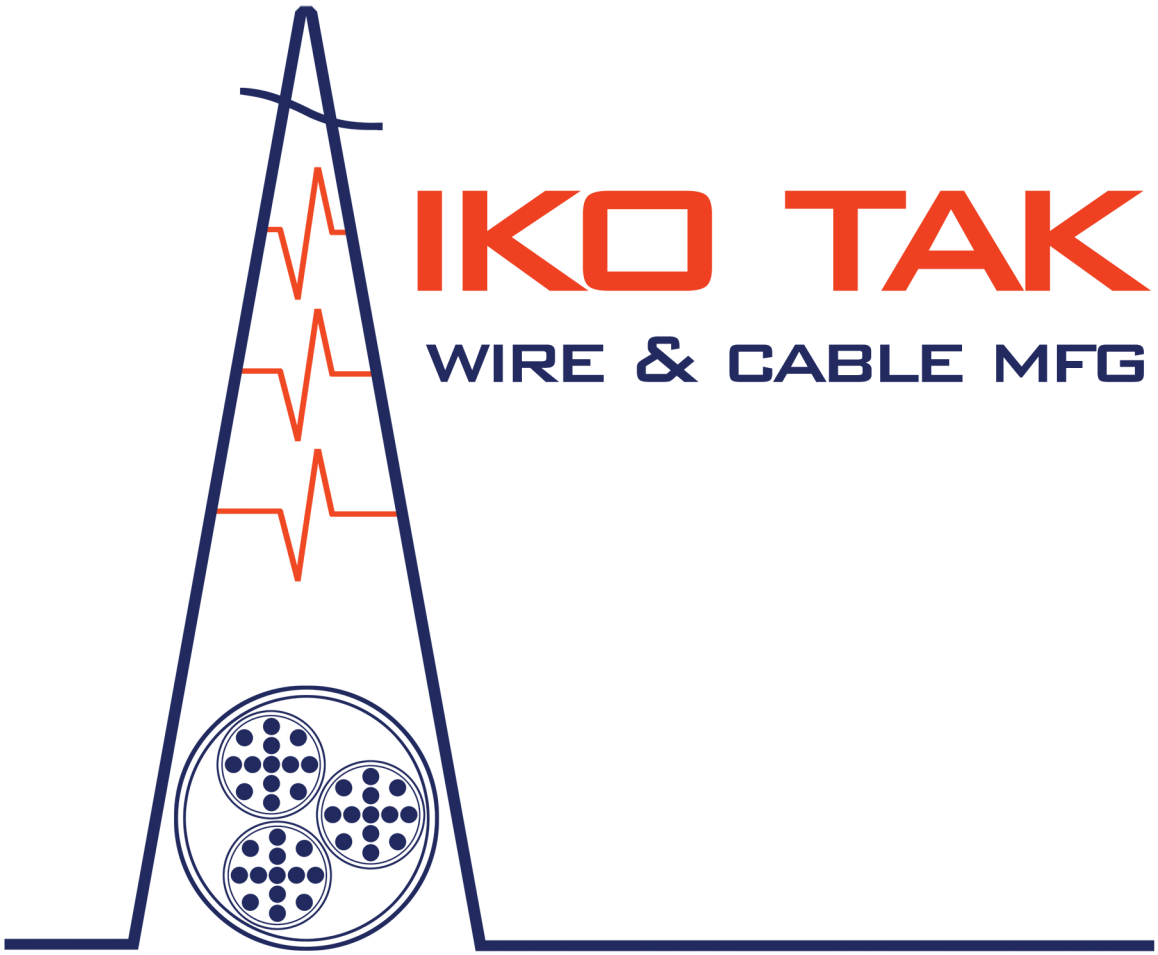


# IKO TAK

WIRE & CABLE MFG

IKO TAK

IRIK KABL OFOGH COMPANY

WWW.IKOTAK.IR

**Wire and cable production factory**

Irik Kable Ofogh Company has constructed a factory, namely Iko Tak, with the purpose of meeting the domestic industrial needs and employment generation in Shams Abad Industrial Park measuring 6,120 sq.m. in area to produce different types of wire and cable, aluminum self supporting cable. For the time being, this group is able to convert 720 tons of copper and 720 tons of aluminum into various types of cable and wire annually as per the international and Iranian standards while such capacity may also increase to double.

The field of activity of Iko Tak Industrial Group includes the following:

1. Producing, distributing and selling different types of wire and cable with Iko Tak trade name,
2. Producing, distributing and selling different types of aluminum self-supporting cables with Iko Tak trade name.
3. Fireproof cables with silicon insulator
4. Automotive wires

Future products:

1. Marine wires
2. MP cables

Products:

All the products of this company have the standard logo and approval by TAVANIR, of which some of the products of this company include the following:

- Constructional wire and cable

1. Fixed installation wires H07-R, H07VU, H05VU:


Conductor: group 1annealed copper (single string): or group 2 (regularly twisted) as per ISIRI 3084 or 60228 IEC standard. Insulator: PVC mixture of PVC/C type. Standard: ISIRI (607), 60227 IEC 01 or 01 for cross section areas exceeding 1mm2 with 450/750V nominal voltage. ISIRI (607) 05 with 60227 IEC 05 for 1, 0.75 and 0.5 mm2 with 300-500V nominal voltage

## 2. Flexible wires H07V-K, H05V-K:


Conductor: group 5 annealed copper (flexible) as per ISIRI 3084 or 60228 IEC standard. Insulator: PVC mixture of PVC/C type. Standard: ISIRI (607) 02, 60227 IEC 02 for

| Nominal cross section area of conductor | Insulation thickness | Average external diameter | | Minimum insulation resistance at 70° c | Maximum conductor resistance at 20 ° C | Approximate weight |
|---|---|---|---|---|---|---|
| | | Upper limit | Lower limit | | | |
| mm² | mm | mm | mm | MΩ.km | Ω/km | kg/km |
| 0.5 | 0.6 | 2.5 | 2.1 | 0.0130 | 39 | 9 |
| 0.75 | 0.6 | 2.7 | 2.2 | 0.0110 | 26 | 11 |
| 1 | 0.6 | 2.8 | 2.4 | 0.0100 | 19.5 | 14 |
| 1.5 | 0.7 | 3.4 | 2.8 | 0.0100 | 13.3 | 20 |
| 2.5 | 0.8 | 4.1 | 3.4 | 0.0090 | 7.98 | 32 |
| 4 | 0.8 | 4.8 | 3.9 | 0.0070 | 4.95 | 47 |
| 6 | 0.8 | 5.3 | 4.4 | 0.0060 | 3.30 | 67 |
| 10 | 1.0 | 6.8 | 5.7 | 0.0056 | 1.91 | 113 |
| 16 | 1.0 | 8.1 | 6.7 | 0.0046 | 1.21 | 169 |
| 25 | 1.2 | 10.2 | 8.4 | 0.0044 | 0.780 | 262 |
| 35 | 1.2 | 11.7 | 9.7 | 0.0038 | 0.554 | 359 |
| 50 | 1.4 | 13.9 | 11.5 | 0.0037 | 0.386 | 512 |
| 70 | 1.4 | 16.0 | 13.2 | 0.0032 | 0.272 | 689 |
| 95 | 1.6 | 18.2 | 15.1 | 0.0032 | 0.206 | 959 |
| 120 | 1.6 | 20.2 | 16.7 | 0.0029 | 0.161 | 1200 |
| 150 | 1.8 | 22.5 | 18.6 | 0.0029 | 0.129 | 1494 |
| 185 | 2.0 | 24.9 | 20.6 | 0.0029 | 0.106 | 1831 |
| 240 | 2.2 | 28.4 | 23.5 | 0.0028 | 0.0801 | 2336 |

### 3. Flexible wires H03VV-F:


Conductor: group 5 annealed copper (flexible) as per ISIRI 3084 or 60228 IEC standard. Insulator: PVC mixture of PVC/D type. String placement manner: (1) round

| Number and cross section area of conductors | Coating thickness | Insulation thickness | Average external diameter | | Maximum conductor resistance at 20 ° C | Minimum insulation resistance at 70° c | Approximate weight |
|---|---|---|---|---|---|---|---|
| | | | Upper limit | Lower limit | | | |
| mm² | mm | mm | mm | mm | Ω.km | MΩ/km | kg/km |
| 2*0.5 | 0.6 | 0.5 | 5.9 | 4.6 | 39 | 0.012 | 36 |
| 2*0.5 تخت | 0.6 | 0.5 | 3.7*5.9 | 3*4.9 | 39 | 0.012 | 26 |
| 2*0.75 | 0.6 | 0.5 | 6.3 | 4.9 | 26 | 0.010 | 43 |
| 2*0.75 تخت | 0.6 | 0.5 | 3.8*6.3 | 3.2*5.2 | 26 | 0.010 | 32 |
| 3*0.5 | 0.6 | 0.5 | 6.3 | 4.9 | 39 | 0.012 | 41 |
| 3*0.75 | 0.6 | 0.5 | 6.7 | 5.2 | 26 | 0.010 | 52 |
| 4*0.5 | 0.6 | 0.5 | 6.9 | 5.4 | 39 | 0.012 | 55 |
| 4*0.75 | 0.6 | 0.5 | 7.3 | 5.7 | 26 | 0.010 | 67 |

