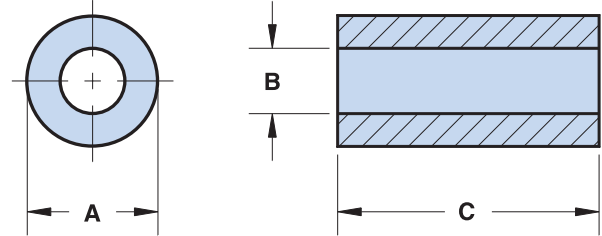


# Round Cable EMI Suppression Cores

Listed in ascending order of "B" dimension.

Fair-Rite offers a broad selection of round cable EMI suppression cores with guaranteed impedance specifications over a wide frequency range.

- The "H" column gives for each core size the calculated dc bias field in oersted for 1 turn and 1 ampere direct current. The actual dc H field in the application is this value of H times the actual NI (ampere - turn) product. For the effect of the dc bias on the impedance of the core material, see the graphs on pages 179-180, Figures 16-20.



- For typical impedance vs. frequency curves, see Figures 1-5.
- Round cable EMI suppression cores are controlled for impedance limits only. They are tested for impedance with a single turn, using the Hewlett Packard HP 4193A Vector Impedance Meter for beads in 31 and 43 material and the HP 4191A RF Impedance Analyzer for 61 material beads.
- For smaller size cores, please refer to our EMI Suppression Beads section found on page 24 of this catalog.
- For any round cable EMI suppression core requirement not listed in the catalog, please contact our customer service group for availability and pricing.
- The Expanded Cable and Connector EMI Suppression Kit (part number 0199000005) contains a selection of these suppression cores. (See page 92).

Dimensions (Bold numbers are in millimeters, light numbers are nominal in inches.)

Typical Impedance( $\Omega$ )<sup>1</sup>

| Part Number**     | A                        | B                        | C*                        | Wt (g) | H (Oe) | 10 MHz | 25 MHz | 100 MHz | 250 MHz |
|-------------------|--------------------------|--------------------------|---------------------------|--------|--------|--------|--------|---------|---------|
| 2631480102        | <b>12.3±0.4</b><br>.485  | <b>4.95±0.25</b><br>.200 | <b>12.7±0.4</b><br>.500   | 4.8    | .52    | 58     | 88     | 140     | -       |
| 2643480102        | <b>12.3±0.4</b><br>.485  | <b>4.95±0.25</b><br>.200 | <b>12.7±0.4</b><br>.500   | 4.8    | .52    | -      | 84     | 121     | -       |
| 2631480002        | <b>12.3±0.4</b><br>.485  | <b>4.95±0.25</b><br>.200 | <b>25.4±0.75</b><br>1.000 | 9.5    | .52    | 115    | 175    | 295     | -       |
| 2643480002        | <b>12.3±0.4</b><br>.485  | <b>4.95±0.25</b><br>.200 | <b>25.4±0.75</b><br>1.000 | 9.5    | .52    | -      | 165    | 236     | -       |
| 2643540702        | <b>14.3±0.45</b><br>.562 | <b>6.35±0.25</b><br>.250 | <b>5.3 - 0.45</b><br>.200 | 2.6    | .43    | -      | 30     | 50      | -       |
| 2643540102        | <b>14.3±0.45</b><br>.562 | <b>6.35±0.25</b><br>.250 | <b>10.15±0.4</b><br>.400  | 5.1    | .43    | -      | 61     | 89      | -       |
| <b>2631540202</b> | <b>14.3±0.45</b><br>.562 | <b>6.35±0.25</b><br>.250 | <b>13.8 - 0.7</b><br>.530 | 6.8    | .43    | 58     | 88     | 140     | -       |
| <b>2643540202</b> | <b>14.3±0.45</b><br>.562 | <b>6.35±0.25</b><br>.250 | <b>13.8 - 0.7</b><br>.530 | 6.8    | .43    | -      | 78     | 118     | -       |
| <b>2661540202</b> | <b>14.3±0.45</b><br>.562 | <b>6.35±0.25</b><br>.250 | <b>13.8 - 0.7</b><br>.530 | 6.8    | .43    | -      | -      | 125     | 180     |
| <b>2631540002</b> | <b>14.3±0.45</b><br>.562 | <b>6.35±0.25</b><br>.250 | <b>28.6±0.75</b><br>1.125 | 14     | .43    | 119    | 181    | 300     | -       |
| <b>2643540002</b> | <b>14.3±0.45</b><br>.562 | <b>6.35±0.25</b><br>.250 | <b>28.6±0.75</b><br>1.125 | 14     | .43    | -      | 171    | 250     | -       |

\*\*Bold part numbers designate preferred parts.

