Evolucable Indústria de Cabos Especias
Fabrica - Rua Eritina, 20 -Jd Dulce - Sumaré-SP Cep: 13.178-903
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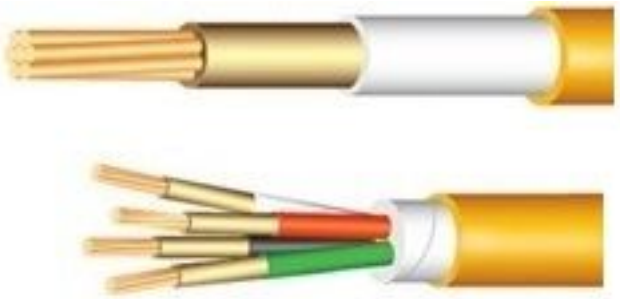
# INNOVCABLE EXTREME FIRE RESISTANT POWER – IEC60331 – 0,6/1KV ENGLISH





***1 -) Conductor: Plain annealed copper wire, stranded class 2 or class 5 according to EN 60228.***

***2 -) Fire Barrier: Mineral Ceramic resistant to fire. IEC 60331***

***3 -) Insulation: Special reticulated polyethylene (XLPE) 90ºC***

***Color of Insulation:***

***1 conductor: Natural.***

***2 conductors: Natural and Black.***

***3 conductors: Natural, Black and Red.***

***4 conductors: Natural, Black, Red and Green.***

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***4 -) Special Polyester Tape.***

***5 -) Jacket: LSZH compound, low smoke zero halogen thermoplastic material type LTS3 to BS 7655-6.1, orange color.***

***– Voltage test: 3.5KV***

## CABLE IDENTIFICATION:

***INNOVCABLE EXTREME FIRE RESISTANT POWER – IEC 60331 – _ x _mm² _0,6/1KV – 90ºC – OF XXXX: YEAR.NNOVCABLE EXTREME FIRE RESISTANT POWER – IEC 60331 – _ x _mm² _0,6/1KV – 90ºC – OF XXXX: YEAR***

## APPLICABLE SPECIFICATIONS:

***Construction***

***– IEC 60228, IEC 60502-1***

***Circuit Integrity***

***– BS 6387 Categories C, W, Z***

***– IEC 60331 at 750 ° C for 3 hours***

***Flame propagation***

***– IEC 60332-1***

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***– IEC 60332-3 Categories A, B, C***

***Emission of acid gases:***

***– IEC 60754-2***

***Smoke Emission***

***– IEC 61034***

## APPLICATIONS:

***Extreme Fire Resistant Cables are designed for exceptional flame performance. Tested in accordance with IEC 60331, are cables that support flames of 750 ° C for at least 180 minutes without short circuits and with continuity integrity (0.25mA). Cables that protect lives and assets to the highest degree of innovation and technology. They are used successfully in many applications such as foundries, steel factories, glass production, chemical industry, military field, among others, it is also used in areas where in case of fire, all kinds of vital equipment need to remain operational . The excellent fire performance of the cable allows extra time for the equipment to be saved or shut down, thereby limiting unnecessary damage. It also has obvious advantages over the types of high temperature cables. With a life cycle that is 5 times higher than other high temperature cables the replacement of these cables is less frequent. This offers considerable cost savings coupled with reduced threat of degradation and loss of production. They do not contain asbestos and are unable to propagate fire. They are flame retardant and highly resistant to temperature. Low installation and operating costs.***

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***Due to extreme high temperature performance, experience has shown that they can often be installed completely exposed. This makes installation quicker and means that the cable can be easily inspected in such a way that damage can be easily found.***

***Use and specify in your project INNOVCABLE EXTREME FIRE RESISTANT cables – IEC 60331.***

## MAXIMUM CONDUCTOR TEMPERATURE:

***+ 90 ° C, for circuit voltages (U) not exceeding 1,200 volts.***

## NOTES

***Unipolar cables are all in round format.***

***Multiple cables of 2, 3 and 4 conductors up to 50.0mm² are built in round format, above this gauge are built in flat format.***

