| ASCABLE-RECAEL | **RV-K 1kV**<br>**AENOR reg. Nº 042/000962**<br>**Construction Products Regulation (EU) No 305/2011** | CPR RoHS COMPLIANT | **ETP-41**<br>Ed. 10/2022 Rev. 18 |
|---|---|---|---|

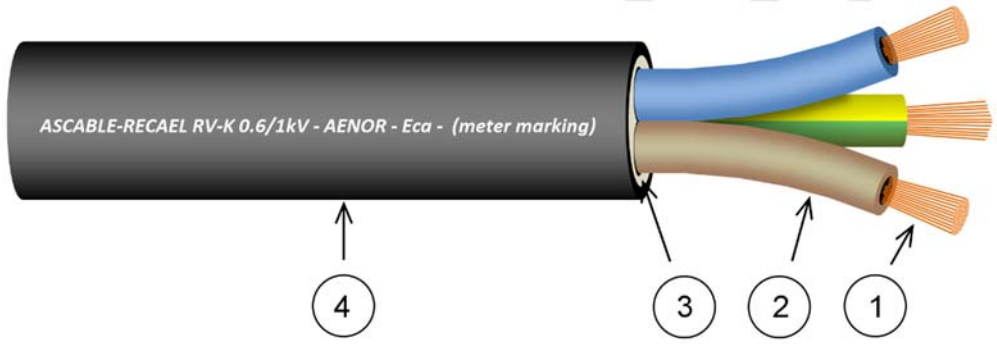
**Industrial cables of rated voltage 0,6/1 kV. XLPE insulated and PVC sheathed cables.**

**DESCRIPTION**

Electric power cables with cross linked polyethylene insulation and PVC outer sheath.
These cables are suitable for transport and distribution of electric power for fixed installations and for industrial use. These cables are suitable for indoor or outdoor installations and for air, buried or in conduit installations.
Construction based on UNE 21123-2 / IEC 60502-1 criteria.

**CONSTRUCTION**

| | | |
|---|---|---|
| 1 - Conductor: | Flexible bare copper, class 5 | a/EN 60228 |
| 2 - Insulation: | Cross linked polyethylene, type DIX-3 | |
| | · Identification (colours) | a/HD 308 |
| | - 1x: natural (uncoloured) | |
| | - up to 5c: blue, brown, black, grey, yellow/green | |
| | - 6c or more: black numbered with or without yellow/green | |
| | · Assembly of cores: concentric stranded | |
| 3 - Filler: | Thermoplastic compound (optional) | |
| 4 - Outer sheath: | PVC-based compound, type ST2 | |
| | Usual colour: Black | a/RAL-9005 |




**TECHNICAL SPECIFICATIONS**

| | | |
|---|---|---|
| Rated voltage Vca (Uo/U): | 0,6 / 1kV | |
| Max. voltage Vca (Um): | 1,2 kV | |
| Rated voltage Vdc: | 1,8 kV max. (Core / core, without grounding) | |
| Test voltage: | 3.500 V Vac. / 6.500 Vdc. | |
| Temperature range: | -15ºC a +90ºC | |
| Min. service temperature: | -40 ºC (fixed and protected installations) | |
| Weather conditions (**): | O.K. | a/UNE 211605 |
| Maximum short-circuit temperature: | 250ºC (max. 5 s) | a/IEC 60724 |
| Oil and fuel resistant: | O.K. | a/ICEA S-73-532 |
| Water resistant (*): | AD7 | a/IEC 60364-3 |
| CPR classification (class) | Eca | a/EN 50575 |
| UV resistant: | O.K. | a/UNE 21123-2 |
| Flame retardant: | O.K. | a/EN 60332-1-2 |

## Industrial cables of rated voltage 0,6/1 kV. XLPE insulated and PVC sheathed cables.

**MINIMUM BENDING RADIUS**

During installation the radius of curvature should never be below the following values:

| Unarmoured cables | |
|---|---|
| **Ø (*)** | **Minimum bending radius** |
| Ø < 25 | 4 Ø |
| 25 ≤ Ø ≤ 50 | 5 Ø |
| Ø > 50 | 6 Ø |

(*) Ø = Outside cable diameter

**DATA AND DIMENSIONS**

Dimensions and weights are approximates, subject to small variations due to process. Other sizes are possible on request.

