Eight Decades of Trust & Innovation

WIND ENERGY & SOLAR CABLES

ABOUT US

- Nicco Cables is a 80 year old brand based in India
- Nicco specializes in manufacturing wide range of Wires and Cables
- Nicco has an in-house R&D facility
- Nicco specializes in Compound manufacturing and has a dedicated team for Compounds
- Nicco is the first Company in India to install a 3 MeV Electron Beam Plant form USA for manufacturing irradiated cables
- The manufacturing plant covers an area of 450,000 sq.ft.
- National Accreditation Board for Testing and Calibration Laboratories (NABL) accredited Testing laboratory at plant

NICCO PRODUCES A WIDE RANGE OF CABLES

- Solar & Windmill Cables
- Ethernet Cables (Cat-5e, Cat-6a, Cat-7)
- LT & HT Power & Control Cables (Upto 66 kv)
- Elastomeric & Silicon Cables (Upto 15 kv) for various application
- PTFE, ETFE & FEP Cables
- Flexible Trailing Cables - H07-RNF
- Ethernet Polyurethane Cables
- Rolling Stock Cables
- Ship Building Cables
- Fire Survival Cables (For Nuclear Reactor)
- TREE WIRE / SPACER Cables - 3 layer Track Resistant (upto 35kv)
- Hybrid / Composite and Underwater Cables
- Pressure Tight Cables
- Overhead transmission Conductors (AAAC, ACSR, AAC, ACAR , AL-59)
- Medium Voltage Covered Conductors (MVCC)
- Automotive Cables
- Cable Harnessing

WINDMILL CABLES

- NICCO manufactures a broad range of Low and Medium Voltage cables for Wind Mill Sector
- LT Elastomer Cables with Chemical Cross Linking and E-Beam Cross Linking Torsion Cables for both Copper & Aluminium conductors
- Bare or Annealed Tinned Copper or Aluminium Flexible conductors
- EPR Insulated and PCP/CSP/CPE sheath with FRLS Properties if required
- LT PVC & XLPE Cables
- MV Cables (XLPE/Elastomer) cables upto 15 KV
- Operating range from -40°C up to 120°c
- Altitude of Installation: Up to 2500m over sea level

PROPERTIES

- Tensile strength & Torsion Strength
- Oil, Ozone, UV & Humidity resistance
- Flame & Fire retardant
- Halogen Free and Low smoke emission Requirements
- Acid Gas Emission / Toxicity Index Requirements

HARNESS

We are committed to provide complete solution to Wind Energy Sector and provide top quality cable with harnessing assembly. We have the state-of-the-are Wire Harnessing facility, which is equipped with different types of Hand Crimping Tools & Hydraulic Crimping Tools. We are also equipped with well trained & experi enced manpower to execute such harnessing activity.

GENERAL CONSTRUCTION (FOR LV CABLES)

- Conductor: Annealed Copper Conductor (Class-2/Class-5)
- Insulation: with XLPE/PE/EPR/SILICON/EVA
- Screening: Copper Braiding/ AL Mylar Tape (On request)
- Sheathing: Elastomeric/LSZH/PVC/EVA
- Synthetic Yarn and Varnished (On Request for Silicon cables only)
- Type of Cable: Single-core or Multi-core constructions
- Torsion Degree - 150°/m, Number of cycles: 20000 Cycle each (clock and anti clock wise)
- Application: Low voltage cables are used to connect motors, actuators and lights to the control cabinets

GENERAL CONSTRUCTION (FOR MV CABLES)

- Conductor: Stranded / Flexible Annealed Copper Conductor
- Conductor Screening: Semiconducting Conductor Screen
- Insulation: EPR/HEPR/EVA as Primary Insulation Material
- Insulation Screening: Semiconducting Insulation Screen
- Metallic Screening- Copper Braiding/ Helical Armouring (On request) Sheathing: Elastomeric/LSZH/PVC/EVA
- Type of Cable: Single-core or Multi-core constructions
- Torsion Degree - 108°/m, Number of cycles: 5000
- Application: Medium Voltage cables are used to connect the transformer placed at the rear part of the nacelle with the switchgear placed at the bottom of the tower