***WE CAN MANUFACTURE UNDER CONSULTATION OTHER SETTINGS:***

***1- Tinned copper conductor.***

***Class 1, 4 or 5 stranding.***

***2- Insulation material of the veins / other temperatures.***

***Innovcable reserves the right to change this catalog without prior notice.***

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| n. of cores x mm² | Conductor | | | Thickness of insulation mm | Thickness of jacket mm | Overall diameter nominal mm | Cable Weigh (Aprox.) KG/KM | Conductor resistance (at 20°C) Max | Insulation Resistance (Min.) (at 20°C) |
|---|---|---|---|---|---|---|---|---|---|
| | Area (mm²) | Min. num. of wires | Diam. (Aprox.) mm | | | | | | |
| 1 x 1.5 | 1.5 | 7 | 1.56 | 0.7 | 1.4 | 8 | 63 | 12.1 | 2,4 |
| 1 x 2.5 | 2.5 | 7 | 2.01 | 0.7 | 1.4 | 9 | 77 | 7.41 | 2,1 |
| 1 x 4 | 4 | 7 | 2.55 | 0.7 | 1.4 | 9 | 97 | 4.61 | 1,8 |
| 1 x 6 | 6 | 7 | 3.12 | 0.7 | 1.4 | 10 | 121 | 3.08 | 1,5 |
| 1 x 10 | 10 | 6 | 3.70 | 0.7 | 1.4 | 11 | 169 | 1.83 | 1,2 |
| 1 x 16 | 16 | 6 | 4.65 | 0.7 | 1.4 | 11 | 222 | 1.15 | 1,1 |
| 1 x 25 | 25 | 6 | 5.84 | 0.9 | 1.4 | 13 | 322 | 0.727 | 1,1 |
| 1 x 35 | 35 | 6 | 6.89 | 0.9 | 1.4 | 15 | 419 | 0.524 | 1 |
| 1 x 50 | 50 | 6 | 7.96 | 1.0 | 1.4 | 16 | 542 | 0.387 | 900 |
| 1 x 70 | 70 | 12 | 9.65 | 1.1 | 1.4 | 18 | 758 | 0.268 | 900 |
| 1 x 95 | 95 | 15 | 11.30 | 1.1 | 1.5 | 20 | 1,019 | 0.193 | 800 |
| 1 x 120 | 120 | 18 | 12.85 | 1.2 | 1.5 | 21 | 1,261 | 0.153 | 800 |
| 1 x 150 | 150 | 18 | 14.10 | 1.4 | 1.6 | 23 | 1,545 | 0.124 | 800 |
| 1 x 185 | 185 | 30 | 15.95 | 1.6 | 1.6 | 25 | 1,913 | 0.0991 | 800 |
| 1 x 240 | 240 | 34 | 18.35 | 1.7 | 1.7 | 28 | 2,477 | 0.0754 | 700 |
| 1 x 300 | 300 | 34 | 20.40 | 1.8 | 1.8 | 31 | 3,071 | 0.0601 | 700 |
| 1 x 400 | 400 | 53 | 23.25 | 2.0 | 1.9 | 34 | 3,881 | 0.047 | 700 |
| 1 x 500 | 500 | 53 | 26.50 | 2.2 | 2.0 | 38 | 4,94 | 0.0366 | 700 |
| 1 x 630 | 630 | 53 | 29.95 | 2.4 | 2.2 | 42 | 6,332 | 0.0283 | 600 |
| 1 x 800 | 800 | 53 | 33.90 | 2.6 | 2.3 | 47 | 8,035 | 0.0221 | 600 |
| 1 x 1,000 | 1 | 53 | 39.80 | 2.8 | 2.4 | 53 | 10,107 | 0.0176 | 600 |

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| n. of cores x mm² | Conductor | | | Thickness of insulation mm | Thickness of jacket mm | Overall diameter nominal mm | Cable Weigh (Aprox.) KG/KM | Conductor resistance (at 20°C) Max | Insulation Resistance (Min.) (at 20°C) |
|---|---|---|---|---|---|---|---|---|---|
| | Area (mm²) | Min. num. of wires | Diam. (Aprox.) mm | | | | | | |
| Round Cable | | | | | | | | | |
| 2 x 1.5 | 1.5 | 7 | 1.56 | 0.7 | 1.8 | 13 | 155 | 12.1 | 2,4 |
| 2 x 2.5 | 2.5 | 7 | 2.01 | 0.7 | 1.8 | 14 | 188 | 7.41 | 2,1 |
| 2 x 4 | 4 | 7 | 2.55 | 0.7 | 1.8 | 15 | 234 | 4.61 | 1,8 |
| 2 x 6 | 6 | 7 | 3.12 | 0.7 | 1.8 | 16 | 292 | 3.08 | 1,5 |
| 2 x 10 | 10 | 6 | 3.70 | 0.7 | 1.8 | 18 | 401 | 1.83 | 1,2 |
| 2 x 16 | 16 | 6 | 4.67 | 0.7 | 1.8 | 19 | 519 | 1.15 | 1,1 |
| 2 x 25 | 25 | 6 | 5.87 | 0.9 | 1.8 | 23 | 752 | 0.727 | 1,1 |
| 2 x 35 | 35 | 6 | 6.92 | 0.9 | 1.8 | 25 | 968 | 0.524 | 1 |
| 2 x 50 | 50 | 6 | 8.00 | 1.0 | 1.8 | 28 | 1,246 | 0.387 | 900 |
| Flat Cable | | | | | | | | | |
| 2 x 70 | 70 | 12 | 9.70 | 1.1 | | | 1,735 | 0.268 | 900 |
| 2 x 95 | 95 | 15 | 11.35 | 1.1 | | | 2,325 | 0.193 | 800 |
| 2 x 120 | 120 | 18 | 12.90 | 1.2 | | | 2,89 | 0.153 | 800 |
| 2 x 150 | 150 | 18 | 14.15 | 1.4 | | | 3,523 | 0.124 | 800 |
| 2 x 185 | 185 | 30 | 16.00 | 1.6 | | | 4,378 | 0.0991 | 800 |