**Formations up to 5 cores**

| Cross section mm² | Resistance Ω/km at 20 °C | Voltage Drop V/Axkm | | Intensity maximum, A | | Insulation thickness, mm | Sheath | | Pulling force (***) max., N | Weight Kg/km |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Cos ϕ 0,8 | Cos ϕ 1 | In air | buried | | thickness, mm | Ø outer, mm | | |
| **1x1,5** | 13,3 | 23,66 | 29,374 | 21 | 21 | 0,7 | 1,4 | 5,8 | 75 | 46 |
| **1x2,5** | 7,98 | 14,25 | 17,624 | 30 | 27 | 0,7 | 1,4 | 6,2 | 125 | 58 |
| **1x4** | 4,95 | 8,887 | 10,933 | 40 | 35 | 0,7 | 1,4 | 6,7 | 200 | 74 |
| **1x6** | 3,30 | 5,964 | 7,288 | 52 | 44 | 0,7 | 1,4 | 7,3 | 300 | 95 |
| **1x10** | 1,91 | 3,495 | 4,218 | 72 | 58 | 0,7 | 1,4 | 8,2 | 500 | 137 |
| **1x16** | 1,21 | 2,238 | 2,673 | 97 | 75 | 0,7 | 1,4 | 9,3 | 800 | 192 |
| **1x25** | 0,780 | 1,487 | 1,723 | 122 | 96 | 0,9 | 1,4 | 10,9 | 1.250 | 282 |
| **1x35** | 0,554 | 1,082 | 1,223 | 153 | 117 | 0,9 | 1,4 | 12,1 | 1.750 | 376 |
| **1x50** | 0,386 | 0,782 | 0,852 | 188 | 138 | 1,0 | 1,4 | 13,7 | 2.500 | 510 |
| **1x70** | 0,272 | 0,576 | 0,601 | 243 | 170 | 1,1 | 1,4 | 15,9 | 3.500 | 723 |
| **1x95** | 0,206 | 0,458 | 0,456 | 298 | 202 | 1,1 | 1,5 | 17,6 | 4.750 | 918 |
| **1x120** | 0,161 | 0,377 | 0,355 | 350 | 230 | 1,2 | 1,5 | 19,4 | 6.000 | 1.158 |
| **1x150** | 0,129 | 0,318 | 0,284 | 401 | 260 | 1,4 | 1,6 | 21,6 | 7.500 | 1.434 |
| **1x185** | 0,106 | 0,277 | 0,234 | 460 | 291 | 1,6 | 1,6 | 23,6 | 9.250 | 1.724 |
| **1x240** | 0,0801 | 0,23 | 0,177 | 545 | 336 | 1,7 | 1,7 | 27,3 | 12.000 | 2.270 |
| **1x300** | 0,0641 | 0,201 | 0,142 | 630 | 380 | 1,8 | 1,8 | 30,2 | 15.000 | 2.880 |
| **1x400 ([1])** | 0,0486 | --- | --- | 716 | 464 | 2,0 | 2,0 | 35,5 | 20.000 | 3.805 |
| **1x500 ([1])** | 0,0384 | --- | --- | 823 | 525 | 2,2 | 2,0 | 41,4 | 25.000 | 4.800 |
| **2x1,5** | 13,3 | 27,371 | 33,918 | 23 | 24 | 0,7 | 1,25 | 8,50 | 150 | 100 |
| **2x2,5** | 7,98 | 16,502 | 20,35 | 32 | 32 | 0,7 | 1,25 | 9,30 | 250 | 130 |
| **2x4** | 4,95 | 10,308 | 12,624 | 44 | 42 | 0,7 | 1,25 | 10,30 | 400 | 170 |
| **2x6** | 3,30 | 6,931 | 8,416 | 57 | 53 | 0,7 | 1,25 | 11,40 | 600 | 220 |
| **2x10** | 1,91 | 4,082 | 4,87 | 78 | 70 | 0,7 | 1,25 | 13,30 | 1.000 | 330 |
| **2x16** | 1,21 | 2,614 | 3,086 | 104 | 91 | 0,7 | 1,25 | 15,40 | 1.600 | 475 |
| **2x25** | 0,780 | 1,772 | 1,99 | 135 | 116 | 0,9 | 1,40 | 18,90 | 2.500 | 725 |
| **2x35** | 0,554 | 1,304 | 1,412 | 168 | 140 | 0,9 | 1,50 | 21,50 | 3.500 | 980 |
| **2x50** | 0,386 | 0,96 | 0,984 | 204 | 166 | 1,0 | 1,60 | 26,00 | 5.000 | 1.455 |
| **2x70** | 0,272 | 0,724 | 0,694 | 262 | 204 | 1.1 | 1,70 | 30,60 | 7.000 | 2.070 |
| **3G1,5** | 13,3 | 27,371 | 33,918 | 23 | 24 | 0,7 | 1,25 | 9,00 | 225 | 120 |
| **3G2,5** | 7,98 | 16,502 | 20,35 | 32 | 32 | 0,7 | 1,25 | 9,80 | 375 | 155 |
| **3G4** | 4,95 | 10,308 | 12,624 | 44 | 42 | 0,7 | 1,25 | 10,90 | 600 | 205 |

