NYVIN CABLES

IGI CABLE

ABOUT IGI

Industrial Glass Insulation (IGI Cable™) was established in the year 1989 with 2 old braiding machines and 3 workmen; the partners of the firm. We soon purchased a lot of 8 old, discarded and inoperable braiders. It was a challenge to get these machines cleaned & repaired taking an immense amount of effort. These machines were called 'Carters'. In time, we got our hands on to some more Carters - there was no looking back. It was our firm conviction that these machines would give us a quality production, that people around us thought was never possible.

Today, we make multiple types of cables on the back of an able team and capable facility. We are growing rapidly while maintaining the same ethos that got our Carters up & running.

NYVIN

Nyvin Cables were primarily used in Aircraft Industry for general purpose electrical cables. Owing to the stringent design as per BS G-177 standard and its inherent electrical & insulation properties, Nyvin Cable found its application in many other Industries. IGI™ Nyvin Cable is the oldest and largest manufacturer of this type of cable in India. IGI™ Nyvin Cable has become synonymous with Wiring in the UPS / Inverter Industry and is a preferred choice in Battery Inter-Link, Control Panels, Electric Motors, Transformers, Solar Power Equipment, HVAC and Diesel Generator Sets. The Nyvin cable will grab the attention of other industries as well, as we believe its Application is far & wide and yet to be discovered.

Nyvin type cables have superior properties compared to PVC cables. The current carrying capacity of the Nyvin Cable is also greater than PVC Cable, for a given size, making Nyvin cost effective.

OUR CUSTOMERS

ABB

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Reliance Industries Limited

Schneider Electric

बी एच ई एल BHEL

பாரத் எலக்ட்ரானிக்ஸ் भारत इलेक्ट्रॉनिक्स BHARAT ELECTRONICS QUALITY. TECHNOLOGY. INNOVATION

VERTIV.

Smart solutions. Strong relationships.

TATA COMMUNICATIONS

हिएलि HAL

POWERICA A PROMISE FOR POWER

एनटीपीसी NTPC A Maharatna Company

wipro

SUZLON POWERING A GREENER TOMORROW

Kirloskar Enriching Lives

AMARA RAJA Gotta be a better way

DELTA

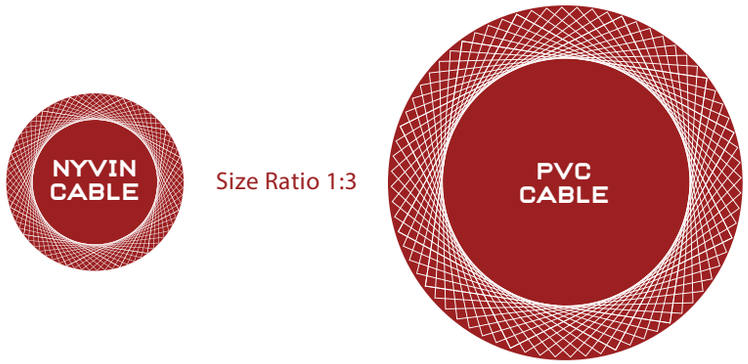
socomec Innovative Power Solutions

CONSUL NEOWATT

EATON

ADITYA BIRLA GRASIM

COMPARISON BETWEEN NYVIN AND PVC CABLES



Nyvin Cables have a superior current carrying capacity than regular PVC Cables. The circles above represent the required cross-sectional area for PVC and Nyvin Cable to carry the same amount of current. Copper forms the largest component of cost in the manufacturing of cables; Nyvin Cables need a lower amount of copper to conduct the same amount of current and they are much more economical than PVC Cables. Below is the comparative data sheet of size and current rating between PVC and Nyvin:

Nyvin Cable Size	Area in mm^2	Current Rating A@40°C	PVC Cable Size (mm^2)	Current (A)
U-22	0.347	11	-	-
U-20	0.556	14	-	-
U-18	0.966	18	2.5	19
U-16	1.17	21	4	26
U-14	2.05	31	6	33
U-12	3.22	43	10	45
U-10	5.33	61	16	60
U-8	8.76	87	25	75
U-6	13.3	115	35	95
U-4	21.5	160	50	125
U-2	33.3	200	70	170
U-1	40.7	220	95	210
U-0	53.0	240	120	235
U-00	68.3	270	150	295
U-000	84.2	300	-	-
U-0000	109.0	350	-	-

