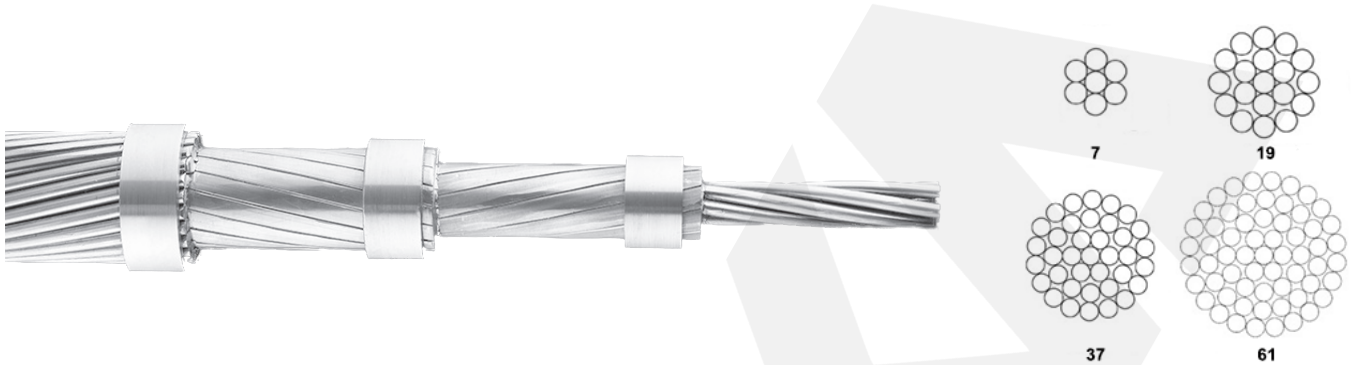


## AAAC CONDUCTOR



### GENERAL INFORMATION

AAAC conductors are composed of several wires stranded over each layer. All wires have same outer diameter. Most common AAAC conductors are composed of 7, 19, 37 and 61 wires AAAC conductors that are used for insulated cables as compacted will be composed of various number of wires.

\* Sections of Related Standard is down below;

### APPLICATION

AAAC conductors can be used in substation, electricity distribution lines, electricity transmission lines and 0,6-1kV overhead bundled insulated aluminium cables.