## Industrial cables of rated voltage 0,6/1 kV. XLPE insulated and PVC sheathed cables.

| Cross section mm² | Resistance Ω/km at 20 °C | Voltage Drop V/Axkm | | Intensity maximum, A | | Insulation thickness, mm | Sheath | | Pulling force (***) max., N | Weight Kg/km |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Cos ϕ 0,8 | Cos ϕ 1 | In air | buried | | thickness, mm | Ø outer, mm | | |
| **3G6** | 3,30 | 6,931 | 8,416 | 57 | 53 | 0,7 | 1,25 | 12,10 | 900 | 275 |
| **3G10** | 1,91 | 4,082 | 4,87 | 78 | 70 | 0,7 | 1,25 | 14,20 | 1.500 | 420 |
| **3x16** | 1,21 | 2,201 | 2,673 | 91 | 75 | 0,7 | 1,40 | 16,70 | 2.400 | 615 |
| **3x25** | 0,780 | 1,457 | 1,723 | 115 | 96 | 0,9 | 1,40 | 20,20 | 3.750 | 930 |
| **3x35** | 0,554 | 1,054 | 1,223 | 143 | 117 | 0,9 | 1,50 | 23,00 | 5.250 | 1.270 |
| **3x50** | 0,386 | 0,757 | 0,852 | 174 | 138 | 1,0 | 1,60 | 27,70 | 7.500 | 1.860 |
| **3x70** | 0,272 | 0,555 | 0,601 | 223 | 170 | 1,1 | 1,70 | 32,70 | 10.500 | 2.660 |
| **3x95** | 0,206 | 0,436 | 0,456 | 271 | 202 | 1,1 | 1,80 | 36,00 | 14.250 | 3.355 |
| **3x120 (1)** | 0,161 | 0,356 | 0,355 | 301 | 230 | 1,2 | 1,9 | 40,1 | 18.000 | 4.070 |
| **3x150 (1)** | 0,129 | 0,3 | 0,284 | 344 | 260 | 1,4 | 2,3 | 45,2 | 22.500 | 5.082 |
| **3x185 (1)** | 0,106 | 0,26 | 0,234 | 391 | 291 | 1,6 | 2,4 | 49,8 | 27.750 | 6.257 |
| **3x240 (1)** | 0,0801 | 0,213 | 0,177 | 468 | 336 | 1,7 | 2,6 | 57,8 | 36.000 | 8.274 |
| **4G1,5** | 13,3 | 23,602 | 29,374 | 20 | 21 | 0,7 | 1,25 | 9,80 | 300 | 140 |
| **4G2,5** | 7,98 | 14,196 | 17,624 | 28 | 27 | 0,7 | 1,25 | 10,70 | 500 | 185 |
| **4G4** | 4,95 | 8,837 | 10,933 | 38 | 35 | 0,7 | 1,25 | 11,90 | 800 | 250 |
| **4G6** | 3,30 | 5,917 | 7,288 | 49 | 44 | 0,7 | 1,25 | 13,30 | 1.200 | 340 |
| **4G10** | 1,91 | 3,455 | 4,218 | 68 | 58 | 0,7 | 1,25 | 15,60 | 2.000 | 520 |
| **4x16** | 1,21 | 2,201 | 2,673 | 91 | 75 | 0,7 | 1,40 | 18,40 | 3.200 | 775 |
| **4x25** | 0,780 | 1,457 | 1,723 | 115 | 96 | 0,9 | 1,50 | 22,50 | 5.000 | 1.185 |
| **4x35** | 0,554 | 1,054 | 1,223 | 143 | 117 | 0,9 | 1,60 | 25,60 | 7.000 | 1.615 |
| **4x50** | 0,386 | 0,757 | 0,852 | 174 | 138 | 1,0 | 1,70 | 30,80 | 10.000 | 2.350 |
| **4x70** | 0,272 | 0,555 | 0,601 | 223 | 170 | 1,1 | 1,80 | 36,30 | 14.000 | 3.360 |
| **4x95 (1)** | 0,206 | 0,436 | 0,456 | 271 | 202 | 1,1 | 1,90 | 40,00 | 19.000 | 4.250 |
| **4x120 (1)** | 0,161 | 0,356 | 0,355 | 301 | 230 | 1,2 | 2,3 | 45,2 | 24.000 | 5.225 |
| **4x150 (1)** | 0,129 | 0,3 | 0,284 | 344 | 260 | 1,4 | 2,4 | 50,2 | 30.000 | 6.466 |
| **4x185 (1)** | 0,106 | 0,26 | 0,234 | 391 | 291 | 1,6 | 2,6 | 55,5 | 37.000 | 7.940 |
| **4x240 (1)** | 0,0801 | 0,213 | 0,177 | 468 | 336 | 1,7 | 2,8 | 64,4 | 48.000 | 10.485 |
| **5G1,5** | 13,3 | 23,602 | 29,374 | 20 | 21 | 0,7 | 1,25 | 10,60 | 375 | 160 |
| **5G2,5** | 7,98 | 14,196 | 17,624 | 28 | 27 | 0,7 | 1,25 | 11,70 | 625 | 220 |
| **5G4** | 4,95 | 8,837 | 10,933 | 38 | 35 | 0,7 | 1,25 | 13,00 | 1.000 | 300 |
| **5G6** | 3,30 | 5,917 | 7,288 | 49 | 44 | 0,7 | 1,25 | 14,50 | 1.500 | 405 |
| **5G10** | 1,91 | 3,455 | 4,218 | 68 | 58 | 0,7 | 1,40 | 17,40 | 2.500 | 640 |
| **5G16** | 1,21 | 2,201 | 2,673 | 91 | 75 | 0,7 | 1,40 | 20,20 | 4.000 | 930 |
| **5G25** | 0,780 | 1,457 | 1,723 | 115 | 96 | 0,9 | 1,50 | 24,70 | 6.250 | 1.425 |
| **5G35** | 0,554 | 1,054 | 1,223 | 143 | 117 | 0,9 | 1,60 | 28,20 | 8.750 | 1.960 |
| **5G50** | 0,386 | 0,757 | 0,852 | 174 | 138 | 1,0 | 1,80 | 34,00 | 12.500 | 2.845 |