## 4. Flexible wires H05VV-F:


Conductor: group 5 annealed copper (flexible) as per ISIRI 3084 or 60228 IEC standard. Insulator: PVC mixture of PVC/D type. String placement manner: (1) round cable: strings are twisted together (2) flat cable: strings are placed in parallel. Coating: PVC mixture of PVC/ST5 type. Coating color is normally black. Standard: ISIRI (607) 53, 60227

| Number and cross section area of conductors | Insulation thickness | Coating thickness | Average external diameter | | Maximum conductor resistance at 20 ° C | Minimum insulation resistance at 70° c | Approximate weight |
|---|---|---|---|---|---|---|---|
| | | | Upper limit | Lower limit | | | |
| mm² | mm | mm | mm | mm | Ω/km | MΩ.km | Kg/km |
| 2*0.75 | 0.6 | 0.8 | 7.2 | 5.7 | 26 | 0.011 | 55 |
| 2*0.75 تخت | 0.6 | 0.8 | 4.5*7.2 | 3.7*6.0 | 26 | 0.011 | 33 |
| 2*1 | 0.6 | 0.8 | 7.5 | 5.9 | 19.5 | 0.010 | 63 |
| 2*1.5 | 0.7 | 0.8 | 8.6 | 6.8 | 13.3 | 0.010 | 84 |
| 2*2.5 | 0.8 | 1.0 | 10.6 | 8.4 | 7.98 | 0.009 | 128 |
| 2*4 | 0.8 | 1.1 | 12.6 | 9.3 | 4.95 | 0.010 | 176 |
| 3*0.75 | 0.6 | 0.8 | 7.6 | 6.0 | 26 | 0.011 | 65 |
| 3*1 | 0.6 | 0.8 | 8.0 | 6.3 | 19.5 | 0.010 | 76 |
| 3*1.5 | 0.7 | 0.9 | 9.4 | 7.4 | 13.3 | 0.010 | 106 |
| 3*2.5 | 0.8 | 1.1 | 11.4 | 9.2 | 7.98 | 0.009 | 162 |
| 3*4 | 0.8 | 1.2 | 13.6 | 10.1 | 4.95 | 0.010 | 222 |
| 4*0.75 | 0.6 | 0.8 | 8.3 | 6.6 | 26 | 0.011 | 78 |
| 4*1 | 0.6 | 0.9 | 9.0 | 7.1 | 19.5 | 0.010 | 95 |
| 4*1.5 | 0.7 | 1.0 | 10.5 | 8.4 | 13.3 | 0.010 | 132 |
| 4*2.5 | 0.8 | 1.1 | 12.5 | 10.2 | 7.98 | 0.009 | 195 |
| 4*4 | 0.8 | 1.2 | 15.4 | 11.2 | 4.95 | 0.010 | 274 |
| 5*0.75 | 0.6 | 0.9 | 9.3 | 7.4 | 26 | 0.011 | 95 |
| 5*1 | 0.6 | 0.9 | 9.8 | 7.8 | 19.5 | 0.010 | 111 |
| 5*1.5 | 0.7 | 1.1 | 11.6 | 9.3 | 13.3 | 0.010 | 160 |
| 5*2.5 | 0.8 | 1.2 | 13.9 | 11.2 | 7.98 | 0.009 | 239 |
| 5*4 | 0.8 | 1.4 | 16.4 | 12.4 | 4.95 | 0.010 | 340 |

## 5. Fixed installation wires NYM style:


Conductor: group 1 annealed copper (single string): or group 2 (regularly twisted) as per ISIRI 3084 or 60228 IEC standard. Insulator: PVC mixture of PVC/C type. String placement manner: strings are twisted together; middle coating: the twisted strings and extruded and coated with PVC mixtures. Coating: PVC mixture of PVC/ST4 type. Coating color is normally black or white. Standard: ISIRI (607) 10, 60227 IEC 10 with 300-500V nominal voltage

| Number and cross section area of conductors | Conductor group | Insulation thickness | The thickness of the middle coat | Coating thickness | Average external diameter | | Maximum conductor resistance at 20 °C | Minimum insulation resistance at 70°c | Approximate weight |
|---|---|---|---|---|---|---|---|---|---|
| mm² | | | mm | mm | max mm | min mm | ?/km | M? .km | Kh/km |
| 2*1.5 | 1 | 0.7 | 0.4 | 1.2 | 10.0 | 7.6 | 12.1 | 0.011 | 121 |
| 2*1.5 | 2 | 0.7 | 0.4 | 1.2 | 10.5 | 7.8 | 12.1 | 0.010 | 123 |
| 2*2.5 | 1 | 0.8 | 0.4 | 1.2 | 11.5 | 8.6 | 7.41 | 0.010 | 161 |
| 2*2.5 | 2 | 0.8 | 0.4 | 1.2 | 12.0 | 9.0 | 7.41 | 0.009 | 165 |
| 2*4 | 1 | 0.8 | 0.4 | 1.2 | 12.5 | 9.6 | 4.61 | 0.0085 | 207 |
| 2*4 | 2 | 0.8 | 0.4 | 1.2 | 13.0 | 10.0 | 4.61 | 0.0077 | 215 |
| 2*6 | 1 | 0.8 | 0.4 | 1.2 | 13.5 | 10.5 | 3.08 | 0.0070 | 272 |
| 2*6 | 2 | 0.8 | 0.4 | 1.2 | 14.0 | 11.0 | 3.08 | 0.0065 | 295 |
| 2*10 | 1 | 1.0 | 0.6 | 1.4 | 16.5 | 13.0 | 1.83 | 0.0070 | 435 |
| 2*10 | 2 | 1.0 | 0.6 | 1.4 | 17.5 | 13.5 | 1.83 | 0.0065 | 475 |
| 2*16 | 2 | 1.0 | 0.6 | 1.4 | 20.0 | 15.5 | 1.15 | 0.0052 | 636 |
| 2*25 | 2 | 1.2 | 0.8 | 1.4 | 24.0 | 18.5 | 0.727 | 0.0050 | 994 |
| 2*35 | 2 | 1.2 | 1.0 | 1.6 | 27.5 | 21.0 | 0.524 | 0.0044 | 1320 |
| 3*1.5 | 1 | 0.7 | 0.4 | 1.2 | 10.5 | 8.0 | 12.1 | 0.011 | 135 |
| 3*1.5 | 2 | 0.7 | 0.4 | 1.2 | 11.0 | 8.2 | 12.1 | 0.010 | 151 |
| 3*2.5 | 1 | 0.8 | 0.4 | 1.2 | 12.0 | 9.2 | 7.41 | 0.010 | 192 |
| 3*2.5 | 2 | 0.8 | 0.4 | 1.2 | 12.5 | 9.4 | 7.41 | 0.009 | 216 |
| 3*4 | 1 | 0.8 | 0.4 | 1.2 | 13.0 | 10.0 | 4.61 | 0.0085 | 261 |
| 3*4 | 2 | 0.8 | 0.4 | 1.2 | 13.5 | 10.5 | 4.61 | 0.0077 | 286 |
| 3*6 | 1 | 0.8 | 0.4 | 1.4 | 14.5 | 11.5 | 3.08 | 0.0070 | 370 |
| 3*6 | 2 | 0.8 | 0.4 | 1.4 | 15.5 | 12.0 | 3.08 | 0.0065 | 381 |
| 3*10 | 1 | 1.0 | 0.6 | 1.4 | 17.5 | 14.0 | 1.83 | 0.0070 | 545 |
| 3*10 | 2 | 1.0 | 0.6 | 1.4 | 19.0 | 14.5 | 1.83 | 0.0065 | 592 |
| 3*16 | 2 | 1.0 | 0.8 | 1.4 | 21.5 | 16.5 | 1.15 | 0.0052 | 841 |
| 3*25 | 2 | 1.2 | 0.8 | 1.6 | 26.0 | 20.5 | 0.727 | 0.0050 | 1262 |
| 3*35 | 2 | 1.2 | 1.0 | 1.6 | 29.0 | 22.0 | 0.524 | 0.0044 | 1666 |
| 4*1.5 | 1 | 0.7 | 0.4 | 1.2 | 11.5 | 8.6 | 12.1 | 0.011 | 170 |
| 4*1.5 | 2 | 0.7 | 0.4 | 1.2 | 12.0 | 9.0 | 12.1 | 0.010 | 180 |
| 4*2.5 | 1 | 0.8 | 0.4 | 1.2 | 13.0 | 10.0 | 7.41 | 0.010 | 231 |
| 4*2.5 | 2 | 0.8 | 0.4 | 1.2 | 13.5 | 10.0 | 7.41 | 0.009 | 256 |
| 4*4 | 1 | 0.8 | 0.4 | 1.4 | 14.5 | 11.5 | 4.61 | 0.0085 | 320 |
| 4*4 | 2 | 0.8 | 0.4 | 1.4 | 15.0 | 12.0 | 4.61 | 0.0077 | 356 |
| 4*6 | 1 | 0.8 | 0.6 | 1.4 | 16.0 | 12.5 | 3.08 | 0.0070 | 426 |
| 4*6 | 2 | 0.8 | 0.6 | 1.4 | 17.0 | 13.0 | 3.08 | 0.0065 | 461 |
| 4*10 | 1 | 1.0 | 0.6 | 1.4 | 19.0 | 15.5 | 1.83 | 0.0070 | 662 |
| 4*10 | 2 | 1.0 | 0.6 | 1.4 | 20.5 | 16.0 | 1.83 | 0.0065 | 707 |
| 4*16 | 2 | 1.0 | 0.8 | 1.4 | 23.5 | 18.0 | 1.15 | 0.0052 | 1042 |