<sup>1</sup>Guaranteed Z Min is Z Typ -20%

\*This dimension may be modified to suit specific applications.

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# Round Cable EMI Suppression Cores

Listed in ascending order of "B" dimension.

Dimensions (Bold numbers are in millimeters, light numbers are nominal in inches.)

Typical Impedance( $\Omega$ )<sup>1</sup>

| Part Number**     | A                           | B                         | C*                          | Wt (g) | H (Oe) | 10 MHz | 25 MHz | 100 MHz | 250 MHz |
|-------------------|-----------------------------|---------------------------|-----------------------------|--------|--------|--------|--------|---------|---------|
| <b>2661540002</b> | <b>14.3±0.45</b><br>.562    | <b>6.35±0.25</b><br>.250  | <b>28.6±0.75</b><br>1.125   | 14     | .43    | -      | -      | 250     | 310     |
| 2643540302        | <b>14.3±0.45</b><br>.562    | <b>7.1±0.25</b><br>.280   | <b>15.25±0.4</b><br>.600    | 7.5    | .41    | -      | 75     | 118     | -       |
| 2643800302        | <b>12.7±0.25</b><br>.500    | <b>7.15±0.2</b><br>.282   | <b>4.9 - 0.25</b><br>.188   | 1.7    | .43    | -      | 26     | 42      | -       |
| <b>2643540402</b> | <b>14.3±0.45</b><br>.562    | <b>7.25±0.15</b><br>.286  | <b>28.6±0.75</b><br>1.125   | 14     | .40    | -      | 143    | 215     | -       |
| 2643801102        | <b>12.7±0.25</b><br>.500    | <b>7.9±0.2</b><br>.312    | <b>6.35±0.2</b><br>.250     | 2.1    | .40    | -      | 26     | 41      | -       |
| 2643801902        | <b>12.7±0.25</b><br>.500    | <b>7.9±0.2</b><br>.312    | <b>12.7±0.4</b><br>.500     | 4.3    | .40    | -      | 44     | 73      | -       |
| <b>2631625002</b> | <b>16.25 - 0.75</b><br>.625 | <b>7.9±0.25</b><br>.312   | <b>14.3±0.35</b><br>.562    | 8.7    | .36    | 53     | 75     | 130     | -       |
| <b>2643625002</b> | <b>16.25 - 0.75</b><br>.625 | <b>7.9±0.25</b><br>.312   | <b>14.3±0.35</b><br>.562    | 8.7    | .36    | -      | 70     | 113     | -       |
| <b>2631625102</b> | <b>16.25 - 0.75</b><br>.625 | <b>7.9±0.25</b><br>.312   | <b>28.6±0.75</b><br>1.125   | 17     | .36    | 103    | 156    | 260     | -       |
| <b>2643625102</b> | <b>16.25 - 0.75</b><br>.625 | <b>7.9±0.25</b><br>.312   | <b>28.6±0.75</b><br>1.125   | 17     | .36    | -      | 130    | 213     | -       |
| 2643625202        | <b>16.25 - 0.75</b><br>.625 | <b>7.9±0.25</b><br>.312   | <b>50.8±1.0</b><br>2.000    | 31     | .36    | -      | 235    | 384     | -       |
| 2643665902        | <b>17.45±0.4</b><br>.687    | <b>9.5±0.25</b><br>.375   | <b>6.35±0.25</b><br>.250    | 4.5    | .32    | -      | 26     | 44      | -       |
| <b>2643665802</b> | <b>17.45±0.4</b><br>.687    | <b>9.5±0.25</b><br>.375   | <b>12.7±0.5</b><br>.500     | 9.0    | .32    | -      | 55     | 88      | -       |
| <b>2631665702</b> | <b>17.45±0.4</b><br>.687    | <b>9.5±0.25</b><br>.375   | <b>28.6±0.75</b><br>1.125   | 20     | .32    | 89     | 138    | 225     | -       |
| <b>2643665702</b> | <b>17.45±0.4</b><br>.687    | <b>9.5±0.25</b><br>.375   | <b>28.6±0.75</b><br>1.125   | 20     | .32    | -      | 125    | 200     | -       |
| <b>2661665702</b> | <b>17.45±0.4</b><br>.687    | <b>9.5±0.25</b><br>.375   | <b>28.6±0.75</b><br>1.125   | 20     | .32    | -      | -      | 156     | 260     |
| 2631626302        | <b>19.0 - 0.65</b><br>.735  | <b>10.15±0.25</b><br>.400 | <b>14.65 - 0.75</b><br>.562 | 12     | .29    | 44     | 69     | 115     | -       |
| 2643626302        | <b>19.0 - 0.65</b><br>.735  | <b>10.15±0.25</b><br>.400 | <b>14.65 - 0.75</b><br>.562 | 12     | .29    | -      | 63     | 96      | -       |
| 2631626402        | <b>19.0 - 0.65</b><br>.735  | <b>10.15±0.25</b><br>.400 | <b>28.6±0.75</b><br>1.125   | 23     | .29    | 89     | 138    | 225     | -       |
| <b>2643626402</b> | <b>19.0 - 0.65</b><br>.735  | <b>10.15±0.25</b><br>.400 | <b>28.6±0.75</b><br>1.125   | 23     | .29    | -      | 128    | 196     | -       |
| <b>2643626502</b> | <b>19.0 - 0.65</b><br>.735  | <b>10.15±0.25</b><br>.400 | <b>50.8±1.0</b><br>2.000    | 41     | .29    | -      | 225    | 348     | -       |
| 2643801502        | <b>25.4±0.65</b><br>1.000   | <b>12.7±0.35</b><br>.500  | <b>6.35±0.25</b><br>.250    | 9.9    | .23    | -      | 34     | 53      | -       |