**(1)** Classifieds CPR but excluded from the AENOR license.

## Industrial cables of rated voltage 0,6/1 kV. XLPE insulated and PVC sheathed cables.

**More than 5 cores**

| Cross section | Resistance | Insulation | Sheath | | Pulling force (***) | Weight |
|---|---|---|---|---|---|---|
| mm² | Ω/km at 20 ºC | thickness, mm | thickness, mm | Ø outer, mm | max., N | Kg/km |
| **7x1,5** | 13,3 | 0,7 | 1,25 | 11,50 | 525 | 200 |
| **8x1,5** | 13,3 | 0,7 | 1,25 | 12,90 | 600 | 235 |
| **10x1,5** | 13,3 | 0,7 | 1,25 | 14,50 | 750 | 300 |
| **12x1,5** | 13,3 | 0,7 | 1,25 | 15,00 | 900 | 335 |
| **14x1,5** | 13,3 | 0,7 | 1,25 | 15,80 | 1.050 | 370 |
| **16x1,5** | 13,3 | 0,7 | 1,40 | 16,90 | 1.200 | 420 |
| **19x1,5** | 13,3 | 0,7 | 1,40 | 17,80 | 1.425 | 475 |
| **21x1,5** | 13,3 | 0,7 | 1,40 | 19,20 | 1.575 | 540 |
| **24x1,5** | 13,3 | 0,7 | 1,50 | 21,00 | 1.800 | 645 |
| **27x1,5** | 13,3 | 0,7 | 1,50 | 21,50 | 2.025 | 685 |
| **30x1,5** | 13,3 | 0,7 | 1,50 | 22,30 | 2.250 | 740 |
| **33x1,5** | 13,3 | 0,7 | 1,50 | 23,10 | 2.475 | 790 |
| **37x1,5** | 13,3 | 0,7 | 1,50 | 24,00 | 2.775 | 865 |
| **40x1,5** | 13,3 | 0,7 | 1,60 | 25,60 | 3.000 | 970 |
| **44x1,5** | 13,3 | 0,7 | 1,60 | 27,20 | 3.300 | 1.090 |
| **48x1,5** | 13,3 | 0,7 | 1,60 | 27,70 | 3.600 | 1.145 |
| **52x1,5** | 13,3 | 0,7 | 1,60 | 28,50 | 3.900 | 1.210 |
| **56x1,5** | 13,3 | 0,7 | 1,70 | 29,50 | 4.200 | 1.295 |
| **61x1,5** | 13,3 | 0,7 | 1,70 | 30,40 | 4.575 | 1.390 |
| **7x2,5** | 7,98 | 0,7 | 1,25 | 12,70 | 875 | 280 |
| **8x2,5** | 7,98 | 0,7 | 1,25 | 14,20 | 1.000 | 330 |
| **10x2,5** | 7,98 | 0,7 | 1,30 | 16,20 | 1.250 | 425 |
| **12x2,5** | 7,98 | 0,7 | 1,40 | 16,90 | 1.500 | 480 |
| **14x2,5** | 7,98 | 0,7 | 1,40 | 17,80 | 1.750 | 535 |
| **16x2,5** | 7,98 | 0,7 | 1,40 | 18,80 | 2.000 | 600 |
| **19x2,5** | 7,98 | 0,7 | 1,40 | 19,80 | 2.375 | 685 |
| **21x2,5** | 7,98 | 0,7 | 1,50 | 21,50 | 2.625 | 785 |
| **24x2,5** | 7,98 | 0,7 | 1,50 | 23,40 | 3.000 | 920 |
| **27x2,5** | 7,98 | 0,7 | 1,50 | 23,90 | 3.375 | 980 |
| **30x2,5** | 7,98 | 0,7 | 1,60 | 25,00 | 3.750 | 1.075 |
| **33x2,5** | 7,98 | 0,7 | 1,60 | 26,00 | 4.125 | 1.165 |
| **37x2,5** | 7,98 | 0,7 | 1,60 | 27,00 | 4.625 | 1.280 |
| **40x2,5** | 7,98 | 0,7 | 1,60 | 28,50 | 5.000 | 1.405 |
| **44x2,5** | 7,98 | 0,7 | 1,70 | 30,60 | 5.500 | 1.595 |
| **48x2,5** | 7,98 | 0,7 | 1,70 | 31,10 | 6.000 | 1.680 |
| **52x2,5** | 7,98 | 0,7 | 1,70 | 32,00 | 6.500 | 1.785 |
| **56x2,5** | 7,98 | 0,7 | 1,70 | 33,00 | 7.000 | 1.900 |
| **61x2,5** | 7,98 | 0,7 | 1,80 | 34,20 | 7.625 | 2.060 |
| **7x4** | 4,95 | 0,7 | 1,25 | 14,20 | 1.400 | 385 |
| **8x4** | 4,95 | 0,7 | 1,25 | 16,00 | 1.600 | 460 |
| **10x4** | 4,95 | 0,7 | 1,40 | 18,40 | 2.000 | 600 |
| **12x4** | 4,95 | 0,7 | 1,40 | 19,00 | 2.400 | 670 |