## Power cables

### 1. PVC coated power cables NYY, NYY-O, NYY-J:


Conductor: group 1 annealed copper (single string): or group 2 (regularly twisted) as per ISIRI 3084 or 60228 IEC standard. Insulator: PVC mixture of PVC/C type. Standard: ISIRI 3569, IEC 60520 with 600-1000V nominal voltage

| Number and cross section area of conductors | Insulation thickness | The thickness of the middle coat | Coating thickness | Average external diameter | Maximum conductor resistance at 20 ° C | Approximate weight |
|---|---|---|---|---|---|---|
| mm² | | mm | mm | mm | Ω/km | Kg/km |
| 1*10 | 1.0 | - | 1.4 | 8.8 | 1.83 | 155 |
| 1*16 | 1.0 | - | 1.4 | 9.9 | 1.15 | 233 |
| 1*25 | 1.0 | - | 1.4 | 11.6 | 0.727 | 345 |
| 1*35 | 1.2 | - | 1.4 | 12.7 | 0.524 | 447 |
| 1*50 | 1.4 | - | 1.4 | 14.7 | 0.387 | 590 |
| 1*70 | 1.4 | - | 1.4 | 16.4 | 0.268 | 799 |
| 1*95 | 1.6 | - | 1.4 | 18.8 | 0.193 | 1106 |
| 1*120 | 1.6 | - | 1.5 | 21.1 | 0.153 | 1342 |
| 1*150 | 1.8 | - | 1.6 | 23 | 0.124 | 1663 |
| 1*185 | 2.0 | - | 1.7 | 25.6 | 0.0991 | 2091 |
| 1*240 | 2.2 | - | 1.8 | 28.6 | 0.0754 | 2720 |
| 1*300 | 2.4 | - | 1.9 | 31.5 | 0.0601 | 3370 |
| 1*400 | 2.6 | - | 2.0 | 35.3 | 0.0470 | 4154 |
| 1*500 | 2.8 | - | 2.1 | 39.2 | 0.0366 | 5310 |
| 2*1.5 | 0.8 | 1.0 | 1.8 | 11.5 | 12.1 | 186 |
| 2*2.5 | 0.8 | 1.0 | 1.8 | 12.5 | 7.41 | 222 |
| 2*4 | 1.0 | 1.0 | 1.8 | 14 | 4.61 | 303 |
| 2*6 | 1.0 | 1.0 | 1.8 | 15 | 3.08 | 374 |
| 2*10 | 1.0 | 1.0 | 1.8 | 16.7 | 1.83 | 493 |
| 2*16 | 1.0 | 1.0 | 1.8 | 20 | 1.15 | 734 |
| 2*25 | 1.2 | 1.0 | 1.8 | 23 | 0.727 | 1059 |
| 2*35 | 1.2 | 1.0 | 1.8 | 25.5 | 0.524 | 1346 |
| 3*1.5 | 0.8 | 1.0 | 1.8 | 12 | 12.1 | 206 |
| 3*2.5 | 0.8 | 1.0 | 1.8 | 13 | 7.41 | 257 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 3*4 | 1.0 | 1.0 | 1.8 | 15 | 4.61 | 363 |
| 3*6 | 1.0 | 1.0 | 1.8 | 16 | 3.08 | 444 |
| 3*10 | 1.0 | 1.0 | 1.8 | 17.5 | 1.83 | 615 |
| 3*16 | 1.0 | 1.0 | 1.8 | 21 | 1.15 | 905 |
| 3*25 | 1.0 | 1.0 | 1.8 | 24.5 | 0.727 | 1320 |
| 3*35 | 1.2 | 1.0 | 1.8 | 27 | 0.524 | 1699 |
| 4*1.5 | 1.2 | 1.0 | 1.8 | 12.8 | 12.1 | 241 |
| 4*2.5 | 0.8 | 1.0 | 1.8 | 13.8 | 7.41 | 302 |
| 4*4 | 0.8 | 1.0 | 1.8 | 16 | 4.61 | 417 |
| 4*6 | 0.8 | 1.0 | 1.8 | 17 | 3.08 | 527 |
| 4*10 | 1.0 | 1.0 | 1.8 | 19 | 1.83 | 738 |
| 4*16 | 1.0 | 1.0 | 1.8 | 22.5 | 1.15 | 1115 |
| 4*25 | 1.2 | 1.0 | 1.8 | 26.9 | 0.727 | 1620 |

## 2. Cables with eccentric conductor NYCY:

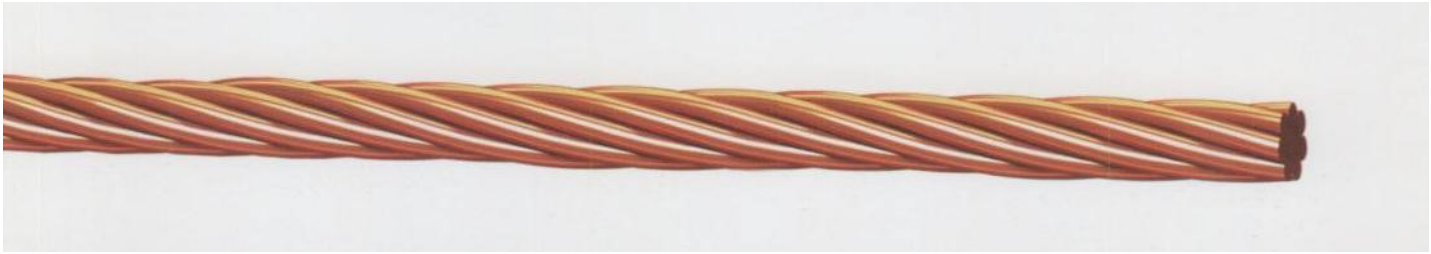

Conductor: group 1 annealed copper (single string): or group 2 (regularly twisted) as per ISIRI 3084 or 60228 IEC standard. Insulator: PVC mixture of PVC/A type. String placement manner: strings are twisted together; middle coating: the twisted strings and extruded and coated with PVC mixtures. Eccentric conductor: in single string cable eccentric conductor is used directly on insulator and in multiple string cable it is used on middle coating. Coating: PVC mixture of PVC/ST1 type. Coating color is normally black or white. Standard: ISIRI 3569, IEC 60520 with 600-1000V nominal voltage

| Number and cross section area of conductors | Insulation thickness | The thickness of the middle coat | Coating thickness | Average external diameter | Maximum conductor resistance at 20 ° C | Approximate weight |
|---|---|---|---|---|---|---|
| mm² | mm | mm | mm | mm | Ω/km | kg/km |
| 1*1.5/1.5 | 0.8 | - | 1.8 | 7.5 | 12.1 | 80 |
| 1*2.5/2.5 | 0.8 | - | 1.8 | 8.0 | 7.41 | 104 |
| 1*4/4 | 1.0 | - | 1.8 | 9.0 | 4.61 | 146 |
| 1*6/6 | 1.0 | - | 1.8 | 10.0 | 3.08 | 192 |
| 1*10/10 | 1.0 | - | 1.8 | 11.0 | 1.83 | 273 |
| 1*16/16 | 1.0 | - | 1.8 | 13.0 | 1.15 | 411 |
| 1*25/25 | 1.2 | - | 1.8 | 15.0 | 0.727 | 615 |
| 1*35/35 | 1.2 | - | 1.8 | 16.0 | 0.524 | 810 |
| 3*1.5/1.5 | 0.8 | 1.0 | 1.8 | 15.0 | 12.1 | 225 |
| 3*2.5/2.5 | 0.8 | 1.0 | 1.8 | 16.0 | 7.41 | 288 |
| 3*4/4 | 1.0 | 1.0 | 1.8 | 18.0 | 4.61 | 402 |
| 3*6/6 | 1.0 | 1.0 | 1.8 | 19.0 | 3.08 | 512 |
| 3*10/10 | 1.0 | 1.0 | 1.8 | 21.0 | 1.83 | 713 |
| 3*16/16 | 1.0 | 1.0 | 1.8 | 23.0 | 1.15 | 1066 |
| 3*25/25 | 1.2 | 1.0 | 1.8 | 28.0 | 0.727 | 1570 |
| 3*35/35 | 1.2 | 1.0 | 1.8 | 30.0 | 0.524 | 2042 |
| 4*1.5/1.5 | 0.8 | 1.0 | 1.8 | 16.0 | 12.1 | 258 |
| 4*2.5/2.5 | 0.8 | 1.0 | 1.8 | 17.0 | 7.41 | 331 |
| 4*4/4 | 1.0 | 1.0 | 1.8 | 19.0 | 4.61 | 463 |
| 4*6/6 | 1.0 | 1.0 | 1.8 | 20.0 | 3.08 | 597 |
| 4*10./10 | 1.0 | 1.0 | 1.8 | 22.0 | 1.83 | 846 |
| 4*16/16 | 1.0 | 1.0 | 1.8 | 25.0 | 1.15 | 1272 |
| 4*25/25 | 1.2 | 1.0 | 1.8 | 30.5 | 0.727 | 1883 |
| 4*35/35 | 1.2 | 1.0 | 1.8 | 31.5 | 0.524 | 2455 |

