



## **SPECIFICATIONS AND STANDARDS:**

ACSS/AW conductor meets or exceeds the following ASTM standards:

B-609 Aluminum 1350 Round Wire, Annealed and Intermediate Tempers, for Electrical Purposes.

B-502 Aluminum-Clad Steel Core Wire for Aluminum conductors, Aluminum-Clad Steel Reinforced.

B-856 Concentric-Lay-Stranded Aluminum Conductors Coated Steel Supported (ACSS).

The stranding available are identical to those listed in ASTM specification B-232.

## **CONSTRUCTION:**

ACSS/AW is a composite concentric-lay-stranded conductor. Steel strands form the central core of the conductor with one or more layers of aluminum 1350-O wire stranded around it. The steel core carries most or all of the mechanical load of the conductor due to the "O" (fully annealed or soft) temper aluminum. Steel core wires are protected from corrosion by an aluminum coating. The Aluminum-Clad steel core may consist of 7, 19, 37 or more wires. Numerous combinations of aluminum and steel strand and layers are possible.

## **APPLICATIONS**

Aluminum Conductor, Steel-Supported with aluminum-clad steel wire (ACSS/AW) are used for overhead distribution and transmission lines where a high degree of corrosion resistance is required.

This catalogue shows the most common sizes of conductor but other sizes, to any other standards or customer specification can also be supplied.



