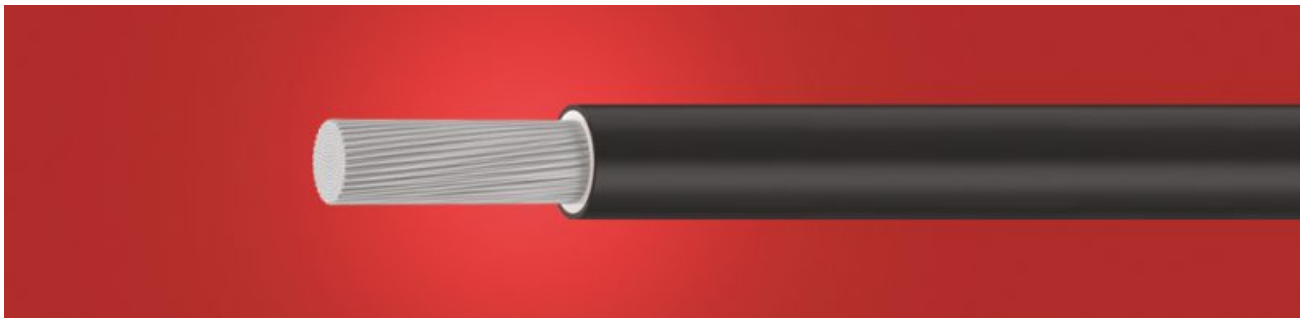
SINGLE CORE ALUMINIUM TOWER CABLE

Svarn single core copper tower cables are designed to meet the rigorous demands of wind farm installations, whether they are fixed or mobile. XLPO (cross-linked polyethylene) insulation provides excellent electrical properties, thermal stability, and resistance to environmental factors, making it well-suited for use in both stationary and mobile wind turbine setups.



CABLE STRUCTURE

- Stranded aluminium conductor
- XLPE insulation
- HF-FR outer sheath

TECHNICAL DATA

- Rated voltage: 0.6 - 1kv
- Temperature range: -50°C to 180°C
- Test voltage: 3.5 kv
- Bending radius (Min): 6x cable dia
- Bending radius (Max): 12x cable dia
- As per IEC 60502 standard

FEATURES

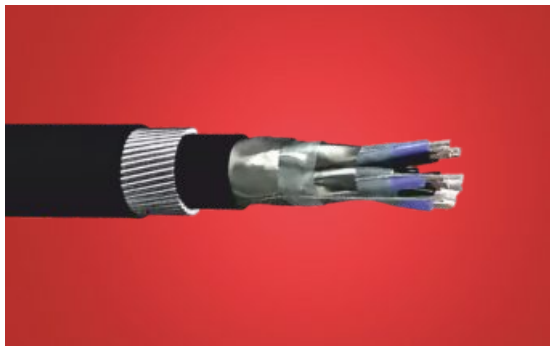
- Used in extreme weather conditions (UV Resistance)
- Oil & chemical resistant
- Flexibility for fast and easy installation
- Thermal stress resistant
- Flame & fire retardant
- Halogen free: low smoke emission and toxicity during fire
- Ozone resistant
- Torsion resistant

ITEM CODE	NO OF CORES & CROSS SECTIONAL AREA	OVERALL DIA OF CABLE	APPROX. WEIGHT OF CABLE
	Sq.mm	mm	Kg/Km
FGCBWC1C85	1 X 185	22	961
FGCBWC1C240	1 X 240	24.2	1209
FGCBWC1C300	1 X 300	26.9	1344
FGCBWC1C400	1 X 400	29.9	1844

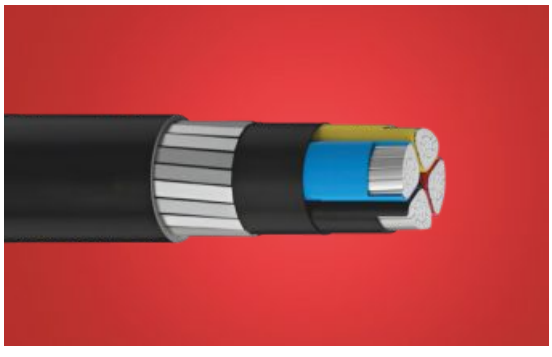
COMPREHENSIVE CABLING SOLUTIONS FOR WIND POWER APPLICATIONS

CONTROL CABLES

Flexible shielded cables with 2 to 100 cores are versatile components used in various applications, including carrying energy and low-frequency signals to control motor drives or generators in wind turbines. These cables play a crucial role in transmitting power and control signals, enabling functions such as braking, positioning, and optimizing rotor RPMs.



