NS75 & NS90

2C6 AL PE 1C6 ACSR NS75

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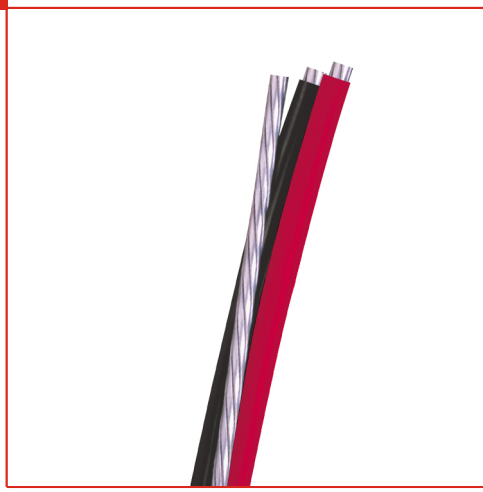

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Neutral Supported Cable, Overhead Service Entrance Cable, Secondary Distribution Cable, 600 V

DESCRIPTION

Nexans neutral supported cables consist of an assembly of one, two, or three insulated phase conductors factory cabled around a neutral conductor. The neutral conductor is the supporting member. The conductors are insulated with polyethylene (PE) rated 75°C or crosslinked polyethylene (XLPE) rated 90°C and are sunlight resistant.

Application

Neutral supported cables are intended for use either as a service drop cable between a power pole and the service entrance, or as a secondary distribution cable between poles. Their use is limited to circuits not exceeding 600 volts phase-to-phase.

Duplex and triplex service drop cables are intended to deliver single-phase power from the secondary power line or pole-mounted transformer to the service entrance conductors at the user's building or other structures. Quadruplex service drop cable is intended to deliver three-phase power from the secondary power line or pole-mounted transformer to the service entrance conductors at the user's building or other structure.

Optional construction includes an insulated control/supply conductor.

Cables supplied with an optional flame retardant PVC jacket over the insulation are suitable for applications requiring an FT1 rating.

CHARACTERISTICS

Construction characteristics	
Insulation	PE or XLPE
Insulation colour	-
Number of conductors	-
Dimensional characteristics	
Approximate net weight	167.7 kg/km
Conductor diameter	13.3 mm
Conductor size (AWG)	6
Number of strands	7
Electrical characteristics	
Maximum operating voltage	600 V
Usage characteristics	
Maximum operating temperature	75 °C
Minimum installation temperature	- °C

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NS75/NS90 600 V CABLE CONSTRUCTION

Phase Conductor Construction
The phase conductors are aluminum alloy 1350-H19, hard-drawn, compact, concentric lay stranded, 6 AWG to 500 kcmil in size.

Neutral Conductor Construction
The standard neutral conductor is aluminum conductor steel reinforced (ACSR) for use with aluminum phase conductors.

Insulation Material
The former Type designation NS-1 and NSF-2 are no longer applicable. New type designations, "NS75" and NS90", now reflect the temperature ratings.

For Type NS75 cables, the standard insulation on the phase conductor(s) is black linear low-density polyethylene (LLDPE) with a 75°C temperature rating.

For Type NS90 cables, the standard insulation on the phase conductor(s) is black crosslinked polyethylene (XLPE) with a 90°C temperature rating.

Assembly
The phase conductors of a Type NS75 or NS90 cable (including, if applicable, the additional insulated control/supply conductor) are cabled around the neutral conductor without fillers with a length of lay from 25 to 60 times the finished diameter of one of the phase conductors.

Phase Identification
For unjacketed triplex cables only, one conductor shall be printed and one shall be unprinted.
For jacketed triplex and quadruplex cables, solid colour coded identification shall be used.
For unjacketed quadruplex cables, coloured stripes shall be used.

The standard colour code is black, red, blue for phase conductors with a bare neutral support conductor.
For any construction, an optionally insulated neutral support conductor will have white stripes on the insulation, or a solid white jacket.

NS75/NS90 600 V CABLE MARKINGS

The covering will bear the following surface markings:

- Nexans
- Year and plant of manufacture
- Type designation: “NS75” or “NS90”
- Conductor size in AWG or kcmil
- Type of insulation: “LDPE”, “MDPE”, or “XLPE” (if applicable, the jacket type shall also be specified, e.g., “XLPE/PVC”)
- Flame test rating “FT1”, if applicable
- Conductor material: “ALUMINUM” (or “AL”) or “COPPER” (or “CU”)
- Conductor corrosion inhibitor “INH”, if applicable
- Voltage rating: “600V”
- Low-temperature rating “– 40 °C” or “MINUS 40 °C”

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NS75/NS90 600 V OPTIONAL FEATURES

- Reduced size insulated conductor for use as a water heater control conductor
- Conductor corrosion resistant inhibitor treatment
- Flame retardant PVC jacket extruded over the insulation layer. Flame test compliance is indicated by an “FT1” marking, not by the cable type designation
- Annealed uncoated copper phase conductors, 8 to 4/0 AWG in size with copper neutral
- Aluminum alloy, having the Aluminum Association designation 6101, designated A2 in CAN/CSA-C60104 (AA6101-T81) neutral conductor for use with aluminum phase conductors
- Aluminum alloy, steel reinforced A2/S3A (AACSR) neutral conductor for use with aluminum phase conductors

ACSR, ASC DESCRIPTION

ACSR
ACSR is a composite concentric-lay-stranded conductor consisting of a central steel core around which are stranded one or more layers of aluminum alloy 1350-H19 wires. The steel core may consist of a single wire, 7, 19, 37 or more concentrically stranded wires. The steel wires are normally protected against corrosion by a zinc coating. The standard Class A coating is usually adequate for ordinary environments. Heavier Class B or Class C coatings may be specified for greater protection. A special high-strength steel core with a Class A coating is also available.

Features and Benefits:
ACSR conductors have a long service record due to their economy, dependability and favourable strength to weight ratio. Such conductors combine the light weight and high conductivity of the aluminum wires with the tensile strength and ruggedness of the steel core. For overhead line design, this enables higher tensions to be used with less conductor sag and longer spans than would be possible with most other types of conductors.

ASC
Bare overhead aluminum stranded conductors (ASC) are concentric-lay-stranded consisting of one or more layers of aluminum alloy 1350 wires wrapped helically around a central wire. Each successive layer has six wires more than the underlying one. Increasing the number of wires for any given cross-sectional area provides greater flexibility. The most commonly used strandings consist of 7, 19, 37, 61 and 91 wires.

Class AA strandings are used for bare overhead lines. The direction of lay for the outer layer is right-hand and is usually reversed in successive layers. The temper of the wires is full hard-drawn (H19).

Features and Benefits:
ASC conductors are the most economical since their lighter weight means lower unit length costs, easier handling during installation and the use of simpler fittings. They are inherently corrosion resistant due to their homogeneous construction

Applications

ACSR
Aluminum conductors, steel reinforced (ACSR) are widely used for overhead transmission and distribution lines.

ASC
Stranded bare ASC conductors may be used in overhead line installations where the design parameters do not require the higher tensile strength or temperature ratings provided by ACSR, ACCR or other types of conductors