### According to EN 50182 TYPE AL3

| CODE    | OLD CODE  | AREA            | STRANDING WIRE DIAMETER | OVERALL DIAMETER | No. Of WIRES | APPROXIMATE WEIGHT | BREAKING LOAD | DC RESISTANCE | CURRENT CARRYING CAPACITY (A) |
|---------|-----------|-----------------|-------------------------|------------------|--------------|--------------------|---------------|---------------|-------------------------------|
|         |           | mm <sup>2</sup> | mm                      | mm               |              | kg/km              | kN            | Ω/km          |                               |
| 19-AL3  | BOX       | 18,8            | 1,85                    | 5,6              | 7            | 51,4               | 5,55          | 1,748 0       | 138                           |
| 24-AL3  | ACACIA    | 23,8            | 2,08                    | 6,2              | 7            | 64,9               | 7,02          | 1,382 8       | 160                           |
| 30-AL3  | ALMOND    | 30,1            | 2,34                    | 7                | 7            | 82,2               | 8,88          | 1,092 6       | 185                           |
| 42-AL3  | CEDAR     | 35,5            | 2,54                    | 7,6              | 7            | 96,8               | 10,46         | 0,927 3       | 205                           |
| 48-AL3  | DEODAR    | 42,2            | 2,77                    | 8,3              | 7            | 115,2              | 12,44         | 0,7797        | 228                           |
| 48-AL3  | FIR       | 47,8            | 2,95                    | 8,9              | 7            | 130,6              | 14,11         | 0,687 5       | 246                           |
| 60-AL3  | HAZEL     | 59,9            | 3,3                     | 9,9              | 7            | 163,4              | 17,66         | 0,549 4       | 283                           |
| 72-AL3  | PINE      | 71,6            | 3,61                    | 10,8             | 7            | 195,6              | 21,14         | 0,4591        | 316                           |
| 84-AL3  | HOLLY     | 84,1            | 3,91                    | 11,7             | 7            | 229,5              | 24,79         | 0,3913        | 350                           |
| 90-AAL3 | WILLOW    | 89,7            | 4,04                    | 12,1             | 7            | 245                | 26,47         | 0,366 5       | 364                           |
| 119-AL3 | AOK       | 118,9           | 4,65                    | 14               | 7            | 324,5              | 35,07         | 0,276 7       | 434                           |
| 151-AL3 | MULBERRY  | 150,9           | 3,18                    | 15,9             | 19           | 414,3              | 44,52         | 0,2192        | 503                           |
| 181-AL3 | ASH       | 180,7           | 3,48                    | 17,4             | 19           | 469,1              | 53,31         | 0,183 0       | 563                           |
| 211-AL3 | ELM       | 211             | 3,76                    | 18,8             | 37           | 579,2              | 62,24         | 0,156 8       | 620                           |
| 239-AL3 | POPLAR    | 239,4           | 2,87                    | 20,1             | 37           | 659,4              | 70,61         | 0,1387        | 671                           |
| 303-AL3 | SYCAMORE  | 303,2           | 3,23                    | 22,6             | 37           | 835,2              | 89,4          | 0,1095        | 777                           |
| 362-AL3 | UPAS      | 362,1           | 3,53                    | 24,7             | 37           | 997,5              | 106,32        | 0,091 7       | 870                           |
| 479-AL3 | YEW       | 479             | 4,06                    | 28,4             | 37           | 1 319,6            | 141,31        | 0,069 3       | 1037                          |
| 498-AL3 | TOTARA    | 489,1           | 4,14                    | 29               | 37           | 1 372,1            | 146,93        | 0,066 6       | 1062                          |
| 587-AL3 | RUBUS     | 586,9           | 3,5                     | 31,5             | 61           | 1 622,0            | 173,13        | 0,056 7       | 1177                          |
| 659-AL3 | SORBUS    | 659,4           | 3,71                    | 33,4             | 61           | 1 822,0            | 194,53        | 0,0505        | 1264                          |
| 821-AL3 | ARAUCARIA | 821,1           | 4,14                    | 37,3             | 61           | 2 269,4            | 242,24        | 0,040 6       | 1454                          |
| 996-AL3 | REDWOOD   | 996,2           | 4,56                    | 41               | 61           | 2 753,2            | 293,88        | 0,0334        | 1639                          |

## According to: EN 50182 TYPE AL2

| CODE    | AREA            | STRANDING WIRE DIAMETER | OVERALL DIAMETER | No. Of WIRES | APPROXIMATE WEIGHT | BREAKING LOAD | DC RESISTANCE | CURRENT CARRYING CAPACITY (A) |
|---------|-----------------|-------------------------|------------------|--------------|--------------------|---------------|---------------|-------------------------------|
|         | mm <sup>2</sup> | mm                      | mm               |              | kg/km              |               |               |                               |
| 28-AL2  | 27,80           | 2,3                     | 6,8              | 7            | 76                 | 5,55          | 1,193 0       | 175                           |
| 43-AL2  | 43,10           | 2,8                     | 8,4              | 7            | 118                | 7,02          | 0,7704        | 230                           |
| 55-AL2  | 54,6            | 3,2                     | 9,5              | 7            | 149                | 8,88          | 0,6087        | 266                           |
| 76-AL2  | 75,5            | 2,3                     | 11,3             | 19           | 207                | 10,46         | 0,4420        | 326                           |
| 117-AL2 | 117,0           | 2,8                     | 14,0             | 19           | 321                | 12,44         | 0,2854        | 428                           |
| 148-AL2 | 148,1           | 3,2                     | 15,8             | 19           | 407                | 14,11         | 0,2255        | 496                           |
| 188-AL2 | 188,1           | 3,6                     | 17,8             | 19           | 516                | 17,66         | 0,1176        | 707                           |
| 279-AL2 | 279,3           | 3,1                     | 21,7             | 37           | 769                | 21,14         | 0,1200        | 735                           |
| 381-AL2 | 381,1           | 2,8                     | 25,4             | 61           | 1 053,0            | 24,79         | 0,0882        | 892                           |
| 454-AL2 | 454,5           | 3,1                     | 27,7             | 61           | 1 256,1            | 26,47         | 0,0740        | 996                           |
| 547-AL2 | 547,3           | 3,4                     | 30,4             | 61           | 1 512,7            | 35,07         | 0,0614        | 1119                          |
| 638-AL2 | 638,3           | 3,7                     | 32,9             | 61           | 1 764,0            | 44,52         | 0,0527        | 1233                          |

