

Round Cable EMI Suppression Cores

Listed by frequency range and in ascending order of "B" dimension.

Fair-Rite offers a broad selection of ferrite EMI suppression cable cores in several materials with guaranteed minimum impedance specifications.

. All cable cores have been burnished to remove the sharp edges.

. The column "H" (Oe) gives for each cable core 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-turns) product. For the effect of the dc bias on the impedance of the core material, see the material graphs on pages 145-146, Figures 18-23.

. Suppression cable cores are controlled for impedances only. The impedances listed are typical values. Minimum impedance values are specified for the + marked frequencies. The minimum guaranteed impedance is the listed impedance less 20%.

. Single turn impedance tests for 31, 43 and 46 material cores are performed on the 4193A Vector Impedance Meter. The 61 material parts are tested on the 4191A RF Impedance Analyzer. **Cores are tested with the shortest practical wire length.**

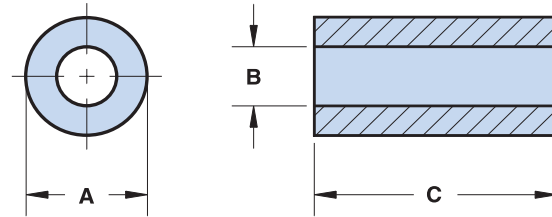
. Performance curves of all listed cable suppression cores are compiled on the Fair-Rite Products CD-ROM.

. For smaller suppression parts, refer to the section "EMI Suppression Beads" on pages 29-33.

. For any cable suppression core not listed here, feel free to contact our customer service group for availability and pricing.

. Our "Expanded Cable and Connector EMI Suppression Kit" (part number 0199000005) contains a selection of these suppression cores. See page 67.

. Explanation of Part Numbers: Digits 1&2 = product class, 3&4 material grade and last digit 2 = burnished.



Lower & Broadband Frequencies 1-300 MHz (31 material)

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

| Part Number | A | B | C* | Wt (g) | H (Oe) | Typical Impedance (Ω) | | | | | |
|-------------|----------------------|-------------------|--------------------|--------|--------|--------------------------------|-------|---------------------|---------------------|----------------------|---------|
| | | | | | | 1 MHz | 5 MHz | 10 MHz ⁺ | 25 MHz ⁺ | 100 MHz ⁺ | 250 MHz |
| 2631250202 | 6.35±0.15 .250 | 2.95±0.45 .125 | 25.4±0.75 1.000 | 2.9 | .52 | 27 | 70 | 90 | 138 | 230 | 240 |
| 2631023002 | 9.5±0.25 .375 | 4.75±0.3 .193 | 19.05±0.7 .750 | 4.7 | .52 | 19 | 49 | 62 | 95 | 160 | 185 |
| 2631480102 | 12.3±0.4 .485 | 4.95±0.25 .200 | 12.7±0.4 .500 | 6.0 | .52 | 18 | 45 | 58 | 88 | 140 | 167 |
| 2631480002 | 12.3±0.4 .485 | 4.95±0.25 .200 | 25.4±0.75 1.000 | 12 | .52 | 34 | 88 | 115 | 175 | 295 | 267 |
| 2631540202 | 14.3±0.45 .562 | 6.35±0.25 .250 | 13.8 - 0.7 .530 | 8.3 | .43 | 17 | 44 | 58 | 88 | 140 | 160 |
| 2631540002 | 14.3±0.45 .562 | 6.35±0.25 .250 | 28.6±0.75 1.125 | 17.7 | .43 | 35 | 91 | 119 | 181 | 300 | 280 |
| 2631625002 | 16.25 - 0.75 .625 | 7.9±0.25 .312 | 14.3±0.35 .562 | 10.3 | .36 | 16 | 40 | 53 | 75 | 130 | 150 |
| 2631625102 | 16.25 - 0.75 .625 | 7.9±0.25 .312 | 28.6±0.75 1.125 | 20.5 | .36 | 30 | 79 | 103 | 156 | 260 | 268 |
| 2631665802 | 17.45±0.4 .687 | 9.5±0.25 .375 | 12.7±0.5 .500 | 10.3 | .32 | 13 | 31 | 38 | 60 | 115 | 137 |
| 2631665702 | 17.45±0.4 .687 | 9.5±0.25 .375 | 28.6±0.75 1.125 | 23.1 | .32 | 27 | 69 | 89 | 138 | 225 | 265 |

* This dimension may be modified to suit specific applications.

