**Synergy Cables Ltd.**
**Sapirim Industrial Park, 1 Eshel Street P.O.B.102,**
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***http://www.synergy-cables.com***

# 1. Applications

For indoor or outdoor installation in the open-air in-tray, trough, and conduit or for direct burial in moisture soil or inside duct where no mechanical damage is to be expected. Power cable for utilities low voltage underground distribution systems and in commercial buildings, industrial plants, power stations and substations. Especially for the inverter-to-transformer link in photo-voltaic power stations, where operating voltage not more than 0.6 kV between a conductor to earth or 1.0 kV between phase conductors at a maximum conductor temperature of 90 °C for continuous normal operation and 250 °C for short circuit.

## Reference Standards and documents

The cables covered by this specification are manufactured and tested as per the following references:

| | |
|---|---|
| 2.1 | IEC 60502-1 Standard: *"Power cables with extruded insulation and their accessories for rated voltages from 1 kV (Um = 1,2 kV) up to 30 kV (Um = 36 kV)" – "Part 1: Cables for rated voltages of 1 kV (Um = 1,2 kV) and 3 kV (Um = 3,6 kV)".* |
| 2.2 | SI 1516-1 Standard: *"Extruded solid dielectric insulated power cables for rated voltages from 1 kV to 30 kV"*. |
| 2.3 | Conforms to IEC 60228 Standard: *"Conductors of insulated cables* |
| 2.4 | Conforms to European Union Regulation (EC) No. 1907/2006, concerning the Registration, Evaluation, Authorization and Restriction of Chemicals (*REACH Regulation*). |
| 2.5 | Conforms to EU Directive No. 2002/95/CE on Restriction on Hazardous Substances, (*RoHS Directive*). |

# 2. Low-Voltage Cables Construction

An aluminum, compact stranded round conductor has an extruded cross-linked polyethylene (XLPE) colored insulation applied around the conductor. Inner covering is applied over the insulated core or assembly. A Black HDPE, UV-Resistant, water resistance class AD8 and termite resistant outer sheath with printed marking is extruded overall. Not fire-proof.

**TYPICAL DRAWING**

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# 3. Low-Voltage Cable Data

## 3.1 NA2X2Y UV SINGLE CORE ALUMINUM CONDUCTOR

### Construction and Dimensional Data

| Catalog number | Conductor cross-sectional area | Nominal Conductor diameter | Approximate | | Minimum bending radius | Max. conductor resistance at 20°C | Short circuit rating, 1sec (1) | Current rating (2) | | Voltage drop ac (5) | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | Outer diameter | Cable weight | | | | In Air (3) | Buried (4) | Single phase | Three phase |
| | mm² | mm | mm | kg/km | mm | Ω/km | kA | A | | mV/A/m | |
| 337BAT1035 | 1 x 35 | 7.0 | 12.5 | 190 | 190 | 0.868 | 3.3 | 124 | 87 | 2.23 | 1.93 |
| 337BAT4035 | 4 x 35 | 7.0 | 27.0 | 905 | 405 | 0.868 | 3.3 | 115 | 87 | - | 1.93 |
| 337BAT1150 | 1 x 150 | 14.5 | 22.0 | 630 | 330 | 0.206 | 14.2 | 329 | 195 | 0.53 | 0.46 |
| 337BAT4150 | 4 x 150 | 14.5 | 49.0 | 3,100 | 735 | 0.206 | 14.2 | 292 | 195 | - | 0.46 |

1. *Short-circuit current calculated for adiabatic heating considering a temperature rise from 90ºC up to 250ºC in 1.0 sec.*
2. *Current rating based on the value listed in Israeli Electrical Code 2014, for a conductor working temperature of 90ºC, load factor LF = 1.0 (100%)*
3. *Current rating in free air as per table 90.8 from Israeli Electrical Code.*
4. *Current rating for cables in buried duct as per table 90.6 form Israeli Electrical Code, duct buried at 0.8m depth, in soil having thermal resistivity of 2.5 K*m/W.*
5. *Calculated for cables in touching-trefoil formation, conductor temperature = 90ºC, System frequency = 50 Hz, load power factor (cos φ)= 1.0*


Rated Voltage 0.6/1 kV ac


Conductor Flexibility – Stranded CL. 2


Minimum Bending Radius during Pull 15 x D


Maximum Conductor Temperature in Service 90°C

UV-Resistant


Not Flame Retardant

Class AD8