## According to: EN 50182 TYPE AL3

| CODE     | AREA            | STRANDING WIRE DIAMETER | OVERALL DIAMETER | No. Of WIRES | APPROXIMATE WEIGHT | BREAKING LOAD | DC RESISTANCE | CURRENT CARRYING CAPACITY (A) |
|----------|-----------------|-------------------------|------------------|--------------|--------------------|---------------|---------------|-------------------------------|
|          | mm <sup>2</sup> | mm                      | mm               |              | kg/km              |               |               |                               |
| 16-AL3   | 15,9            | 1,70                    | 5,10             | 7            | 43,4               | 4,69          | 2,070 1       | 105                           |
| 24-AL3   | 24,2            | 2,10                    | 6,30             | 7            | 66,2               | 7,15          | 1,356 6       | 135                           |
| 34-AL3   | 34,4            | 2,50                    | 7,50             | 7            | 93,8               | 10,14         | 0,957 2       | 170                           |
| 49-AL3   | 49,5            | 3,00                    | 9,00             | 7            | 135,1              | 14,60         | 0,664 7       | 210                           |
| 48-AL3   | 48,3            | 1,80                    | 9,00             | 19           | 132,7              | 14,26         | 0,684 1       | 210                           |
| 66-AL3   | 65,8            | 2,10                    | 10,5             | 19           | 180,7              | 19,41         | 0,502 6       | 255                           |
| 93-AL3   | 93,3            | 2,50                    | 12,5             | 19           | 256,0              | 27,51         | 0,354 6       | 320                           |
| 117-AL3  | 117,0           | 2,80                    | 14,0             | 19           | 321,2              | 34,51         | 0,282 7       | 365                           |
| 147-AL3  | 147,1           | 2,25                    | 15,8             | 37           | 405,3              | 43,40         | 0,225 6       | 425                           |
| 182-AL3  | 181,6           | 2,50                    | 17,5             | 37           | 500,3              | 53,58         | 0,182 7       | 490                           |
| 243-AL3  | 242,5           | 2,25                    | 20,3             | 61           | 670,3              | 71,55         | 0,137 3       | 585                           |
| 299-AL3  | 299,4           | 2,50                    | 22,5             | 61           | 827,5              | 88,33         | 0,111 2       | 670                           |
| 400-AL3  | 400,1           | 2,89                    | 26,0             | 61           | 1 105,9            | 118,04        | 0,083 2       | 810                           |
| 500-AL3  | 499,8           | 3,23                    | 29,1             | 61           | 1 381,4            | 147,45        | 0,066 6       | 930                           |
| 626-AL3  | 626,2           | 2,96                    | 32,6             | 91           | 1 737,7            | 184,73        | 0,053 4       | 1 075                         |
| 802-AL3  | 802,1           | 3,35                    | 36,9             | 91           | 2 225,8            | 236,62        | 0,041 7       | 1 255                         |
| 1000-AL3 | 999,7           | 3,74                    | 41,1             | 91           | 2 774,3            | 249,91        | 0,033 4       | 1 450                         |