PROPERTIES COMPARISON

Charateristics	PVC Cable	Nyvin Cable
Conductor (Copper)	Bare	Tinned
Insulation	PVC	PVC + Fibre Glass Braiding + Nylon Braiding & Lacquering (See benefits below)
Oxidation	Yes	No
Solderability	No	Yes
Material Weight	High	Low
Fire Retardency	Low	High
Temperature Range (°C)	-20 to 70	-30 to105
Heat Emission	High	Low
Abrasion Resistance	Low	High
Conductor Area	High	Low
Mechanical Strength	Low	High
Cost factor	High	Low
Resistance to Oil, Fluids & Fungus growth	Low	High

BENEFITS

- Tinned copper – The cable does not oxidize and is compatible to solder
- HR-PVC – The Cable can withstand a maximum temperature of 105°C
- Fibre Glass Braiding – Fibre glass is a bad conductor of fire, therefore ensuring fire-retardancy during fires. It also gives high mechanical strength of cable.
- Nylon Braiding and Lacquering – Nylon adds to the thermal stability of the cable. The process of lacquering improves the mechanical strength of the cable and also makes the cable oil, water and abrasion resistant

For sizes from U-10 to U-0000

NYVIN

Uni-Nyvin or Nyvin type cables
600/1100V

Construction

•Flexible Tinned Copper Conductor (ATC), stranded as per IEC 60228- 5
•HR-PVC Insulation
•Fibre Glass Yarn Braid
•Coated Nylon Yarn Braid

Temperature Range

-30°C to 105°C

Application

• Uninterruptible Power Supply (UPS) and Inverter Systems
• Diesel Generator Sets
• Control panels
• Data Centres
• Battery Interlinks
• Transformers
• Heating Ventilation Air Conditioning (HVAC) Systems
• Electric Motors

Approvals

CE RoHS

For sizes from U-22 to U-12

Technical Specification

•Resistant to a multitude of oils, alcohols, vegetable & animal fats, and chemical substances
• Colour: As per customer specification.
• FRLS, RoHS and Halogen Free Insulation on request.

Flexibility
6 x Diameter

Rated Voltage
600/1000V

Spark Test Voltage
3200V

Cable Size	Area (mm^2)	Conductor		Overall Ø Max. (mm)	Max Conductor Resistance at 20°C Ω / 900 m	Current Rating (A)	
		No.of Wire / Ø	Nom. Ø (mm)			@ 20°C	@ 40°C
U-22	0.347	19 / 0.152	0.838	2.0	49.66	14	11
U-20	0.556	19 / 0.193	1.041	2.3	30.95	18	14
U-18	0.966	33 / 0.193	1.320	2.5	17.82	23	18
U-16	1.17	40 / 0.193	1.549	2.8	14.70	27	21
U-14	2.05	70 / 0.193	1.955	3.4	8.41	40	31
U-12	3.22	110 / 0.193	2.438	3.8	5.35	55	43
U-10	5.33	75 / 0.3	3.149	5.0	3.23	78	61
U-8	8.76	124 / 0.3	4.241	6.3	1.97	111	87
U-6	13.3	188 / 0.3	5.537	7.6	1.30	148	115
U-4	21.5	304 / 0.3	6.908	9.3	0.802	205	160
U-2	33.3	471 / 0.3	8.763	11.0	0.517	256	200
U-1	40.7	575 / 0.3	9.753	12.2	0.423	282	220
U-0	53.0	749 / 0.3	10.972	13.7	0.325	308	240
U-00	68.3	965 / 0.3	12.446	15.4	0.252	346	270
U-000	84.2	1190 / 0.3	13.919	16.9	0.204	384	300
U-0000	109.0	1545 / 0.3	15.621	18.7	0.158	450	350

Data Sheet based on BS G 177 & IGI specification.