| | | | | | | |
|---|---|---|---|---|---|---|
| 7*1.5/2.5 | 0.8 | 1.0 | 1.8 | 17.0 | 12.1 | 268 |
| 10*1.5/2.5 | 0.8 | 1.0 | 1.8 | 20.5 | 12.1 | 482 |
| 12*1.5/2.5 | 0.8 | 1.0 | 1.8 | 21.5 | 12.1 | 528 |
| 14*1.5/2.5 | 0.8 | 1.0 | 1.8 | 22.5 | 12.1 | 580 |
| 19*1.5/4 | 0.8 | 1.0 | 1.8 | 25.0 | 12.1 | 720 |
| 24*1.5/6 | 0.8 | 1.0 | 1.8 | 28.0 | 12.1 | 900 |
| 30*1.5/6 | 0.8 | 1.0 | 1.8 | 29.0 | 12.1 | 1012 |
| 40*1.5/10 | 0.8 | 1.0 | 1.8 | 32.5 | 12.1 | 1240 |
| 7*2.5/2.5 | 0.8 | 1.0 | 1.8 | 19.0 | 7.41 | 260 |
| 10*2.5/4 | 0.8 | 1.0 | 1.8 | 21.5 | 7.41 | 642 |
| 12*2.5/4 | 0.8 | 1.0 | 1.8 | 22.5 | 7.41 | 717 |
| 14*2.5/6 | 0.8 | 1.0 | 1.8 | 23.5 | 7.41 | 810 |
| 19*2.5/6 | 0.8 | 1.0 | 1.8 | 26.0 | 7.41 | 994 |
| 24*2.5/10 | 0.8 | 1.0 | 1.8 | 30.0 | 7.41 | 1238 |
| 30*2.5/10 | 0.8 | 1.0 | 1.8 | 32.0 | 7.41 | 1393 |
| 40*2.5/10 | 0.8 | 1.2 | 1.9 | 35.5 | 7.41 | 1857 |

## Aerial cables:

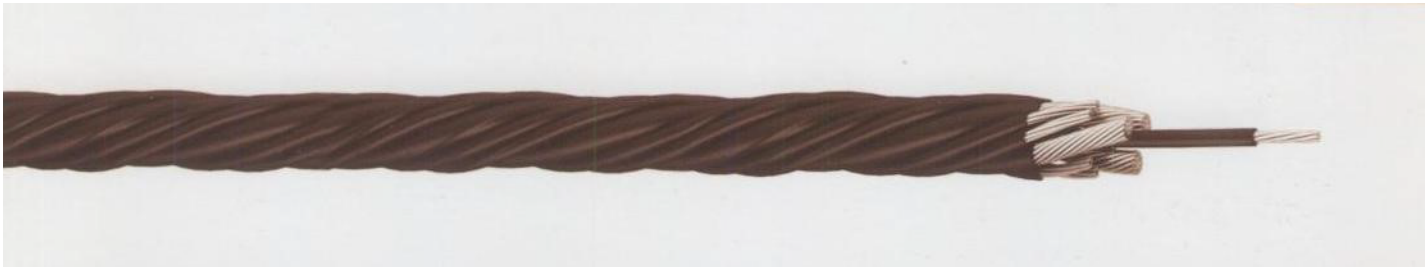
### 1. Aerial hard wires HD:



Conductor: regularly twisted and hardly pulled copper, insulator: uncoated copper conductors are twisted together with regular and fixed twisting length. Standard: BS 125 or DIN 48201

| Nominal cross section area of conductor | Number and diameter of conductor | Average external diameter | Minimum insulation resistance at 70°c | Minimum breaking force | Approximate weight |
|---|---|---|---|---|---|
| mm² | mm | mm | MΩ/km | Kn | kg / km |
| 16 | 7×1.70 | 5.1 | 1.1385 | 6 | 144 |
| 25 | 7×2.14 | 6.3 | 0.7461 | 10 | 229 |
| 35 | 7×2.52 | 7.5 | 0.5264 | 14 | 317 |
| 50 | 7×2.92 | 8.9 | 0.3656 | 20 | 426 |
| 50 | 19×1.78 | 9.0 | 0.3759 | 20 | 429 |
| 70 | 19×2.14 | 10.5 | 0.2762 | 27 | 620 |
| 95 | 19×2.52 | 12.5 | 0.1949 | 38 | 859 |
| 120 | 19×2.80 | 14.1 | 0.1554 | 47 | 1080 |

## 2. Aluminum self-supporting cables NA2X-T:



Twisted and compressed (ACC) as per ASTM B231. 6-string cables: null conductor and messenger: alloy aluminum (AAAC) 1. Messenger: 7 string twisted high carbon galvanized steel strings. Insulator: black linked cross polyethylene XLPE for phase string, lighting and null and black high dense polyethylene HDPE for messenger string. Standard: TAVANIR specifications

| | Diameter of conductor | | | Diameter of conductor | | | Insulation thickness | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Cable size | Phase Diameter * number | Brightness Diameter* number | Null Diameter* number | Phase | Brightness | Null and messenger | Phase | Brightness | Null and messenger | Diameter of cable | Approximate weight |
| | mm | mm | mm | mm | mm | mm | mm | mm | mm | mm | kg/km |
| 3×35+16-50 | 7×2.61 | 7×1.72 | 7×3.15* | 7.1 | 4.7 | 9.45 | 1.6 | 1.2 | 1.6 | 34 | 694 |
| 3×50+16-50 | 7×3.01 | 7×1.72 | 7×3.15* | 8.2 | 4.7 | 9.45 | 1.6 | 1.2 | 1.6 | 36 | 834 |
| 3×70+16-70 | 19×2.21 | 7×1.72 | 7×3.61* | 9.9 | 4.7 | 10.83 | 1.8 | 1.2 | 1.6 | 42 | 1105 |
| 3×95+25-70 | 19×2.61 | 7×2.21 | 7×3.61* | 11.5 | 6 | 10.83 | 1.8 | 1.4 | 1.6 | 46 | 1370 |
| 3×120+25-70 | 19×2.83 | 7×2.21 | 7×3.61* | 12.5 | 6 | 10.83 | 1.8 | 1.4 | 1.6 | 48 | 1593 |

## 3. Aluminum aerial conductors ACSR, AAC

ACC structure: hardly pulled aluminum, ACSR structure: core: one or seven twisted strings of high carbon galvanized steel. Conductor: twisted hardly pulled aluminum around central steel wires. Standard: DIN 48201, AAC BS 215, ACSR IEC 1089

| Nominal cross section area of conductor | Number and diameter of conductor | Diameter of cable | Minimum breaking force | Maximum conductor resistance at 20 ° C | Approximate weight |
|---|---|---|---|---|---|
| mm² | mm | mm | N | Ω / km | kg / km |
| 16 | 7×1.70 | 5.1 | 2840 | 1.8018 | 45 |
| 25 | 7×2.10 | 6.3 | 4170 | 1.1808 | 67 |
| 35 | 7×2.50 | 7.5 | 5740 | 0.832 | 96 |
| 50 | 7×3.00 | 9.0 | 7950 | 0.5786 | 135 |
| 50 | 19×1.80 | 9.0 | 8440 | 0.5950 | 134 |
| 70 | 19×2.10 | 10.5 | 11250 | 0.4371 | 182 |
| 95 | 19×2.50 | 12.5 | 15650 | 0.3085 | 256 |
| 120 | 19×2.80 | 14.0 | 18750 | 0.2459 | 322 |
| 150 | 37×2.25 | 15.7 | 25250 | 0.1961 | 405 |
| 185 | 37×2.50 | 17.5 | 30450 | 0.1587 | 502 |
| 240 | 61×2.25 | 20.2 | 39350 | 0.1192 | 670 |
| 300 | 61×2.50 | 22.5 | 47550 | 0.0965 | 827 |
| 400 | 61×2.89 | 26.0 | 60700 | 0.0722 | 1106 |
| 500 | 61×3.23 | 29.1 | 74500 | 0.0578 | 1382 |

| Conductor name | Nominal cross section area of conductor | Structure of conductor aluminum Diameter* number | Structure of conductor steel Diameter* number | Conductor diameter | Minimum breaking force | Maximum conductor resistance at 20 ° C | Approximate weight |
|---|---|---|---|---|---|---|---|
| | mm² | mm | mm | mm | N | Ω / km | kg / km |
| Mole | 10.6 | 6×1.5 | 1×1.5 | 4.5 | 4100 | 2.702 | 43 |
| Squirrel | 21.0 | 6×2.11 | 1×2.11 | 6.32 | 7900 | 1.270 | 85 |
| Gopher | 262 | 6×2.36 | 1×2.36 | 7.08 | 9600 | 1.093 | 107 |
| Fox | 36.7 | 6×2.79 | 1×2.79 | 8.38 | 13200 | 0.7827 | 149 |
| Rabbit | 52.9 | 6×3.35 | 1×3.35 | 10.05 | 18400 | 0.5426 | 214 |
| Mink | 63.1 | 6×3.66 | 1×3.66 | 10.98 | 21800 | 0.4541 | 255 |
| Horse | 73.4 | 12×2.79 | 1×2.79 | 13.95 | 61200 | 0.3936 | 538 |
| Cat | 95.4 | 6×4.50 | 1×4.50 | 13.5 | 32700 | 0.3008 | 388 |
| Dog | 105 | 6×4.72 | 7×1.57 | 14.15 | 32700 | 0.2733 | 394 |
| Hyena | 106 | 7×4.93 | 7×1.93 | 14.57 | 40900 | 0.2717 | 450 |
| Tiger | 131.2 | 30×2.36 | 7×2.36 | 16.52 | 58000 | 0.2204 | 602 |
| Wolf | 158 | 30×2.59 | 7×2.59 | 18.13 | 69200 | 0.1828 | 726 |
| Lynx | 183.5 | 30×2.79 | 7×2.79 | 19.53 | 79800 | 0.1576 | 842 |
| Lion | 238 | 30×3.18 | 7×3.18 | 22.26 | 100600 | 0.1212 | 1095 |
| Goat | 324.2 | 30×3.71 | 7×3.71 | 25.97 | 135700 | 0.0891 | 1489 |
| Sheep | 375.1 | 30×3.99 | 7×3.99 | 27.93 | 155900 | 0.0772 | 1718 |