**REFERENCE CONDITIONS FOR THE CALCULATION OF INTENSITY**

(Other conditions are possible, consult standards HD 60364-5-52 and IEC 60364-5-52)

According EN 60364-5-52 and IEC 60364-5-52

Maximum intensity to air in tray, temperature ambient 40 ºC:

| | | |
|---|---|---|
| Installation type F | XLPE3 | column 11 (1x triphasic) |
| Installation type E | XLPE2 | column 12 (2x, 3G monophasic) |
| Installation type E | XLPE2 | column 10b (3x, 4x, 4G, 5G triphasic) |
| Installation type E | XLPE2 | column 12 with reduction factor according to point 1 table B.52.17 (> 5 cores) |

Maximum intensity directly buried (method D2) or under conduit (method D1), thermal resistivity of soil de 2,5 K.m/W and ambient temperature on the ground of 25 ºC:

| | | |
|---|---|---|
| Installation type D1/D2 | XLPE2 | 2x, 3G monophasic |
| Installation type D1/D2 | XLPE3 | 1x, 3x, 4x, 4G, 5G triphasic |

**VOLTAGE DROP:**

| | |
|---|---|
| Monophasic method | 2x, 3G, > 5 cores |
| Triphasic method | 1x, 3x, 4x, 4G, 5G |

**NOTES:**

**(*) AD7: Immersion** Possibility of intermittent partial or total covering by water.
Localizations which may be flooded and/or where water may be at maximum 150 mm above the highest point of equipment, the lowest part of equipment being not more than 1 m below the water surface.

**(**) Test conditions:**

| | |
|---|---|
| Energy radiation: | 43 W/m² |
| Number of cycles: | 1 |
| Enclosure temperature for phases 3 and 4 of the climate cycle: 55 ºC | |
| Maximum black body temperature: 70 ºC | |

**(***) CALCULATION FOR PULLING FORCE**

By means of a pulling head on the conductors or by means of a pulling sleeve with a friction connection between the pulling sleeve and the cable conductors, a maximum tensile load value of 50 N/mm² is allowed.

This maximum pulling force takes into account the permitted elongation of 0,2 % for the conductor.

It is possible to supply cables with other sections or combination of sections, but will not be covered by the AENOR license or CPR classified.