\*\*Bold part numbers designate preferred parts.

\*This dimension may be modified to suit specific applications.

<sup>1</sup> Guaranteed Z Min is Z Typ -20%

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# Round Cable EMI Suppression Cores

Listed in ascending order of "B" dimension.

Dimensions (Bold numbers are in millimeters, light numbers are nominal in inches.)

Typical Impedance( $\Omega$ )<sup>1</sup>

| Part Number**     | A                          | B                          | C*                         | Wt (g) | H (Oe) | 10 MHz | 25 MHz | 100 MHz | 250 MHz |
|-------------------|----------------------------|----------------------------|----------------------------|--------|--------|--------|--------|---------|---------|
| <b>2643102402</b> | <b>25.9±0.75</b><br>1.020  | <b>12.8±0.25</b><br>.505   | <b>21.3±0.5</b><br>.840    | 35     | .22    | -      | 110    | 183     | -       |
| <b>2661102402</b> | <b>25.9±0.75</b><br>1.020  | <b>12.8±0.25</b><br>.505   | <b>21.3±0.5</b><br>.840    | 35     | .22    | -      | -      | 169     | 275     |
| <b>2631102002</b> | <b>25.9±0.75</b><br>1.020  | <b>12.8±0.25</b><br>.505   | <b>28.6±0.8</b><br>1.125   | 46     | .22    | 103    | 156    | 260     | -       |
| <b>2643102002</b> | <b>25.9±0.75</b><br>1.020  | <b>12.8±0.25</b><br>.505   | <b>28.6±0.8</b><br>1.125   | 46     | .22    | -      | 145    | 235     | -       |
| 2661102002        | <b>25.9±0.75</b><br>1.020  | <b>12.8±0.25</b><br>.505   | <b>28.6±0.8</b><br>1.125   | 46     | .22    | -      | -      | 225     | 310     |
| 2643800602        | <b>20.95±0.4</b><br>.825   | <b>13.2±0.3</b><br>.520    | <b>6.35±0.2</b><br>.250    | 5.8    | .24    | -      | 24     | 44      | -       |
| 2643800502        | <b>20.95±0.4</b><br>.825   | <b>13.2±0.3</b><br>.520    | <b>11.9±0.4</b><br>.468    | 11     | .24    | -      | 45     | 82      | -       |
| <b>2643801802</b> | <b>22.1±0.4</b><br>.870    | <b>13.7±0.3</b><br>.540    | <b>6.35±0.2</b><br>.250    | 6.5    | .23    | -      | 25     | 45      | -       |
| 2631101902        | <b>28.5±0.6</b><br>1.122   | <b>13.8±0.3</b><br>.543    | <b>28.6±0.8</b><br>1.125   | 56     | .21    | 106    | 163    | 270     | -       |