**According to: ASTM B-232 IEC 61089**

| CODE     | CROSS SECTION    |              | OVERALL DIAMETER<br>mm | STRANDING & WIRE DIAMETER<br>NØxmm ALLOY | APPROXIMATE WEIGHT<br>kg/km | BREAKING LOAD<br>Kn | DC RESISTANCE<br>Ω/km | CURRENT CARRYING CAPACITY (A) |
|----------|------------------|--------------|------------------------|--|-----------------------------|---------------------|-----------------------|-------------------------------|
|          | Al. EQUIV<br>mm² | ALLOY<br>mm² |                        |  |                             |                     |                       |                               |
| ALTON    | 48,69            | 24,7         | 6,4                    | 7x2,12                                   | 68                          | 7,84                | 1,3576                | 162                           |
| AMES     | 77,47            | 39,3         | 8,0                    | 7x2,67                                   | 108                         | 12,40               | 0,8533                | 216                           |
| AZUSA    | 123,3            | 62,5         | 10,1                   | 7x3,37                                   | 172                         | 19,00               | 0,5364                | 288                           |
| ANAHEIM  | 155,4            | 78,7         | 11,4                   | 7x3,78                                   | 217                         | 24,00               | 0,4255                | 333                           |
| AMHERST  | 195,7            | 99,2         | 12,8                   | 7x4,25                                   | 273                         | 30,20               | 0,3379                | 384                           |
| ALLIANCE | 246,9            | 125,1        | 14,3                   | 7x4,77                                   | 345                         | 38,10               | 0,2658                | 444                           |
| BUTTE    | 312,8            | 158,5        | 16,3                   | 19x3,26                                  | 437                         | 46,70               | 0,2114                | 516                           |
| CANTON   | 394,5            | 199,9        | 18,3                   | 19x3,66                                  | 551                         | 59,00               | 0,1675                | 596                           |
| CAIRO    | 465,4            | 235,8        | 19,9                   | 19x3,98                                  | 650                         | 69,60               | 0,1421                | 661                           |
| DARIEN   | 559,5            | 283,5        | 21,8                   | 19x4,36                                  | 781                         | 83,60               | 0,1181                | 741                           |
| ELGIN    | 652,4            | 330,6        | 23,5                   | 19x4,71                                  | 911                         | 97,50               | 0,1013                | 817                           |
| FLINT    | 740,8            | 375,4        | 25,2                   | 37x3,59                                  | 1,035                       | 108,00              | 0,0892                | 885                           |
| GREELEY  | 927,2            | 469,8        | 28,1                   | 37x4,02                                  | 1,295                       | 136,00              | 0,0712                | 1018                          |

**According to: ASTM B-232 IEC 61089**

| CODE | CROSS SECTION<br>mm² | STRANDING & WIRE DIAMETER | OVERALL DIAMETER | APPROXIMATE WEIGHT | BREAKING LOAD | DC RESISTANCE | CURRENT CARRYING CAPACITY (A) |
|------|----------------------|---------------------------|------------------|--------------------|---------------|---------------|-------------------------------|
|      | Al. EQUIV            | NØxmm ALLOY               | mm               |                    |               |               |                               |
| 16   | 18,4                 | 7x1,83                    | 5,50             | 50                 | 5,4           | 1,79          | 136                           |
| 25   | 28,8                 | 7x2,29                    | 6,90             | 79                 | 8,5           | 1,15          | 180                           |
| 40   | 46,0                 | 7x2,89                    | 8,70             | 126                | 13,6          | 0,72          | 241                           |
| 63   | 72,5                 | 7x3,63                    | 10,90            | 198                | 21,4          | 0,45          | 319                           |
| 100  | 115,0                | 19x2,78                   | 13,90            | 316                | 34,0          | 0,29          | 426                           |
| 125  | 144,0                | 19x3,10                   | 15,5             | 395                | 42,4          | 0,23          | 489                           |
| 160  | 184,0                | 19x3,51                   | 17,6             | 506                | 54,3          | 0,18          | 518                           |
| 200  | 230,0                | 19x3,93                   | 19,6             | 633                | 67,9          | 0,14          | 597                           |
| 250  | 288,0                | 19x4,39                   | 22,0             | 791                | 84,9          | 0,12          | 685                           |
| 315  | 363,0                | 37x3,53                   | 24,7             | 999                | 107,0         | 0,09          | 794                           |
| 400  | 460,0                | 37x3,98                   | 27,9             | 1268               | 135,8         | 0,07          | 921                           |
| 450  | 518,0                | 37x4,22                   | 29,6             | 1427               | 152,8         | 0,06          | 992                           |
| 500  | 575,0                | 37x4,45                   | 31,2             | 1586               | 169,76        | 0,06          | 1059                          |
| 560  | 645                  | 61x3,67                   | 33               | 1778               | 190,14        | 0,0516        | 1137                          |
| 630  | 725,0                | 61x3,89                   | 35,0             | 2001               | 213,9         | 0,05          | 1225                          |
| 710  | 817                  | 61x4,13                   | 37,2             | 2255               | 241,07        | 0,0407        | 1449                          |
| 800  | 921,0                | 61x4,38                   | 39,5             | 2541               | 271,62        | 0,04          | 1562                          |
| 900  | 1036                 | 91x3,81                   | 41,8             | 2861               | 305,58        | 0,0321        | 1683                          |
| 1000 | 1151                 | 91x4,01                   | 44,1             | 3179               | 339,53        | 0,0289        | 1799                          |
| 1120 | 1289,0               | 91x4,25                   | 46,70            | 3561               | 380,3         | 0,03          | 1929                          |
| 1250 | 1439,0               | 91x4,49                   | 49,40            | 3974               | 424,4         | 0,02          | 2069                          |