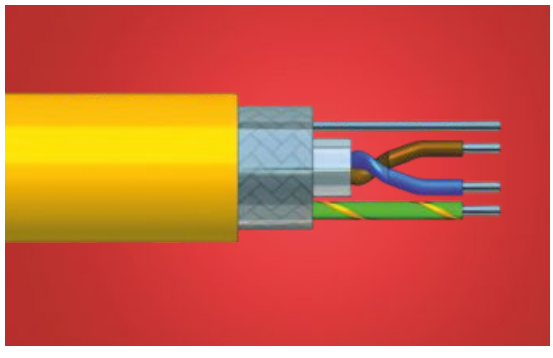
POWER & CONTROL CABLES



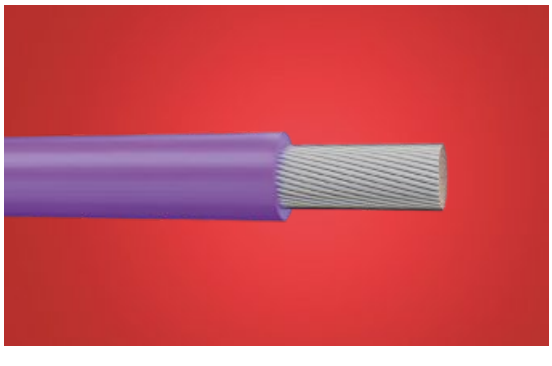
Unarmored cables suit fixed installations without mechanical risk, while armored cables are recommended for areas needing enhanced mechanical protection and EMC screening. Svarn's highly flexible cables are ideal for narrow spaces with tight bending requirements. Multicore cables with sectoral conductors offer additional space and weight savings on cable trays.

FIELDBUS, COAXIAL CABLES

Can Bus or Profibus cables have fixed impedance and transmit an extremely precise digital signal to control all essential PV array functions, like motors, rudder and hydraulic systems. Coaxial cables are usually used for on-board high frequency data transmission (communication equipment, radar, and instrumentation) and also carry video signals for surveillance cameras.



LV FIXED INSTALLATION CABLES



Copper cables can be single or multicore, featuring EMC screening. In contrast, single-core aluminum cables are larger but weigh half as much, making them more cost-effective and easier to handle and install, especially in tall towers. Svarn provides low-voltage aluminum cables to major wind energy OEMs.

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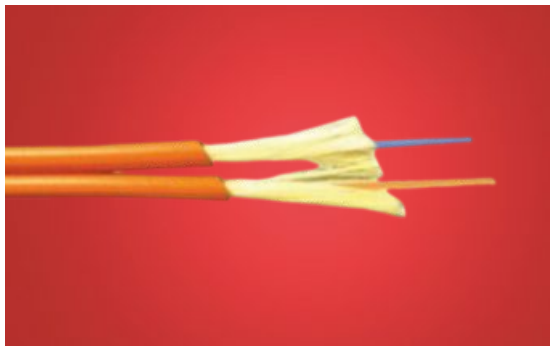
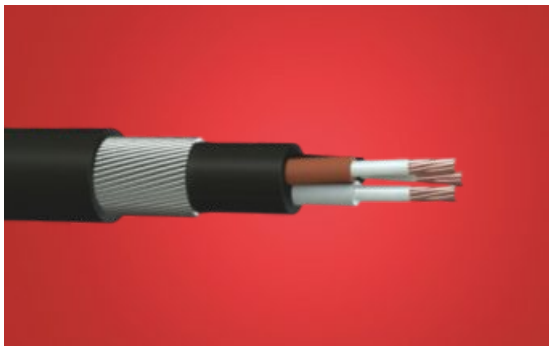
FIBER-OPTIC CABLES



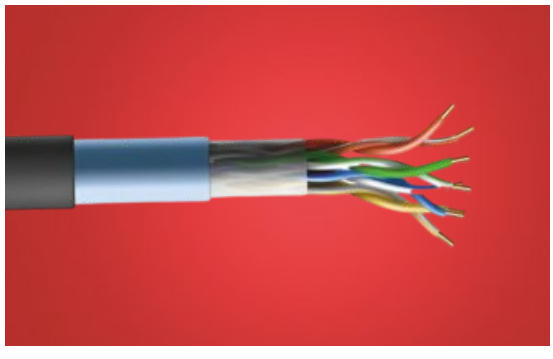
Svarn's robust and halogen-free fiber optic cables ensure high data transmission capacity for monitoring and control in energy-dense environments, providing Electromagnetic Compatibility (EMC). These cables are exceptionally flexible and can withstand high torsion, making them suitable for demanding applications. With large cores (200 microns), connectivity is made easier, ensuring reliable performance in critical operations.

FIRE RESISTANT CABLES



In a fire emergency, onboard equipment must remain operational to aid safe evacuations. Svarn excels in innovative fire-resistant cable design for control and power applications, vital for safety systems like emergency lighting, fire detection, and door opening mechanisms. These cables ensure electrical circuit integrity for a specified period post-fire onset, enhancing safety in wind farms and protecting lives and infrastructure from fire risks.

ELECTRONIC AND DATA TRANSMISSION CABLES



Thermoplastic Modified (TPM) cables, with 2 to 5-core sensor multicore options, measure wind speed, temperatures, and performance parameters. Additionally, 2-core Fieldbus cables control electronic and mechanical devices alongside energy cables. Two-core Profibus cables offer speeds up to 12 Mbit/s for precise control services, and data transmission cables provide Industrial Ethernet speeds. All cables are shielded for Electromagnetic Compatibility (EMC) protection.

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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