SOLAR CABLE

Nicco Solar cables are manufactred employing State-of-the-art Electron Beaming facility to meetcontinuous operating temperature of 120 Deg. C, ensuring higher Current carring capacity. These Cablesare suited for all types of solar modules, Photovoltaic Plants / system, Building integrated PV systems and solar parks applications. These cables are manufactured as per BS EN 50168:2014 incorporating the corrigendum

Properties and Characteristics of Nicco Solar Cables are :

- Ozone & UV resistant
- Resistant to adverse weather condition
- Oil, Chemical and Crack resistant
- Halogen free and flame propagation resistant
- Resistant to water, impact and abrasion
- Low smoke and toxic gas emission
- Tear resistant and withstand wide range of Temperature
- Enhanced cable service Life

No. of Core & Crossection	Tickness of Insulation	Tickness of Sheath	Approx. Overall Diameter	Min. Insulation Resistance at 20 Deg.C	Min. Insulation Resistance at 90 Deg.C
no.X sqmm	mm	mm	mm	MegOhm.Km	MegOhm.Km
1 X 1.5	0.7	0.8	5	860	0.86
1 x 2.5	0.7	0.8	5.3	690	0.69
1 X 4	0.7	0.8	6	580	0.58
1 X 6	0.7	0.8	6.5	500	0.5
1 X 10	0.7	0.8	7.5	420	0.42
1 X 16	0.7	0.9	9	340	0.34
1 X 25	0.9	1	11	340	0.34
1 X 35	0.9	1.1	12.5	290	0.29
1 X 50	1	1.2	14.5	270	0.27
1 X 70	1.1	1.2	17	250	0.25
1 X 95	1.1	1.3	19	220	0.22
1 X 120	1.2	1.3	21	210	0.21
1 X 150	1.4	1.4	23	210	0.21
1 X 185	1.6	1.6	26	200	0.2
1 X 240	1.7	1.7	29.5	200	0.2

Cable Construction

Conductor composed of annealed tinned flexible (Class 5) Copper Wires, Electron Beam Irradiated Crosslinked Polyolefin compound Insulated and Sheathed with Electron Beam Irridiated Crosslinked Polyolefin compound. Operating Voltage 1 Kv AC and 1.5 Kv DC. Permissible Operating Voltage (max.) 1.8 Kv DC Conductor to Conductor for Non-Earthed system.

Test Voltage 6.5 Kv (AC). Max. Conductor Temperature -40 to + 120 Deg. C. Ambient Temperature -40 to + 90 Deg.C.

Current Carrying Capacity as per method of Installation			
Cable Crossection	Single Cable In Free Air	Single Cable on a surface	Two Cables touching each other on a surface
sqmm	Amps	Amps	Amps
1.5	30	29	24
2.5	41	39	33
4	55	52	44
6	70	67	57
10	98	93	79
16	132	125	107
25	176	167	142
35	218	207	176
50	276	262	221
70	347	330	278
95	416	395	333
120	488	464	390
150	566	538	453
185	644	612	515
240	775	736	620

The above Current Carrying Capacity is at ambient Temperature of 60 Deg. C and Maximum Conductor Temperature of 120 Deg.c.

Correction Factor for Variation in Temperature

Ambient Temperature (Deg.C)	Correction Factor
upto 60	1
70	0.91
80	0.82
90	0.71
100	0.58
110	0.41

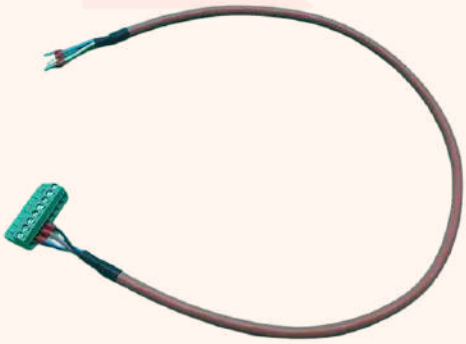
Note: Permitted Short-Circuit temperature is 250 Deg.c for a duration of 5 sec.

Cable Harnessing Solutions

At Nicco Cables Pvt. Ltd., we are at the forefront of delivering precision-engineered harness assemblies for renewable energy systems, with proven expertise in both wind and solar applications.