## 4. Flexible wires H05VV-F:


Conductor: group 5 annealed copper (flexible) as per ISIRI 3084 or 60228 IEC standard. Insulator: PVC mixture of PVC/D type. String placement manner: (1) round cable: strings are twisted together (2) flat cable: strings are placed in parallel. Coating: PVC mixture of PVC/ST5 type. Coating color is normally black. Standard: ISIRI (607) 53, 60227 IEC 53 with 300-500V nominal voltage.

| Nominal cross section area of conductor | Real cross section | Number and diameter of conductor | Coating thickness | **Conductor diameter** | **Cable diameter** | Maximum conductor resistance at 20 ° C | Approximate weight |
|---|---|---|---|---|---|---|---|
| **mm²** | **mm²** | **mm** | **mm** | **mm** | **mm** | **Ω/km** | **kg/km** |
| **AAAC - CC** | | | | | | | |
| 70 | 77.3 | 7×3.75 | 2.3 | 10.69 | 14.8 | 0.4467 | 300 |
| 120 | 129.9 | 19×2.95 | 2.3 | 14.01 | 17 | 0.2674 | 465 |
| 185 | 182.8 | 19×3.5 | 2.3 | 16.63 | 18 | 0.1900 | 625 |
| **AAAC - CCT 20KV** | | | | | | | |
| 70 | 77.3 | 7×3.75 | 2.3 | 11.3 | 23 | 0.43 | 635 |
| 120 | 129.9 | 19×2.95 | 2.3 | 14.3 | 26 | 0.268 | 845 |
| 185 | 182.8 | 19×3.5 | 2.3 | 17.5 | 29 | 0.183 | 1105 |
| **AAAC - CCT 33KV** | | | | | | | |
| 70 | 77.3 | 7×3.75 | 3.6 | 11.3 | 28.5 | 0.43 | 900 |
| 120 | 129.9 | 7×4.75 | 3.6 | 14.3 | 31.5 | 0.268 | 1145 |
| 185 | 182.8 | 19×3.5 | 3.6 | 17.5 | 34.5 | 0.183 | 1440 |

| Conductor name | Structure of conductor aluminum Diameter* number | steel Diameter* number | Coating thickness min | max | Conductor diameter | Cable diameter min | max | Maximum conductor resistance at 20 ° C | Approximate weight |
|---|---|---|---|---|---|---|---|---|---|
| | **mm** | **mm** | **mm** | **mm** | **mm** | **mm** | **mm** | **Ω/km** | **kg/km** |
| Fox | 6×2.79 | 1×2.79 | 3 | 3.3 | 8.6 | 14.4 | 15.4 | 0.7822 | 268 |
| mink | 6×3.66 | 1×3.66 | 2.3 | 3.6 | 10.21 | 14.3 | 15.5 | 0.4767 | 355 |
| hyena | 7×4.39 | 7×1.93 | 2.3 | 3.6 | 13.55 | 16.5 | 18.5 | 0.2843 | 400 |
| wolf | 30×2.59 | 7×2.59 | 2.3 | 3.6 | 16.86 | 17.7 | 18.9 | 0.1920 | 546 |

## Instrumentation and control cables:

### 1. Shield-free flexible control cables NYSLY


Conductor: group 5 annealed copper (flexible) as per ISIRI 3084 or 60228 IEC standard. Insulator: PVC mixture of PVC/D type. String placement manner: strings are placed in one or more eccentric and twisted manner. Applying the single strings in the core of cable is not permitted. Cables with three or more strings are more in green and yellow colors. Coating: PVC mixture of PVC/ST5 type. Coating color is normally grey. Standard: coating: PVC mixture of PVC/ST5 type. Coating color is normally grey.

| Number and cross section area of conductors | Insulation thickness | Coating thickness | min | max | Minimum insulation resistance at 70°c | Maximum conductor resistance at 20 ° C | Approximate weight |
|---|---|---|---|---|---|---|---|
| mm² | mm | mm | mm | mm | MΩ.km | Ω/km | Kg/km |
| 2*0.5 | 0.6 | 0.7 | 5.2 | 6.6 | 0.013 | 39 | 42 |
| 2*0.75 | 0.6 | 0.8 | 5.7 | 7.2 | 0.011 | 26 | 52 |
| 2*1.0 | 0.6 | 0.8 | 5.9 | 7.5 | 0.010 | 19.5 | 60 |
| 2*1.5 | 0.7 | 0.8 | 6.8 | 8.6 | 0.010 | 13.3 | 81 |
| 2*2.5 | 0.8 | 0.9 | 8.2 | 10.3 | 0.009 | 7.98 | 128 |
| 3*0.5 | 0.6 | 0.7 | 5.5 | 7.0 | 0.013 | 39 | 50 |
| 3*0.75 | 0.6 | 0.8 | 6.0 | 7.5 | 0.011 | 26 | 62 |
| 3*1.0 | 0.6 | 0.8 | 6.3 | 8.0 | 0.010 | 19.5 | 75 |
| 3*1.5 | 0.7 | 0.9 | 7.4 | 9.4 | 0.010 | 13.3 | 103 |
| 3*2.5 | 0.8 | 1.0 | 9.0 | 11.2 | 0.009 | 7.98 | 155 |
| 4*0.5 | 0.6 | 0.8 | 6.2 | 7.9 | 0.013 | 39 | 65 |
| 4*0.75 | 0.6 | 0.8 | 6.6 | 8.3 | 0.011 | 26 | 75 |
| 4*1.0 | 0.6 | 0.8 | 6.9 | 8.7 | 0.010 | 19.5 | 90 |
| 4*1.5 | 0.7 | 0.9 | 8.2 | 10.2 | 0.010 | 13.3 | 125 |
| 4*2.5 | 0.8 | 1.1 | 10.1 | 12.5 | 0.009 | 7.98 | 192 |
| 5*0.5 | 0.6 | 0.8 | 6.8 | 8.6 | 0.013 | 39 | 76 |
| 5*0.75 | 0.6 | 0.9 | 7.4 | 9.3 | 0.011 | 26 | 96 |
| 5*1.0 | 0.6 | 0.9 | 7.8 | 9.8 | 0.010 | 19.5 | 115 |
| 5*1.5 | 0.7 | 1.0 | 9.1 | 11.4 | 0.010 | 13.3 | 155 |
| 5*2.5 | 0.8 | 1.1 | 11.0 | 13.7 | 0.009 | 7.98 | 230 |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 6*0.5 | 0.6 | 0.9 | 7.6 | 9.6 | 0.013 | 39 | 95 |
| 6*0.75 | 0.6 | 0.9 | 8.1 | 10.1 | 0.011 | 26 | 115 |
| 6*1.0 | 0.6 | 1.0 | 8.7 | 10.8 | 0.010 | 19.5 | 140 |
| 6*1.5 | 0.7 | 1.1 | 10.2 | 12.6 | 0.010 | 13.3 | 190 |
| 6*2.5 | 0.8 | 1.2 | 12.2 | 15.1 | 0.009 | 7.98 | 286 |
| 7*0.5 | 0.6 | 0.9 | 8.3 | 10.4 | 0.013 | 39 | 98 |
| 7*0.75 | 0.6 | 1.0 | 9.0 | 11.3 | 0.011 | 26 | 125 |
| 7*1.0 | 0.6 | 1.0 | 9.5 | 11.8 | 0.010 | 19.5 | 150 |
| 7*1.5 | 0.7 | 1.2 | 11.3 | 14.1 | 0.010 | 13.3 | 205 |
| 7*2.5 | 0.8 | 1.3 | 13.6 | 16.8 | 0.009 | 7.98 | 310 |
| 12*0.5 | 0.6 | 1.1 | 10.4 | 12.9 | 0.013 | 39 | 170 |
| 12*0.75 | 0.6 | 1.1 | 11.0 | 13.7 | 0.011 | 26 | 205 |
| 12*1.0 | 0.6 | 1.2 | 11.8 | 14.6 | 0.010 | 19.5 | 255 |
| 12*1.5 | 0.7 | 1.3 | 13.8 | 17.0 | 0.010 | 13.3 | 340 |
| 12*2.5 | 0.8 | 1.5 | 16.8 | 20.6 | 0.009 | 7.98 | 520 |
| 18*0.5 | 0.6 | 1.2 | 12.3 | 15.3 | 0.013 | 39 | 230 |
| 18*0.75 | 0.6 | 1.3 | 13.2 | 16.4 | 0.011 | 26 | 288 |