CURRENT CARRYING CAPACITY FOR NYVIN CABLES

Nyvin Cable Size	Maximum Continuous Rating (A) in free Air for bunched Cable			
	Single	3	7	12
U-22	11	7	5	4
U-20	14	9	7	5
U-18	18	13	10	6
U-16	21	15	11	7
U-14	31	24	17	12
U-12	43	30	22	15
U-10	61	47	36	25
U-8	87	65	49	36
U-6	115	87	65	-
U-4	160	120	92	-
U-2	200	155	120	-
U-1	220	165	130	-
U-0	240	185	168	-
U-00	270	210/240[a]	190[b]	-
U-000	300	235/265[a]	210[b]	-
U-0000	350	270/305[a]	245[b]	-
Note: 'a' denotes two cables only; 'b' denotes five cables only				

These current ratings are based on a temperature rise of 40°C and allow for an ambient temperature of 65°C: the maximum permissible conductor temperature is 105°C

If the ambient temperature 't' is continuously in excess of 65°C, the current rating should be multiplied by a factor 'k' where
$k = \sqrt{(105-t/40)}$

Current De-Rating							
Ambient Temperature °C	40	45	50	55	60	65	70
De-Rating Factor 'k'	1	0.96	0.92	0.88	0.83	0.78	0.75
Ambient Temperature °C	70	75	80	85	90	95	100
De-Rating Factor 'k'	0.75	0.73	0.68	0.62	0.53	0.48	0.30

A COMPLETE SOLUTION

Cables have to be processed further before they can be installed in the application. They need to be cut-to-size, lugs / connectors have to be crimped at the ends and colour coding or markings have to be added to each piece of cable. This process can be tiring and highly labor intensive for companies that do not have specialized machinery, expertise and trained workforce. Most companies choose a more cost-effective option of buying harnessed cables that are ready to be installed within the appliance.

We at IGI Cable™, have a complete harnessing facility that is equipped with state-of-the-art machinery and facility required to make harnesses as per customers' design. Our supply chain, for different types of connectors, lugs, ferrules, sleeves and other ancillaries, is more than 20 years old and it is this that helps us give our customer an economical solution.

ADDITIONAL PRODUCTS

SIGI™ SIFGL

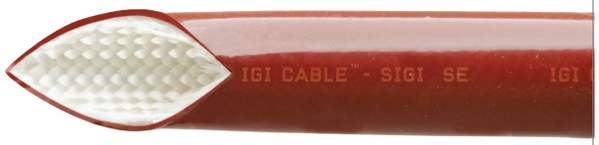
Silicone rubber insulated
single core cables with a
coated fiberglass
or synthetic yarn braiding
(Upto – 180°C)

SIGI™ SIF

Silicone rubber
insulated single core cables
(Upto – 250°C)

SIGI™ SE SLEEVE

Silicone rubber extruded fibre
glass sleeve (Upto +250°C)

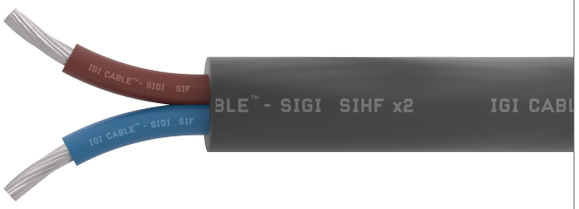


SIGI™ SC SLEEVE

Liquid Silicone Rubber coated
fiber glass sleeve (Upto +200°C)

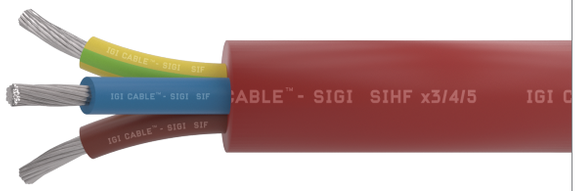
SIGI™ SIHF X2

Silicone rubber insulated
2 core cables (Upto +250°C)



SIGI™ SIHF X3/4/5

Silicone rubber insulated multi
core cables (Upto +250°C)



IGI™ CABLE XLPE

Cross-linked polyethylene insulated
single core cables
(Upto– 125°C)

NOTES

INDUSTRIAL GLASS INSULATION

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