| 2643101902        | <b>28.5±0.6</b><br>1.122   | <b>13.8±0.3</b><br>.543    | <b>28.6±0.8</b><br>1.125   | 56     | .21    | -      | 145    | 230     | -       |
| 2643801402        | <b>25.4±0.6</b><br>1.000   | <b>15.5±0.5</b><br>.610    | <b>8.1±0.3</b><br>.320     | 11     | .20    | -      | 35     | 55      | -       |
| 2643806402        | <b>25.4±0.6</b><br>1.000   | <b>15.5±0.5</b><br>.610    | <b>12.7±0.4</b><br>.500    | 17     | .20    | -      | 53     | 90      | -       |
| <b>2643251002</b> | <b>39.1±0.75</b><br>1.540  | <b>16.75±0.5</b><br>.660   | <b>22.2±0.8</b><br>.875    | 84     | .16    | -      | 135    | 230     | -       |
| <b>2643801002</b> | <b>29.0±0.75</b><br>1.142  | <b>19.0±0.5</b><br>.748    | <b>7.5±0.25</b><br>.295    | 12     | .17    | -      | 28     | 47      | -       |
| 2643801202        | <b>29.0±0.75</b><br>1.142  | <b>19.0±0.5</b><br>.748    | <b>13.85±0.4</b><br>.545   | 23     | .17    | -      | 51     | 92      | -       |
| <b>2643804502</b> | <b>31.1±0.75</b><br>1.225  | <b>19.05±0.5</b><br>.750   | <b>16.3 - 0.75</b><br>.627 | 33     | .17    | -      | 60     | 100     | -       |
| <b>2643802702</b> | <b>35.55±0.75</b><br>1.400 | <b>22.85±0.5</b><br>.900   | <b>12.7±0.5</b><br>.500    | 32     | .14    | -      | 48     | 80      | -       |
| 2643626102        | <b>50.8±1.0</b><br>2.000   | <b>25.4±0.5</b><br>1.000   | <b>25.4±0.75</b><br>1.000  | 158    | .11    | -      | 128    | 224     | -       |
| 2643625902        | <b>50.8±1.0</b><br>2.000   | <b>25.4±0.5</b><br>1.000   | <b>28.7±0.75</b><br>1.130  | 178    | .11    | -      | 145    | 254     | -       |
| <b>2643626202</b> | <b>50.8±1.0</b><br>2.000   | <b>25.4±0.5</b><br>1.000   | <b>38.1±0.75</b><br>1.500  | 237    | .11    | -      | 193    | 336     | -       |
| 2643626002        | <b>50.8±1.0</b><br>2.000   | <b>25.4±0.5</b><br>1.000   | <b>50.8±1.0</b><br>2.000   | 315    | .11    | -      | 240    | 360     | -       |
| <b>2643803802</b> | <b>61.0±1.3</b><br>2.400   | <b>35.55±0.75</b><br>1.400 | <b>12.7±0.5</b><br>.500    | 105    | .09    | -      | 58     | 108     | -       |

\*\*Bold part numbers designate preferred parts.