## 2. Shielded flexible control cables NYSLYC NYSLY


Conductor: group 5 annealed copper (flexible) as per ISIRI 3084 or 60228 IEC standard. Insulator: PVC mixture of PVC/D type. String placement manner: strings are placed in one or more eccentric and twisted manner. Applying the single strings in the core of cable is not permitted. Cables with three or more strings are more in green and yellow colors. Middle coating: usually on twisted strings longitudinal PE tape is applied (NYSLCY type) while in case of requesting, a mixture of PVC/ST5 may replace it (NYSLCY type). Screen: in weaved manner of tinned or non tinned copper wire. Coating: PVC mixture of PVC/ST5 type. Coating color is normally grey. Standard: coating: ISIRI (607) 74, 60227 IEC 74 with 300-500V nominal voltage

| Number and cross section area of conductors | Insulation thickness | The thickness of the middle coat | Maximum diameter of tissue wires | Coating thickness | Average external diameter | | Minimum insulation resistance at 70°c | Maximum conductor resistance at 20 ° C | Approximate weight |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | min | min | | | |
| mm² | mm | mm | mm | mm | mm | mm | MΩ.km | Ω/km | Kg/km |
| 2*0.5 | 0.6 | 0.7 | 0.16 | 0.9 | 7.7 | 9.6 | 0.013 | 39 | 60 |
| 2*0.75 | 0.6 | 0.7 | 0.16 | 0.9 | 8.0 | 10.0 | 0.011 | 26 | 70 |
| 2*1.0 | 0.6 | 0.7 | 0.16 | 0.9 | 8.2 | 10.3 | 0.010 | 19.5 | 75 |
| 2*1.5 | 0.7 | 0.7 | 0.16 | 1.0 | 9.3 | 11.6 | 0.010 | 13.3 | 95 |
| 2*2.5 | 0.8 | 0.7 | 0.16 | 1.1 | 10.7 | 13.3 | 0.009 | 7.98 | 135 |
| 3*0.5 | 0.6 | 0.7 | 0.16 | 0.9 | 8.0 | 10.0 | 0.013 | 39 | 70 |
| 3*0.75 | 0.6 | 0.7 | 0.16 | 0.9 | 8.3 | 10.4 | 0.011 | 26 | 81 |
| 3*1.0 | 0.6 | 0.7 | 0.16 | 1.0 | 8.8 | 11.0 | 0.010 | 19.5 | 98 |
| 3*1.5 | 0.7 | 0.7 | 0.16 | 1.0 | 9.7 | 12.1 | 0.010 | 13.3 | 121 |
| 3*2.5 | 0.8 | 0.7 | 0.16 | 1.1 | 11.3 | 14.0 | 0.009 | 7.98 | 172 |
| 4*0.5 | 0.6 | 0.7 | 0.16 | 0.9 | 8.5 | 10.7 | 0.013 | 39 | 88 |
| 4*0.75 | 0.6 | 0.7 | 0.16 | 1.0 | 9.1 | 11.3 | 0.011 | 26 | 102 |
| 4*1.0 | 0.6 | 0.7 | 0.16 | 1.0 | 9.4 | 11.7 | 0.010 | 19.5 | 115 |
| 4*1.5 | 0.7 | 0.7 | 0.16 | 1.1 | 10.7 | 13.2 | 0.010 | 13.3 | 149 |
| 4*2.5 | 0.8 | 0.8 | 0.16 | 1.2 | 12.6 | 15.5 | 0.009 | 7.98 | 210 |
| 5*0.5 | 0.6 | 0.7 | 0.16 | 1.0 | 9.3 | 11.6 | 0.013 | 39 | 101 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 5*0.75 | 0.6 | 0.7 | 0.16 | 1.0 | 9.7 | 12.1 | 0.011 | 26 | 115 |
| 5*1.0 | 0.6 | 0.7 | 0.16 | 1.1 | 10.3 | 12.8 | 0.010 | 19.5 | 140 |
| 5*1.5 | 0.7 | 0.8 | 0.16 | 1.2 | 11.8 | 14.7 | 0.010 | 13.3 | 180 |
| 5*2.5 | 0.8 | 0.8 | 0.21 | 1.3 | 13.9 | 17.2 | 0.009 | 7.98 | 270 |
| 6*0.5 | 0.6 | 0.7 | 0.16 | 1.0 | 9.9 | 12.4 | 0.013 | 39 | 115 |
| 6*0.75 | 0.6 | 0.7 | 0.16 | 1.1 | 10.5 | 13.1 | 0.011 | 26 | 135 |
| 6*1.0 | 0.6 | 0.7 | 0.16 | 1.1 | 11.0 | 13.6 | 0.010 | 19.5 | 160 |
| 6*1.5 | 0.7 | 0.8 | 0.16 | 1.2 | 12.7 | 15.7 | 0.010 | 13.3 | 220 |
| 6*2.5 | 0.8 | 0.8 | 0.21 | 1.4 | 15.2 | 18.7 | 0.009 | 7.98 | 315 |
| 7*0.5 | 0.6 | 0.7 | 0.16 | 1.1 | 10.8 | 13.5 | 0.013 | 39 | 125 |
| 7*0.75 | 0.6 | 0.7 | 0.16 | 1.2 | 11.5 | 14.3 | 0.011 | 26 | 155 |
| 7*1.0 | 0.6 | 0.8 | 0.16 | 1.2 | 12.2 | 15.1 | 0.010 | 19.5 | 180 |
| 7*1.5 | 0.7 | 0.8 | 0.21 | 1.3 | 14.1 | 17.4 | 0.010 | 13.3 | 245 |
| 7*2.5 | 0.8 | 0.8 | 0.21 | 1.5 | 16.5 | 20.3 | 0.009 | 7.98 | 350 |
| 12*0.5 | 0.6 | 0.8 | 0.21 | 1.3 | 13.3 | 16.5 | 0.013 | 39 | 210 |
| 12*0.75 | 0.6 | 0.8 | 0.21 | 1.3 | 13.9 | 17.2 | 0.011 | 26 | 245 |
| 12*1.0 | 0.6 | 0.8 | 0.21 | 1.4 | 14.7 | 18.1 | 0.010 | 19.5 | 295 |
| 12*1.5 | 0.7 | 0.8 | 0.21 | 1.5 | 16.7 | 20.5 | 0.010 | 13.3 | 380 |
| 12*2.5 | 0.8 | 0.9 | 0.21 | 1.7 | 19.9 | 24.4 | 0.009 | 7.98 | 555 |
| 18*0.5 | 0.6 | 0.8 | 0.21 | 1.3 | 15.1 | 18.6 | 0.013 | 39 | 280 |
| 18*0.75 | 0.6 | 0.8 | 0.21 | 1.5 | 16.2 | 19.9 | 0.011 | 26 | 340 |

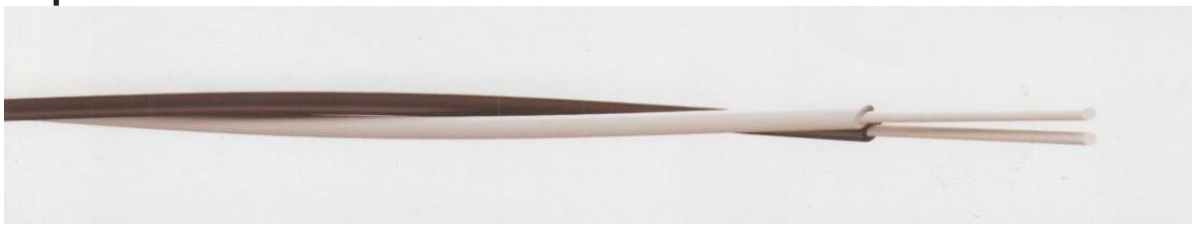
### 3. Instrumentation cables REY (st), REY (st) Y, YRY, PIMF


Conductor: group 1 annealed copper (single string): or group 2 (regularly twisted) or group 5 annealed copper (flexible) in simple or tinned manner as per BS 6360 standard. Insulator: mixture of PVC, PE, HFFR or XLPE. String placement manner: strings are placed individually or in double, triple or in groups of four elements and identified with coloration or numbering. Double screen: for cables with screen on double as tinned earth wire, aluminum foil and PE tape and or copper woven wires or tinned copper and/or combination of weaving and foil. General screen: for cable with general screen as tinned earth wire, aluminum foil and PE tape and or copper woven wires or tinned copper and/or combination of weaving and foil. Middle coating: mixture of PVC, PE or HFFR. Armor: galvanized steel wires, double steel tape and/or woven steel wire on middle coating for armored cables. Coating: mixture of PVC, PE or HFFR. Coating color is normally black. Standard: BS EN 50288-7 with nominal voltage of 500V (if requested, cable with 90 or 300V may also be produced).