According to: NFC 34-125(Old Code) / EN 50182(New Code)

| CODE     | AREA            | No Of WIRES | DIAMETER |           | MASS per UNIT LENGHT | RATED STRENGHT | DC RESISTANCE | FINAL MODULUS of ELASTICITY | COEFFICIENT of LINEAR EXPANSION | DIRECTION of LAY of EXTERNAL LAYER | CURRENT CARRYING CAPACITY I(A) |
|----------|-----------------|-------------|----------|-----------|----------------------|----------------|---------------|-----------------------------|---------------------------------|------------------------------------|--------------------------------|
|          |                 |             | WIRE     | CONDUCTOR |                      |                |               |                             |                                 |                                    |                                |
|          | mm <sup>2</sup> |             | mm       | mm        |                      |                |               |                             |                                 |                                    |                                |
| 22-AL4   | 22              | 7           | 2        | 6         | 60                   | 7,15           | 1,498 9       | 62 000                      | 2,30-E                          | S                                  | 152                            |
| 34-AL4   | 34,4            | 7           | 2,5      | 7,5       | 93,8                 | 11,17          | 0,959 3       | 62 000                      | 2,30-E                          | S                                  | 201                            |
| 55-AL4   | 54,6            | 7           | 3,15     | 9,45      | 148,9                | 17,73          | 0,604 2       | 62 000                      | 2,30-E                          | S                                  | 267                            |
| 76-AL4   | 75,5            | 19          | 2,25     | 11,3      | 207,4                | 24,55          | 0,438 8       | 60 000                      | 2,30-E                          | S                                  | 327                            |
| 117-AL4  | 117             | 19          | 2,8      | 14        | 321,2                | 38,02          | 0,283 8       | 60 000                      | 2,30-E                          | S                                  | 429                            |
| 148-AL4  | 148,1           | 19          | 3,15     | 15,8      | 406,5                | 48,12          | 0,223 9       | 60 000                      | 2,30-E                          | S                                  | 497                            |
| 182-AL4  | 181,6           | 37          | 2,5      | 17,5      | 500,3                | 59,03          | 0,183 1       | 57 000                      | 2,30-E                          | S                                  | 564                            |
| 228-AL4  | 227,8           | 37          | 2,8      | 19,6      | 627,6                | 74,04          | 0,146 0       | 57 000                      | 2,30-E                          | S                                  | 650                            |
| 288-AL4  | 288,3           | 37          | 3,15     | 22,1      | 794,3                | 93,71          | 0,115 4       | 57 000                      | 2,30-E                          | S                                  | 754                            |
| 366-AL4  | 366,2           | 37          | 3,55     | 24,9      | 1008,9               | 115,36         | 0,090 8       | 57 000                      | 2,30-E                          | S                                  | 876                            |
| 570-AL4  | 570,2           | 61          | 3,45     | 31,1      | 1576                 | 185,33         | 0,058 5       | 54 000                      | 2,30-E                          | S                                  | 1155                           |
| 851-AL4  | 850,7           | 91          | 3,45     | 38        | 2360,7               | 276,47         | 0,039 4       | 52 000                      | 2,30-E                          | S                                  | 1485                           |
| 1144-AL4 | 1 143,5         | 91          | 4        | 44        | 3173,4               | 360,22         | 0,029 3       | 52 000                      | 2,30-E                          | S                                  | 1786                           |
| 1596-AL4 | 1 595,9         | 127         | 4        | 52        | 4427,5               | 502,72         | 0,021 0       | 50 000                      | 2,30-E                          | S                                  | 2221                           |