ELAND® CABLES

Cheat Sheet: NYY Power Cables

INTRODUCTION

NYY cables are an economical solution to power and control wiring where mechanical protection is not required. Originating in Germany they are now popular in many parts of the world. Having no armour can offer benefits, such as cost savings, weight reduction and smaller cable diameter. NYY cables can be used a suitable alternative to SWA, where mechanical protection is not required. NYCY & NYCWY Cables are used where increased electrical and mechanical protection is required. Also available in LSZH materials and with Aluminium conductors.

CONSTRUCTION

NYY-J/O

- RE: Class 1 solid Copper or
- RM: Class 2 stranded Copper conductor
- Insulation: PVC (colour coded with/without Green/Yellow core)
- Filler: PVC
- Sheath: PVC
- Voltage Rating: 600/1000V
- Temperature Rating: Fixed: -15°C to +70°C
  Flexed: -5°C to +50°C

NYCY

- RE: Class 1 solid Copper conductor
- Insulation: PVC
- Filler: PVC
- Concentric Conductor (Wires & Tape)
- Sheath: PVC DMV4
- Voltage Rating: 600/1000V
- Temperature Rating: Fixed: -20°C to +70°C
  Flexed: -5°C to +70°C

NYCWY

- RE: Class 1 solid copper conductor
- RM: Class 2 stranded copper conductor
- SM: Class 2 stranded, sectorial shape
- Insulation: PVC
- Filler: PVC
- Concentric Conductor, Waveconal outer conductor (copper wire and counter spiral copper tape)
- Sheath: PVC
- Voltage Rating: 600/1000V
- Temperature Rating: -5°C to +70°C

NAYY

- RE: Class 1 solid Aluminium conductor or
- RM: Class 2 stranded Aluminium conductor or
- SM: Sectorial/Compact Aluminium conductor
- Insulation: PVC
- Filler: PVC
- Sheath: PVC
- Voltage Rating: 600/1000V
- Temperature Rating: Flexed: -5°C to +70°C

WHERE TO USE NYY CABLES?

NYY Cables are recognised within the European Power Cable range. These European power cables have all been designed to meet the European National Standards IEC 60502-1. NYY cables are robust and far more flexible than SWA cables. They are also an economical solution to power and control wiring where mechanical protection is not required.
These power cables are designed for energy supply:

- In cable ducts
- Power stations
- Distribution boards
- Industrial applications and subscriber networks.
- They may also be used in brickwork and in concrete.
- They can be installed in open air, underground, in water and indoors.

Available in single and multi core variants

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FREQUENTLY ASKED QUESTIONS

What are the core colours?

NYY, & NAYY-J:
- 3 Core: Blue, Brown, Green/Yellow
- 4 Core: Brown, Black, Grey, Green/Yellow
- 5 Core: Brown, Black, Grey, Blue, Green/Yellow
- 7 Core and Above: Number Coded (Excluding NAYY)

NYCY, NYCWY & NAYY-O
- 2 Core: Brown, Blue
- 3 Core: Brown, Black, Grey
- 4 Core: Brown, Black, Grey, Blue

What do the abbreviations stand for?

N: According to VDE Standard
A: Aluminium Conductor
Y: PVC Insulated
C: Concentric conductors of copper wires and copper tape, helically wounded
CW: Concentric conductor of copper wires in waveconal formation and copper tape, helically wounded
J: Green/Yellow core exist, which does not consist of copper spiral wrap.
O: No Green/Yellow core exists, which does not consist of copper spiral wrap.

What is the difference between NYY and SWA?

NYY cables are loosely referred to as general mains power cables in the industry. SWA (Steel Wire Armoured) cables are the armoured equivalent of this range. The UK market is slightly different to other markets in the world as SWA cables have become part of almost all specifications for commercial and industrial applications. While SWA cables provide increased mechanical protection, it is in many cases viewed as not necessary and over specified. We can provide some justification, in offering a more cost effective solution for most applications where SWA may not be required. There are also a number of advantages of using NYY over SWA. The cost of the cable installation is less (labour time). They are more flexible and much easier to handle than SWA. It's lighter in weight than SWA, and the overall cost of the cable is cheaper than that of SWA, and is not affected by steel prices.

Why would you select NYCY?

Overall, where increased electrical and also light mechanical protection are required. The concentric conductor (C) is permitted to be used as a neutral-, protective or earthed conductor. Simultaneously, this also is permitted to be applied as a screen for example earth-connected protection against contact.

Why would you select NYCWY?

The concentric conductor (CW) is also permitted to be used as a neutral-, protective or earthed conductor. This also is permitted to be applied as a screen for example earth-connected protection against contact. Due to the waveform construction of CW, it is possible to have a number of cable joints without cutting the neutral conductors, as they can be formed into a bunch on each side of the phase conductors.

Is there LSZH versions available?

Yes, NYY – N2XH, NYCWY – N2XCH, NAYY – NA2XH
Difference – All cables in LSZH have a 90° conductor temperature compared to the PVC of 70° due to the XLPE core insulation.