| Number and cross section area of conductors | Conductor group | Insulation thickness | The thickness of the middle coat | The diameter of the armored wire | Coating thickness | Average external diameter | Maximum conductor resistance at 20 ° C | Approximate weight |
|---|---|---|---|---|---|---|---|---|
| mm² | | mm | mm | mm | mm | mm | Ω/km | kg/km |
| 2×2×0.5 | 5 | 0.52 | - | - | 1 | 9.12 | 39.7 | 86 |
| 5×2×0.5 | 5 | 0.52 | - | - | 1 | 11.5 | 39.7 | 159 |
| 10×2×0.5 | 5 | 0.52 | - | - | 1.2 | 16.4 | 39.7 | 299 |
| 15×2×0.5 | 5 | 0.52 | - | - | 1.3 | 19 | 39.7 | 425 |
| 20×2×0.5 | 5 | 0.52 | - | - | 1.4 | 21.4 | 39.7 | 552 |
| 30×2×0.5 | 5 | 0.52 | - | - | 1.5 | 25.4 | 39.7 | 794 |
| 50×2×0.5 | 5 | 0.52 | - | - | 1.7 | 32.5 | 39.7 | 1283 |
| 2×2×0.75 | 5 | 0.52 | - | - | 1 | 9.8 | 26.5 | 100 |
| 5×2×0.75 | 5 | 0.52 | - | - | 1.1 | 12.7 | 26.5 | 197 |
| 10×2×0.75 | 5 | 0.52 | - | - | 1.3 | 18 | 26.5 | 368 |
| 15×2×0.75 | 5 | 0.52 | - | - | 1.3 | 20.6 | 26.5 | 514 |
| 20×2×0.75 | 5 | 0.52 | - | - | 1.4 | 23.2 | 26.5 | 668 |
| 30×2×0.75 | 5 | 0.52 | - | - | 1.6 | 27.7 | 26.5 | 979 |
| 50×2×0.75 | 5 | 0.52 | - | - | 1.8 | 35.5 | 26.5 | 1585 |
| 2×2×1.5 | 2 | 0.52 | - | - | 1 | 11.4 | 12.3 | 140 |
| 5×2×1.5 | 2 | 0.52 | - | - | 1.2 | 15.4 | 12.3 | 296 |
| 10×2×1.5 | 2 | 0.52 | - | - | 1.4 | 21.5 | 12.3 | 562 |
| 15×2×1.5 | 2 | 0.52 | - | - | 1.5 | 24.9 | 12.3 | 806 |
| 20×2×1.5 | 2 | 0.52 | - | - | 1.6 | 28 | 12.3 | 1051 |
| 30×2×1.5 | 2 | 0.52 | - | - | 1.8 | 33.4 | 12.3 | 1541 |
| 50×2×1.5 | 2 | 0.52 | - | - | 2.1 | 43 | 12.3 | 2519 |
| 2×2×0.5 | 5 | 0.52 | 1.0 | 0.9 | 1.4 | 13.7 | 39.7 | 335 |
| 5×2×0.5 | 5 | 0.52 | 1.0 | 0.9 | 1.4 | 18.0 | 39.7 | 464 |
| 10×2×0.5 | 5 | 0.52 | 1.2 | 0.9 | 1.6 | 21.4 | 39.7 | 735 |
| 15×2×0.5 | 5 | 0.52 | 1.3 | 1.25 | 1.6 | 24.8 | 39.7 | 1059 |
| 20×2×0.5 | 5 | 0.52 | 1.4 | 1.25 | 1.7 | 27.3 | 39.7 | 1273 |
| 30×2×0.5 | 5 | 0.52 | 1.5 | 1.6 | 1.8 | 31.5 | 39.7 | 1657 |
| 50×2×0.5 | 5 | 0.52 | 1.7 | 1.6 | 2 | 42.9 | 39.7 | 2642 |
| 2×2×0.75 | 5 | 0.52 | 1.0 | 0.9 | 1.4 | 14.4 | 26.5 | 363 |
| 5×2×0.75 | 5 | 0.52 | 1.0 | 0.9 | 1.5 | 17.5 | 26.5 | 537 |
| 10×2×0.75 | 5 | 0.52 | 1.3 | 1.25 | 1.6 | 23.7 | 26.5 | 974 |
| 15×2×0.75 | 5 | 0.52 | 1.3 | 1.25 | 1.7 | 26.5 | 26.5 | 1210 |
| 20×2×0.75 | 5 | 0.52 | 1.4 | 1.25 | 1.8 | 29.3 | 26.5 | 1456 |
| 30×2×0.75 | 5 | 0.52 | 1.6 | 1.6 | 1.9 | 34.7 | 26.5 | 2153 |
| 50×2×0.75 | 5 | 0.52 | 1.8 | 1.6 | 2.1 | 45.9 | 26.5 | 3086 |
| 2×2×1.5 | 2 | 0.52 | 1.0 | 0.9 | 1.4 | 16 | 12.3 | 445 |
| 5×2×1.5 | 2 | 0.52 | 1.2 | 0.9 | 1.5 | 19.9 | 12.3 | 765 |
| 10×2×1.5 | 2 | 0.52 | 1.4 | 1.25 | 1.7 | 27.4 | 12.3 | 1286 |
| 15×2×1.5 | 2 | 0.52 | 1.5 | 1.25 | 1.8 | 31 | 12.3 | 1646 |
| 20×2×1.5 | 2 | 0.52 | 1.6 | 1.6 | 1.9 | 35 | 12.3 | 226 |
| 30×2×1.5 | 2 | 0.52 | 1.8 | 1.6 | 2 | 40.6 | 12.3 | 2940 |
| 50×2×1.5 | 2 | 0.52 | 2.1 | 2 | 2.3 | 51.5 | 12.3 | 4966 |

## Telecommunications and co-axial cables

### 1. Jumper wires YV



Conductor: tinned single string annealed copper. Insulator: PVC mixture with quire high quality. Coloration of insulators is black and white for doubles and black, and black, white and green for triples. Strings twisting manner: the strings are twisted together in doubles or triples with 30mm twisting length. Standard: VDE 0815 or TCI (Telecommunications Company of Iran) specifications.

| Number & diameter of conductor/ insulation wire diameter | Insulation thickness | diameter of insulation wire | Minimum insulation resistance at 70°c | Maximum conductor resistance at 20 ° C | Approximate weight |
|---|---|---|---|---|---|
| | mm | mm | MΩ/km | Ω/km | kg/km |
| 1×0.5/0.9 | 0.2 | 0.9 | 500 | 88 | 2.5 |
| 2×0.5/0.9 | 0.2 | 1.8 | 500 | 88 | 5.0 |
| 3×0.5/0.9 | 0.2 | 2.0 | 500 | 88 | 7.5 |
| 1×0.5/1.1 | 0.3 | 1.1 | 500 | 88 | 3.0 |
| 2×0.5/1.1 | 0.3 | 2.2 | 500 | 88 | 6.0 |
| 3×0.5/1.1 | 0.3 | 2.4 | 500 | 88 | 9.0 |
| 1×0.6/1.1 | 0.25 | 1.1 | 500 | 65 | 3.7 |
| 2×0.6/1.1 | 0.25 | 2.2 | 500 | 65 | 7.5 |
| 3×0.6/1.1 | 0.25 | 2.4 | 500 | 65 | 11.0 |
| 1×0.6/1.4 | 0.4 | 1.4 | 500 | 65 | 4.5 |
| 2×0.6/1.4 | 0.4 | 2.8 | 500 | 65 | 9.0 |
| 3×0.6/1.4 | 0.4 | 3.0 | 500 | 65 | 13.5 |

## 1. Audio frequency telephone cable JY (ST) Y


Conductor: tinned single string annealed copper. Insulator: PVC mixture of PVC/YI1 type as per VDE 0207 standard. Strings twisting manner: the strings are twisted together in doubles or triples in eccentric manner. Cable strings coating: PE longitudinally or latitudinally on the twisted doubles with proper overlapping. Screen: aluminum foil longitudinally or latitudinally with proper overlapping together with earth copper wire between PE tape and aluminum foil. Coating: PVC mixture of PVC/ YM1 type as per VDE 0207 standard. Coating coloration is normally grey. Standard: VDE 0815 or TCI (Telecommunications Company of Iran) specifications.

| Cable size | Insulation thickness | Coating thickness | Maximum conductor resistance at 20 ° C | | Maximum mutual Capacitor capacity | Cable diameter | Approximate weight |
|---|---|---|---|---|---|---|---|
| | | | average | unit | | | |
| | mm | mm | Ω/km | Ω/km | nf/km | mm | kg/km |
| 2×2×0.4 | 0.2 | 0.6 | 139 | 147 | 100 | 3.9 | 20 |
| 4×2×0.4 | 0.2 | 0.6 | 139 | 147 | 100 | 4.5 | 28 |
| 6×2×0.4 | 0.2 | 0.6 | 139 | 147 | 100 | 5.2 | 37 |
| 8×2×0.4 | 0.2 | 0.6 | 139 | 147 | 100 | 5.6 | 45 |
| 10×2×0.4 | 0.2 | 1.0 | 139 | 147 | 100 | 7.0 | 54 |
| 15×2×0.4 | 0.2 | 1.0 | 139 | 147 | 100 | 8.0 | 72 |
| 20×2×0.4 | 0.2 | 1.0 | 139 | 147 | 100 | 8.9 | 90 |
| 2×2×0.6 | 0.25 | 0.6 | 62 | 65 | 100 | 4.4 | 30 |
| 4×2×0.6 | 0.25 | 0.6 | 62 | 65 | 100 | 5.5 | 48 |
| 6×2×0.6 | 0.25 | 0.6 | 62 | 65 | 100 | 6.5 | 64 |
| 8×2×0.6 | 0.25 | 0.6 | 62 | 65 | 100 | 7.3 | 80 |
| 10×2×0.6 | 0.25 | 1.0 | 62 | 65 | 100 | 8.7 | 95 |
| 15×2×0.6 | 0.25 | 1.0 | 62 | 65 | 100 | 10.2 | 140 |
| 20×2×0.6 | 0.25 | 1.0 | 62 | 65 | 100 | 11.4 | 178 |

