

Open Wire Losses at Carrier Frequencies

WET WEATHER LOSSES

| Spacing<br>(Inches)           | Insulation(a) | Gauge<br>(Mils) | Attenuation Loss in db Per Mile at Frequency of |                  |        |        |        |        |        |  |
|-------------------------------|---------------|-----------------|---|------------------|--------|--------|--------|--------|--------|--|
|                               |               |                 | 6 kc  | 9 kc             | 11 kc  | 14 kc  | 27 kc  | 80 kc  | 140 kc |  |
|                               |               |                 | D(W-E)<br>H(W-E)<br>B(W-E)                      | D(E-W)<br>H(E-W) | B(E-W) | C(E-W) | C(W-E) | J(W-E) | J(E-W) |  |
| <b>Copper Wire</b>            |               |                 |   |                  |        |        |        |        |        |  |
| 6                             | CS            | 104             | .096  | .108             | .116   | .129   | .175   | .301   | .405   |  |
|                               |               | 128             | .075  | .088             | .097   | .108   | .148   | .258   | .350   |  |
|                               |               | 165             | .059  | .071             | .079   | .088   | .122   | .216   | .295   |  |
| 6                             | DP            | 104             | .106  | .120             | .129   | .144   | .199   | .353   | .485   |  |
|                               |               | 128             | .083  | .098             | .109   | .122   | .170   | .307   | .426   |  |
|                               |               | 165             | .068  | .082             | .090   | .102   | .143   | .262   | .366   |  |
| 8                             | CS            | 104             | .092  | .103             | .110   | .122   | .167   | .289   | .390   |  |
|                               |               | 128             | .072  | .084             | .093   | .104   | .142   | .250   | .340   |  |
|                               |               | 134             | .069  | .081             | .090   | .101   | .138   | .242   | .330   |  |
|                               |               | 165             | .057  | .069             | .076   | .085   | .117   | .209   | .287   |  |
| 8                             | DP            | 080             | .145  | .156             | .164   | .177   | .235   | -      | -      |  |
|                               |               | 104             | .102  | .115             | .123   | .137   | .190   | .344   | .474   |  |
|                               |               | 128             | .081  | .096             | .106   | .119   | .165   | .301   | .421   |  |
|                               |               | 165             | .065  | .080             | .088   | .099   | .139   | .258   | .365   |  |
| 12                            | CS            | 104             | .087  | .098             | .105   | .116   | .159   | .277   | .376   |  |
|                               |               | 128             | .068  | .080             | .087   | .098   | .135   | .238   | .327   |  |
|                               |               | 134             | .065  | .077             | .084   | .095   | .130   | .231   | .318   |  |
|                               |               | 165             | .054  | .065             | .071   | .080   | .111   | .201   | .277   |  |
| 12                            | DP            | 080             | .138  | .149             | .157   | .171   | .227   | -      | -      |  |
|                               |               | 104             | .098  | .112             | .120   | .133   | .185   | .333   | .465   |  |
|                               |               | 114             | .088  | .103             | .111   | .123   | .173   | .313   | .438   |  |
|                               |               | 128             | .078  | .093             | .102   | .113   | .160   | .293   | .411   |  |
|                               |               | 134             | .075  | .090             | .099   | .110   | .155   | .285   | .401   |  |
|                               |               | 144             | .072  | .086             | .094   | .106   | .149   | .275   | .388   |  |
|                               |               | 165             | .064  | .077             | .084   | .095   | .135   | .252   | .358   |  |
|                               |               |                 |   |                  |        |        |        |        |        |  |
| <b>Copper-Steel Wire</b>      |               |                 |   |                  |        |        |        |        |        |  |
| <b>40% Conductivity Ratio</b> |               |                 |   |                  |        |        |        |        |        |  |
| 12                            | DP            | 165             | .103  | .108             | .111   | .117   | .139   | .242   | .354   |  |
|                               |               | 128             | .150  | .156             | .161   | .166   | .190   | .283   | .396   |  |
|                               |               | 104             | .204  | .211             | .216   | .222   | .245   | .336   | .442   |  |
|                               |               | 080             | .305  | .323             | .328   | .337   | .362   | .456   | .555   |  |
| <b>30% Conductivity Ratio</b> |               |                 |   |                  |        |        |        |        |        |  |
| 12                            | DP            | 128             | .202  | .211             | .216   | .222   | .246   | .321   | .406   |  |
|                               |               | 104             | .272  | .289             | .292   | .300   | .332   | .406   | .491   |  |
| <b>Steel or Iron Wire</b>     |               |                 |   |                  |        |        |        |        |        |  |
| 12                            | DP            | 109             | .87   | 1.03             | 1.23   | 1.38   | 1.95   | -      | -      |  |
|                               |               | 134             | .77   | .97              | 1.08   | 1.23   | 1.70   | -      | -      |  |
| <b>14 HC Drop Wire</b>        |               |                 |   |                  |        |        |        |        |        |  |
| 4                             | (b)           | 64              | .5  | .6               | .7     | .8     | 1.2    | 2.3    | 3.0    |  |
| 4                             | (c)           | 64              | .25   | .27              | .29    | .31    | .42    | .84    | 1.27   |  |
| 12                            | (b)           | 64              | .5  | .7               | .8     | .9     | 1.3    | 2.3    | 2.7    |  |
| Paired                        | DP            | 64              | 1.9   | 2.2              | 2.5    | 2.8    | 4.3    | 10.1   | 16.9   |  |

(a) For CW insulation use values shown for DP insulation. Also for CSA and CSC use values shown for CS insulation.

(b) Pair per wire tied solidly to crossarm.

(c) Pair per wire on T-Knobs (double grooved porcelain knob)