Aluminum Conductor Steel Supported With Aluminum-Clad Steel Wire. Bare

## ACSS/AW conductors manufactured to ASTM

| Code word         | Size (kcmil) | Stranding (Al/St) | Diameter(ins.)  |       |            |             | Weight per 1000 ft. (Lbs) |       |       | Rated strength (Lbs) | Resistance $\Omega$ /1000 ft. |            | Ampacit At 200°C (AMPS) |
|-------------------|--------------|-------------------|-----------------|-------|------------|-------------|---------------------------|-------|-------|----------------------|-------------------------------|------------|-------------------------|
|                   |              |                   | Individual wire |       | Steel core | Comp. cable | Al                        | Steel | Total |                      | DC at 20°C                    | AC at 75°C |                         |
|                   |              |                   | Al              | Steel |            |             |                           |       |       |                      |                               |            |                         |
| Junco/ACSS/AW     | 266.8        | 30/7              | .0943           | .0943 | .2829      | .66         | 252                       | 140   | 392   | 11200                | .0589                         | .0723      | 841                     |
| Ostrich/ACSS/AW   | 30           | 26/7              | .1074           | .0835 | .2506      | .68         | 283                       | 110   | 393   | 9360                 | .0534                         | .0656      | 891                     |
| Linnet/ACSS/AW    | 336.4        | 26/7              | .1137           | .0885 | .2654      | .72         | 317                       | 123   | 440   | 10500                | .0476                         | .0585      | 960                     |
| Oriole/ACSS/AW    | 336.4        | 30/7              | .1059           | .1059 | .3177      | .741        | 318                       | 177   | 494   | 14200                | .0467                         | .0573      | 979                     |
| Brant/ACSS/AW     | 397.5        | 24/7              | .1287           | .0858 | .2574      | .772        | 374                       | 116   | 490   | 10400                | .0407                         | .0501      | 1061                    |
| Ibis/ACSS/AW      | 397.5        | 26/7              | .1236           | .0962 | .2885      | .783        | 374                       | 146   | 520   | 12400                | .0403                         | .0496      | 1071                    |
| Lark/ACSS/AW      | 397.5        | 30/7              | .1151           | .1151 | .3453      | .806        | 375                       | 209   | 584   | 16700                | .0395                         | .0486      | 1092                    |
| Flicker/ACSS/AW   | 47           | 24/7              | .141            | .094  | .2819      | .846        | 449                       | 139   | 589   | 12500                | .0339                         | .0418      | 1195                    |
| Hawk/ACSS/AW      | 47           | 26/7              | .1354           | .1053 | .316       | .858        | 449                       | 175   | 624   | 14900                | .0336                         | .0413      | 1207                    |
| Hen/ACSS/AW       | 47           | 30/7              | .1261           | .1261 | .3783      | .883        | 450                       | 251   | 701   | 20100                | .0329                         | .0405      | 1231                    |
| Parakeet/ACSS/AW  | 556.5        | 24/7              | .1523           | .1015 | .3045      | .914        | 524                       | 163   | 687   | 14600                | .0291                         | .0359      | 1323                    |
| Dove/ACSS/AW      | 556.5        | 26/7              | .1463           | .1138 | .3413      | .927        | 524                       | 204   | 728   | 17500                | .0288                         | .0355      | 1336                    |
| Eagle/ACSS/AW     | 556.5        | 30/7              | .1362           | .1362 | .4086      | .953        | 525                       | 293   | 818   | 22900                | .0282                         | .0348      | 1362                    |
| Peacock/ACSS/AW   | 60           | 24/7              | .1588           | .1058 | .3175      | .953        | 570                       | 177   | 746   | 15900                | .0267                         | .033       | 1397                    |
| Squab/ACSS/AW     | 60           | 26/7              | .1525           | .1186 | .3559      | .966        | 570                       | 222   | 792   | 19000                | .0265                         | .0327      | 1411                    |
| Wood duck/ACSS/AW | 60           | 30/7              | .1420           | .1420 | .4260      | .994        | .571                      | 318   | 889   | 24400                | .0260                         | .0320      | 1439                    |
| Teal/ACSS/AW      | 60           | 30/19             | .142            | .0852 | .426       | .994        | 571                       | 311   | 883   | 25000                | .026                          | .032       | 1438                    |
| Rook/ACSS/AW      | 63           | 24/7              | .1628           | .1085 | .3256      | .977        | 599                       | 186   | 785   | 16700                | .0255                         | .0314      | 1444                    |
| Grosbeak/ACSS/AW  | 63           | 26/7              | .1564           | .1216 | .3649      | .991        | 599                       | 233   | 832   | 19900                | .0252                         | .0311      | 1458                    |
| Scoter/ACSS/AW    | 63           | 30/7              | .1456           | .1456 | .4368      | 1.019       | 600                       | 334   | 935   | 25100                | .0247                         | .0305      | 1487                    |
| Egret/ACSS/AW     | 63           | 30/19             | .1456           | .0874 | .4368      | 1.019       | 600                       | 327   | 928   | 26300                | .0247                         | .0305      | 1486                    |
| Flamingo/ACSS/AW  | 66           | 24/7              | .1667           | .1111 | .3333      | 1.000       | 628                       | 195   | 823   | 17500                | .0243                         | .0300      | 1489                    |
| Gannet/ACSS/AW    | 66           | 26/7              | .1601           | .1245 | .3736      | 1.014       | 628                       | 245   | 872   | 20900                | .024                          | .0297      | 1504                    |
| Stilt/ACSS/AW     | 71           | 24/7              | .1727           | .1151 | .3453      | 1.036       | 674                       | 209   | 883   | 18800                | .0226                         | .028       | 1559                    |
| Starling/ACSS/AW  | 71           | 26/7              | .1659           | .129  | .3871      | 1.051       | 674                       | 263   | 936   | 22000                | .0224                         | .0277      | 1576                    |
| Redwing/ACSS/AW   | 71           | 30/19             | .1544           | .0927 | .4633      | 1.081       | 676                       | 368   | 1044  | 29500                | .022                          | .0272      | 1605                    |
| Cuckoo/ACSS/AW    | 79           | 24/7              | .182            | .1213 | .364       | 1.092       | 749                       | 232   | 981   | 20900                | .0204                         | .0252      | 1671                    |
| Drake/ACSS/AW     | 79           | 26/7              | .1749           | .136  | .408       | 1.107       | 749                       | 292   | 1040  | 24400                | .0202                         | .025       | 1688                    |
| Macaw/ACSS/AW     | 79           | 42/7              | .1376           | .0764 | .2293      | 1.055       | 749                       | 92    | 841   | 11400                | .0209                         | .026       | 1630                    |
| Tern/ACSS/AW      | 79           | 45/7              | .1329           | .0886 | .2658      | 1.063       | 749                       | 124   | 873   | 13500                | .0208                         | .026       | 1620                    |
| Condor/ACSS/AW    | 79           | 54/7              | .1213           | .1213 | .364       | 1.092       | 749                       | 232   | 981   | 15800                | .0204                         | .026       | 1639                    |
| Mallard/ACSS/AW   | 79           | 30/19             | .1628           | .0977 | .4884      | 1.139       | 751                       | 409   | 1160  | 32900                | .0198                         | .0245      | 1721                    |
| Ruddy/ACSS/AW     | 90           | 45/7              | .1414           | .0943 | .2828      | 1.131       | 848                       | 140   | 988   | 15300                | .0183                         | .023       | 1767                    |