## 3. Outdoor telephone cables A2Y (ST) 2Y


Conductor: single string annealed copper. Insulator: HD PE mixture as per ASTM D1248. Strings twisting manner: the strings are twisted together in doubles or triples in eccentric manner. Cable strings coating: PE longitudinally or latitudinally on the twisted doubles with proper overlapping. Screen: aluminum foil longitudinally or latitudinally with proper overlapping together with earth copper wire between PE tape and aluminum foil. Coating: HD PE mixture as per ASTM D1248. Coating coloration is normally black resistant against sunlight

| Cable size | Insulation thickness | Coating thickness | Maximum conductor resistance at 20 ° C | | Maximum mutual Capacitor capacity | **Cable diameter** | Approximate weight |
|---|---|---|---|---|---|---|---|
| | | | average | average | | | |
| | **mm** | **mm** | **Ω/km** | **Ω/km** | **nf/km** | **mm** | **kg/km** |
| 2×2×0.4 | 0.2 | 1.0 | 139 | 147 | 52±4 | 4.3 | 20 |
| 4×2×0.4 | 0.2 | 1.0 | 139 | 147 | 52±4 | 5.3 | 28 |
| 6×2×0.4 | 0.2 | 1.0 | 139 | 147 | 52±4 | 6.0 | 37 |
| 8×2×0.4 | 0.2 | 1.0 | 139 | 147 | 52±4 | 6.5 | 45 |
| 10×2×0.4 | 0.2 | 1.0 | 139 | 147 | 52±4 | 7.0 | 54 |
| 15×2×0.4 | 0.2 | 1.0 | 139 | 147 | 52±4 | 7.5 | 72 |
| 20×2×0.4 | 0.2 | 1.0 | 139 | 147 | 52±4 | 8.8 | 90 |
| 2×2×0.6 | 0.25 | 1.0 | 62 | 65 | 52±4 | 5.1 | 30 |
| 4×2×0.6 | 0.25 | 1.0 | 62 | 65 | 52±4 | 6.3 | 48 |
| 6×2×0.6 | 0.25 | 1.0 | 62 | 65 | 52±4 | 7.3 | 64 |
| 8×2×0.6 | 0.25 | 1.0 | 62 | 65 | 52±4 | 8.0 | 80 |
| 10×2×0.6 | 0.25 | 1.0 | 62 | 65 | 52±4 | 8.8 | 95 |
| 15×2×0.6 | 0.25 | 1.2 | 62 | 65 | 52±4 | 10.7 | 140 |
| 20×2×0.6 | 0.25 | 1.2 | 62 | 65 | 52±4 | 12.0 | 178 |

## 4. Co-axial cables


Conductor: single string or regularly twisted, simple or tinned annealed copper. Insulator: PE mixture in solid or fume manner. Simple or tinned simple copper wire in woven manner; Coating: special PVC mixture. Standard: JIS 3501

| Cable type | Conductor size | Diameter on insulation | Conductor type | Insulation type | Layer number of tissue | Impedance | Weakening In 10 MHz | Cable diameter | Approximate weight |
|---|---|---|---|---|---|---|---|---|---|
| | mm | mm | | | | Ω | db | mm | kg/km |
| 2.5C-2V | 1×0.4 | 2.5 | cooper | polyethylene | 1 | 75 | 52 | 4.1 | 24 |
| 3C-2V | 1×0.5 | 3.0 | cooper | foam polyurethane | 1 | 75 | 42 | 5.5 | 42 |
| 4.5C-2V | 1×1.0 | 4.5 | cooper | polyethylene | 1 | 75 | 22 | 6.6 | 48 |
| 3C-2W | 1×0.5 | 3.0 | cooper | polyethylene | 2 | 75 | 42 | 6.5 | 68 |
| RG-8/U | 7×0.72 | 6.5 | cooper | polyethylene | 1 | 50 | 6.8 | 9.6 | 130 |
| RG-11/U | 7×0.4 | 7.4 | tin plated copper | polyethylene | 2 | 75 | 7 | 10.4 | 142 |
| RG-58/U | 19×0.18 | 3.0 | tin plated copper | polyethylene | 1 | 50 | 17 | 5.0 | 40 |

## Other cables

### 1. Welding cable with electrical arch


Conductor: annealed copper with max. dia. 0.21mm. Separator: PE tape covering the conductor. Insulator: TPR mixture with minimum tension strength of 12.5 N/mm2, THK: 2.4~3.2mm. Standard: 245 IEC 81 [ISIRI (1926) 81]

| Number and cross section area of conductors | Maximum conductor diameter | Average external diameter | | Coating thickness | Maximum conductor resistance at 20 ° C | Approximate weight |
|---|---|---|---|---|---|---|
| | | min | max | | | |
| mm² | mm | mm | mm | mm | Ω/km | kg/km |
| 16 | 0.21 | 8.8 | 11 | 2.4 | 1.16 | 218 |
| 25 | 0.21 | 10.1 | 12.7 | 2.4 | 0.785 | 304 |
| 35 | 0.21 | 11.4 | 14.2 | 2.4 | 0.536 | 403 |
| 50 | 0.21 | 13.2 | 16.5 | 2.7 | 0.379 | 560 |
| 70 | 0.21 | 15.3 | 19.2 | 3 | 0.268 | 772 |
| 95 | 0.21 | 17.1 | 21.4 | 3.2 | 0.198 | 1016 |

## 2. Lifts round cables and mobile joints


Conductor: annealed copper group 5 (flexible) as per IEC 60228 or ISIRI 3084 standard, insulator: PVC mixture of PVC/D type. Strings manner of placement: the strings are twisted together with twisting length specified in the standard. Coating: PVC mixture of PVC/ST5 type. Coating coloration is normally black. Standard: ISIRI (607) C71 or IEC 60227 71C with 450/750 V nominal voltage.

| Number and cross section area of conductors | Insulation thickness | Coating thickness | Average external diameter | Minimum insulation resistance at 70°c | Maximum conductor resistance at 20 ° C | Approximate weight |
|---|---|---|---|---|---|---|
| mm² | mm | mm | mm | MΩ/km | Ω/km | kg/km |
| 2×4 | 0.8 | 1 | 10.14 | 0.007 | 4.95 | 170.51 |
| 3×4 | 0.8 | 1 | 10.77 | 0.007 | 4.95 | 211.37 |
| 4×4 | 0.8 | 1.3 | 12.42 | 0.007 | 4.95 | 277.45 |
| 5×4 | 0.8 | 1.3 | 13.59 | 0.007 | 4.95 | 330.76 |
| 2×6 | 0.8 | 1 | 11.24 | 0.006 | 3.6 | 223.5 |
| 3×6 | 0.8 | 1.3 | 12.56 | 0.006 | 3.6 | 298.01 |
| 4×6 | 0.8 | 1.3 | 13.75 | 0.006 | 3.6 | 368.06 |
| 5×6 | 0.8 | 1.3 | 15.07 | 0.006 | 3.6 | 440.83 |
| 2×10 | 1 | 1.3 | 14.54 | 0.0056 | 1.91 | 378.17 |
| 3×10 | 1 | 1.3 | 15.47 | 0.0056 | 1.91 | 476.86 |
| 4×10 | 1 | 1.3 | 17.01 | 0.0056 | 1.91 | 593.49 |
| 5×10 | 1 | 1.6 | 19.32 | 0.0056 | 1.91 | 740.46 |
| 2×16 | 1 | 1.3 | 16.66 | 0.0046 | 1.21 | 535.81 |
| 3×16 | 1 | 1.6 | 18.35 | 0.0046 | 1.21 | 710.54 |
| 4×16 | 1 | 1.6 | 20.17 | 0.0046 | 1.21 | 887.71 |
| 5×16 | 1 | 1.6 | 22.18 | 0.0046 | 1.21 | 1070.49 |
| 2×25 | 1.2 | 1.6 | 20.56 | 0.0044 | 0.78 | 823.69 |
| 3×25 | 1.2 | 0.9 | 21.91 | 0.0044 | 1.21 | 1056.3 |
| 4×25 | 1.2 | 1.1 | 24.95 | 0.0044 | 1.21 | 1370.58 |
| 5×25 | 1.2 | 1.2 | 27.44 | 0.0044 | 1.21 | 1653.68 |

IKO TAK

IRIK KABL OFOGH COMPANY

***Contac Us:***

021-82175000 09004409049