Key Highlights

- **State-of-the-Art Facility:** A 35,000 sq. ft. clean, dust-proof manufacturing environment built to IEC 61400 and AS9100D standards.
- **Advanced Production Lines:** Five dedicated lines with fully automatic and semi-automatic machines ensure consistent quality and efficiency.
- **ESD-Safe Workstations:** White anti-static tables designed to protect sensitive components from electrostatic discharge.
- **Expert Engineering Team**: Skilled professionals collaborate closely with customers to deliver tailored solutions, aligned with both standard and customer-specific drawings.
- **Comprehensive Quality Assurance**: From rigorous raw material evaluation and in-process controls to in-house testing, we maintain uncompromising quality standards.
- **Specialized Moulding & Potting:** Advanced solutions to protect critical components, enhancing durability and reliability in demanding environments.

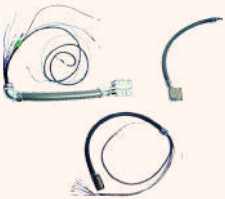


Windmill Cable

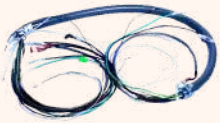
Wind-Power-Generator-Wire-Harness-with-Han-E-Series-600V-Connector

Heavy-Duty-Wire-Harness-with-PP-conduit 11995-1

Wire Harness With Protective Conduit And Heavy Duty Connector



Wire Harness with protective conduit and heavy duty connector



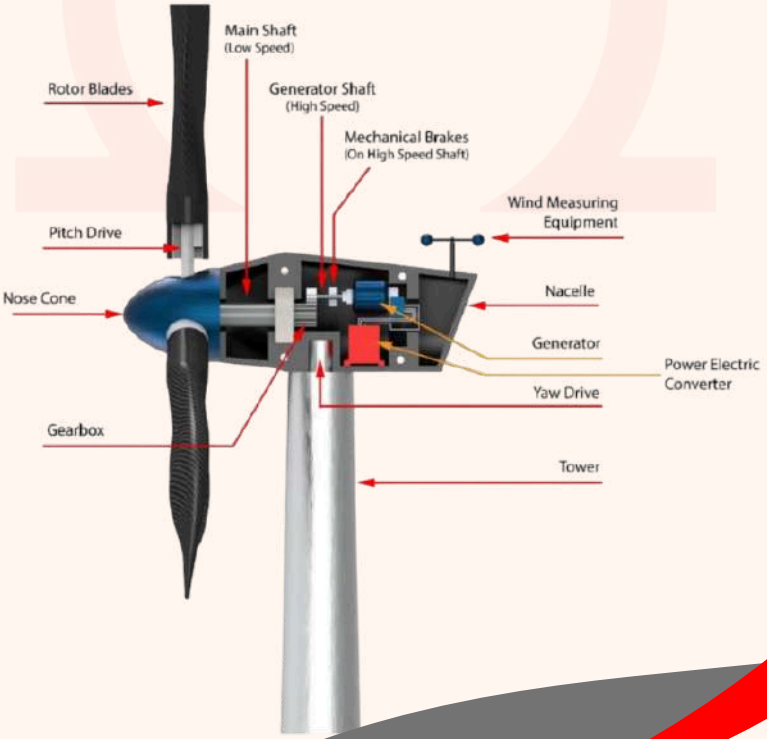
Wire Harness With Protective Conduit Of Low Temperature

Wire Harness With Protective Conduit

Wire Harness With Protective Conduit For Motor Application

Wire Harness with protective conduit of low temperature

Medium Voltage Cable Harness



EXISTING CERTIFICATIONS

ISO 9001 / 14001 / 45001

Directorate of Quality Assurance (Navy) [DQAN] Registration Certificate

Defense Research and Development Laboratory (DRDL) Registration Certificate

Integrated Headquarters of Ministry of Defence (IHQ/DEE/MOD)

Research Designs and Standards Organization (RDSO)

American Bureau of Shipping (ABS)

Indian Register of Shipping (IRS)

Underwriters Laboratories (UL)

Central Power Research Institute (CPRI)

Bureau of Indian Standards (BIS)

International Railway Industry Standard (IRIS)

National Accreditation Board for Testing and Calibration Laboratories (NABL)

Det Norske Veritas (DNV)

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