## Aluminum Conductor Steel Supported With Aluminum-Clad Steel Wire. Bare

|                    |    |       |       |       |       |       |      |     |      |       |       |       |      |
|--------------------|----|-------|-------|-------|-------|-------|------|-----|------|-------|-------|-------|------|
| Canary/ACSS/AW     | 90 | 54/7  | .1291 | .1291 | .3873 | 1.162 | 848  | 263 | 1111 | 23200 | .018  | .023  | 1779 |
| Rail/ACSS/AW       | 95 | 45/7  | .1456 | .0971 | .2912 | 1.165 | 899  | 149 | 1047 | 16200 | .0173 | .0218 | 1836 |
| Towhee/ACSS/AW     | 95 | 48/7  | .141  | .1097 | .329  | 1.175 | 899  | 190 | 1088 | 19000 | .0172 | .0214 | 1858 |
| Cardinal/ACSS/AW   | 95 | 54/7  | .1329 | .1329 | .3987 | 1.196 | 899  | 279 | 1177 | 24600 | .017  | .0217 | 1848 |
| Canvasback/ACSS/A  | 95 | 30/19 | .1783 | .107  | .535  | 1.248 | 901  | 491 | 1392 | 39400 | .0165 | .0205 | 1939 |
| Snowbird/ACSS/AW   | 10 | 42/7  | .1569 | .0871 | .2614 | 1.203 | 973  | 120 | 1093 | 14800 | .0161 | .0202 | 1934 |
| Curlew/ACSS/AW     | 10 | 54/7  | .1383 | .1383 | .415  | 1.245 | 973  | 302 | 1275 | 26100 | .0157 | .0201 | 1948 |
| Bluejay/ACSS/AW    | 11 | 45/7  | .1573 | .1048 | .3145 | 1.258 | 1048 | 173 | 1222 | 18900 | .0148 | .0088 | 2031 |
| Finch/ACSS/AW      | 11 | 54/19 | .1436 | .0861 | .4307 | 1.292 | 1053 | 318 | 1372 | 28800 | .0146 | .0188 | 2040 |
| Bunting/ACSS/AW    | 11 | 45/7  | .1628 | .1085 | .3256 | 1.302 | 1123 | 186 | 1309 | 20300 | .0138 | .0176 | 2124 |
| Grackle/ACSS/AW    | 11 | 54/19 | .1486 | .0892 | .4458 | 1.337 | 1129 | 341 | 1470 | 30800 | .0137 | .0176 | 2135 |
| Bittern/ACSS/AW    | 12 | 45/7  | .1681 | .1121 | .3362 | 1.345 | 1198 | 198 | 1396 | 21600 | .013  | .0165 | 2215 |
| Pheasant/ACSS/AW   | 12 | 54/19 | .1535 | .0921 | .4604 | 1.381 | 1204 | 364 | 1568 | 32800 | .0128 | .0165 | 2227 |
| Dipper/ACSS/AW     | 13 | 45/7  | .1733 | .1155 | .3465 | 1.386 | 1272 | 210 | 1483 | 23000 | .0122 | .0156 | 2304 |
| Martin/ACSS/AW     | 13 | 54/19 | .1582 | .0949 | .4745 | 1.424 | 1279 | 386 | 1665 | 34900 | .012  | .0156 | 2307 |
| Bobolink/ACSS/AW   | 14 | 45/7  | .1783 | .1189 | .3566 | 1.427 | 1348 | 223 | 1571 | 24300 | .0115 | .0148 | 2391 |
| Plover/ACSS/AW     | 14 | 54/19 | .1628 | .0977 | .4884 | 1.465 | 1354 | 409 | 1764 | 36900 | .0114 | .0148 | 2405 |
| Nuthatch/ACSS/AW   | 15 | 45/7  | .1832 | .1221 | .3664 | 1.465 | 1422 | 235 | 1657 | 25700 | .0109 | .0141 | 2476 |
| Parrot/ACSS/AW     | 15 | 54/19 | .1672 | .1003 | .5017 | 1.505 | 1429 | 432 | 1861 | 38900 | .0108 | .0141 | 2491 |
| Lapwing/ACSS/AW    | 15 | 45/7  | .188  | .1253 | .3759 | 1.504 | 1498 | 248 | 1745 | 27000 | .0104 | .0134 | 2560 |
| Falcon/ACSS/AW     | 15 | 54/19 | .1716 | .103  | .5148 | 1.544 | 1505 | 455 | 1960 | 41100 | .0102 | .0134 | 2576 |
| Chukar/ACSS/AW     | 17 | 84/19 | .1456 | .0873 | .4367 | 1.601 | 1685 | 327 | 2012 | 33600 | .0093 | .012  | 2772 |
| Mockingbird/ACSS/A | 20 | 72/7  | .1681 | .1121 | .3362 | 1.681 | 1926 | 198 | 2124 | 26500 | .0082 | .0109 | 2972 |
| Roadrunner/ACSS/A  | 20 | 76/19 | .1645 | .0768 | .3839 | 1.7   | 1947 | 253 | 2200 | 30300 | .0081 | .0108 | 3007 |
| Bluebird/ACSS/AW   | 21 | 84/19 | .1602 | .0961 | .4806 | 1.762 | 2041 | 396 | 2437 | 40700 | .0077 | .0102 | 3130 |
| Kiwi/ACSS/AW       | 21 | 72/7  | .1735 | .1157 | .347  | 1.735 | 2051 | 211 | 2262 | 28200 | .0077 | .0104 | 3092 |
| Thrasher/ACSS/AW   | 23 | 76/19 | .1744 | .0814 | .407  | 1.802 | 2188 | 284 | 2472 | 34100 | .0072 | .0097 | 3235 |
| Joree/ACSS/AW      | 25 | 76/19 | .1819 | .0849 | .4245 | 1.88  | 2380 | 309 | 2689 | 37100 | .0066 | .0091 | 3407 |

### Notes:

- (1) Data based on a nominal cable manufactured in accordance with ASTM B856;
- (2) Resistance and ampacity based on an aluminum conductivity of 63% IACS at 20°C, and an aluminum-clad steel conductivity of 20.3% IACS at 20°C;
- (3) Ampacity based on 200°C cond. temperature, 25°C ambient temperature, 2ft/sec. wind in sun, with emissivity of 0.5 and a coefficient of solar absorption of 0.5, at sea level;
- (4) Rated strength based on aluminum-clad steel core in accordance with ASTM B502.