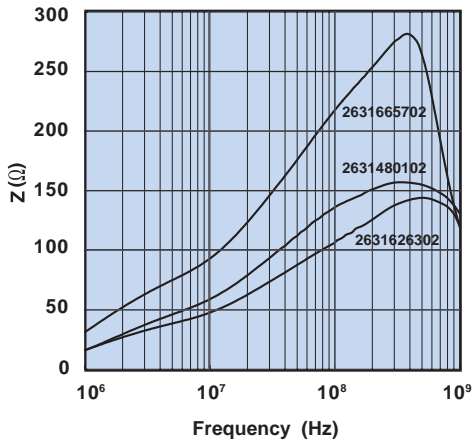
<sup>1</sup> Guaranteed Z Min is Z Typ -20%

\*This dimension may be modified to suit specific applications.

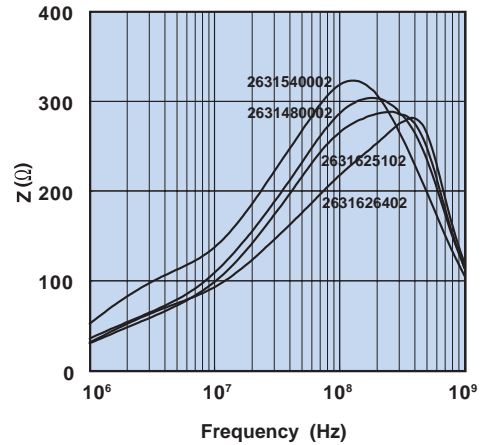
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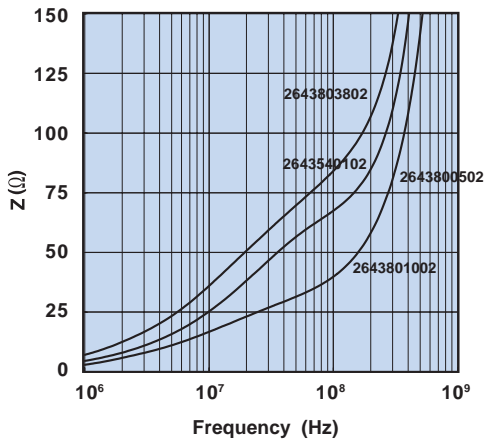
# Round Cable EMI Suppression Cores



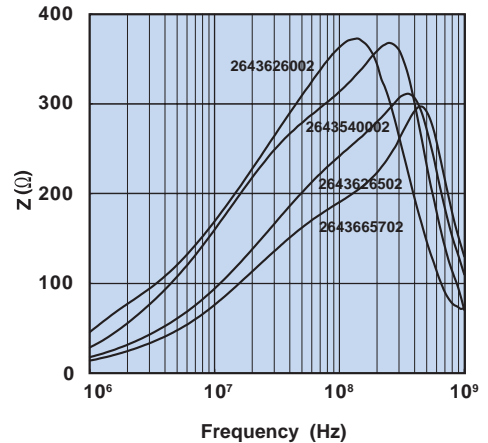
**Figure 1** Impedance vs. Frequency for 31 material round cable EMI suppression cores.



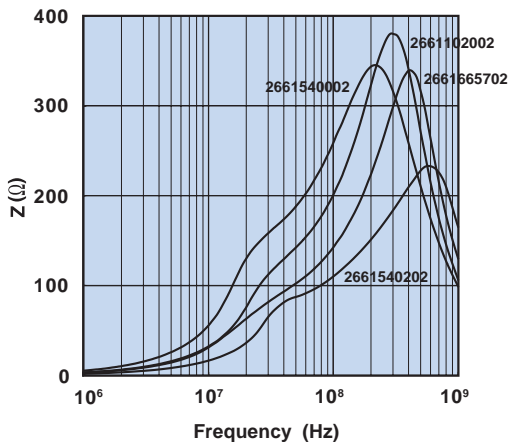
**Figure 2** Impedance vs. Frequency for 31 material round cable EMI suppression cores.



**Figure 3** Impedance vs. Frequency for 43 material round cable EMI suppression cores.



**Figure 4** Impedance vs. Frequency for 43 material round cable EMI suppression cores.



**Figure 5** Impedance vs. Frequency for 61 material round cable EMI suppression cores.