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| n. of cores x mm² | Conductor | | | Thickness of insulation mm | Thickness of jacket mm | Overall diameter nominal mm | Cable Weigh (Aprox.) KG/KM | Conductor resistance (at 20°C) Max | Insulation Resistance (Min.) (at 20°C) |
|---|---|---|---|---|---|---|---|---|---|
| | Area (mm²) | Min. num. of wires | Diam. (Aprox.) mm | | | | | | |
| Round Cable | | | | | | | | | |
| 3 x 1.5 | 1.5 | 7 | 1.56 | 0.7 | 1.8 | 14 | 183 | 12.1 | 2,4 |
| 3 x 2.5 | 2.5 | 7 | 2.01 | 0.7 | 1.8 | 15 | 228 | 7.41 | 2,1 |
| 3 x 4 | 4 | 7 | 2.55 | 0.7 | 1.8 | 16 | 291 | 4.61 | 1,8 |
| 3 x 6 | 6 | 7 | 3.12 | 0.7 | 1.8 | 17 | 368 | 3.08 | 1,5 |
| 3 x 10 | 10 | 6 | 3.70 | 0.7 | 1.8 | 19 | 518 | 1.83 | 1,2 |
| 3 x 16 | 16 | 6 | 4.67 | 0.7 | 1.8 | 20 | 687 | 1.15 | 1,1 |
| 3 x 25 | 25 | 6 | 5.87 | 0.9 | 1.8 | 24 | 1,009 | 0.727 | 1,1 |
| 3 x 35 | 35 | 6 | 6.92 | 0.9 | 1.8 | 27 | 1,313 | 0.524 | 1 |
| 3 x 50 | 50 | 6 | 8.00 | 1.0 | 1.8 | 29 | 1,705 | 0.387 | 900 |
| Flat Cable | | | | | | | | | |
| 3 x 70 | 70 | 12 | 9.70 | 1.1 | | | 2,413 | 0.268 | 900 |
| 3 x 95 | 95 | 15 | 11.35 | 1.1 | | | 3,229 | 0.193 | 800 |
| 3 x 120 | 120 | 18 | 12.90 | 1.2 | | | 4,023 | 0.153 | 800 |
| 3 x 150 | 150 | 18 | 14.15 | 1.4 | | | 4,939 | 0.124 | 800 |
| 3 x 185 | 185 | 30 | 16.00 | 1.6 | | | 6,144 | 0.0991 | 800 |

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|---|---|---|---|---|---|---|---|---|---|
| | Area (mm²) | Min. num. of wires | Diam. (Aprox.) mm | | | | | | |
| Round Cable | | | | | | | | | |
| 4 x 1.5 | 1.5 | 7 | 1.56 | 0.7 | 1.8 | 15 | 220 | 12.1 | 2,4 |
| 4 x 2.5 | 2.5 | 7 | 2.01 | 0.7 | 1.8 | 16 | 277 | 7.41 | 2,1 |
| 4 x 4 | 4 | 7 | 2.55 | 0.7 | 1.8 | 17 | 357 | 4.61 | 1,8 |
| 4 x 6 | 6 | 7 | 3.12 | 0.7 | 1.8 | 19 | 457 | 3.08 | 1,5 |
| 4 x 10 | 10 | 6 | 3.70 | 0.7 | 1.8 | 21 | 651 | 1.83 | 1,2 |
| 4 x 16 | 16 | 6 | 4.67 | 0.7 | 1.8 | 22 | 872 | 1.15 | 1,1 |
| 4 x 25 | 25 | 6 | 5.87 | 0.9 | 1.8 | 27 | 1,29 | 0.727 | 1,1 |
| 4 x 35 | 35 | 6 | 6.92 | 0.9 | 1.8 | 29 | 1,689 | 0.524 | 1 |
| 4 x 50 | 50 | 6 | 8.00 | 1.0 | 1.9 | 33 | 2,223 | 0.387 | 900 |
| Flat Cable | | | | | | | | | |
| 4 x 70 | 70 | 12 | 9.70 | 1.1 | | | 3,145 | 0.268 | 900 |
| 4 x 95 | 95 | 15 | 11.35 | 1.1 | | | 4,216 | 0.193 | 800 |
| 4 x 120 | 120 | 18 | 12.90 | 1.2 | | | 5,278 | 0.153 | 800 |
| 4 x 150 | 150 | 18 | 14.15 | 1.4 | | | 6,453 | 0.124 | 800 |
| 4 x 185 | 185 | 30 | 16.00 | 1.6 | | | 8,059 | 0.0991 | 800 |