⁺ Test frequency

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Listed by frequency range and in ascending order of "B" dimension.

Lower & Broadband Frequencies 1-300 MHz (31 material)

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

| Part Number | A | B | C* | Wt (g) | H (Oe) | Typical Impedance (Ω) | | | | | |
|-------------|--------------------|---------------------|----------------------|--------|--------|--------------------------------|-------|---------------------|---------------------|----------------------|---------|
| | | | | | | 1 MHz | 5 MHz | 10 MHz ⁺ | 25 MHz ⁺ | 100 MHz ⁺ | 250 MHz |
| 2631626302 | 18.7±0.5 .735 | 10.15±0.25 .400 | 14.65 - 0.75 .562 | 13.3 | .29 | 14 | 35 | 44 | 69 | 115 | 140 |
| 2631626402 | 18.7±0.5 .735 | 10.15±0.25 .400 | 28.6±0.75 1.125 | 26.6 | .29 | 27 | 69 | 89 | 138 | 225 | 235 |
| 2631102002 | 25.9±0.75 1.020 | 12.8±0.25 .505 | 28.6±0.8 1.125 | 55 | .22 | 31 | 79 | 103 | 156 | 260 | 280 |
| 2631101902 | 28.5±0.6 1.122 | 13.8±0.3 .543 | 28.6±0.8 1.125 | 68 | .21 | 32 | 82 | 106 | 163 | 270 | 300 |
| 2631801202 | 29.0±0.75 1.142 | 19.0±0.5 .748 | 13.85±0.4 .545 | 25 | .17 | 10 | 24 | 31 | 49 | 88 | 130 |
| 2631103002 | 31.1±0.85 1.225 | 19.05±0.6 .750 | 50.8±1.0 2.000 | 116 | .17 | 37 | 98 | 120 | 205 | 340 | 315 |
| 2631626202 | 50.8±1.3 2.000 | 25.4±0.8 1.000 | 38.1±0.75 1.500 | 278 | .11 | 40 | 103 | 140 | 215 | 365 | 290 |
| 2631803802 | 61.0±1.3 2.400 | 35.55±0.85 1.400 | 12.7±0.5 .500 | 118 | .09 | 12 | 28 | 40 | 63 | 119 | 215 |

Broadband Frequencies 25-300 MHz (43 material)

| Part Number | A | B | C* | Wt (g) | H (Oe) | Typical Impedance (Ω) | | | |
|-------------|-------------------|-------------------|--------------------|--------|--------|--------------------------------|---------------------|----------------------|---------|
| | | | | | | 10 MHz | 25 MHz ⁺ | 100 MHz ⁺ | 250 MHz |
| 2643480102 | 12.3±0.4 .485 | 4.95±0.25 .200 | 12.7±0.4 .500 | 6.0 | .52 | 52 | 84 | 121 | 145 |
| 2643480002 | 12.3±0.4 .485 | 4.95±0.25 .200 | 25.4±0.75 1.000 | 12 | .52 | 102 | 165 | 236 | 233 |
| 2643540702 | 14.3±0.45 .562 | 6.35±0.25 .250 | 5.3 - 0.45 .200 | 3.1 | .43 | 20 | 30 | 50 | 68 |
| 2643540102 | 14.3±0.45 .562 | 6.35±0.25 .250 | 10.15±0.4 .400 | 6.3 | .43 | 39 | 61 | 89 | 104 |
| 2643540202 | 14.3±0.45 .562 | 6.35±0.25 .250 | 13.8 - 0.7 .530 | 8.3 | .43 | 51 | 78 | 118 | 140 |
| 2643540002 | 14.3±0.45 .562 | 6.35±0.25 .250 | 28.6±0.75 1.125 | 17.7 | .43 | 105 | 171 | 250 | 255 |
| 2643540302 | 14.3±0.45 .562 | 7.1±0.25 .280 | 15.25±0.4 .600 | 8.9 | .41 | 50 | 75 | 118 | 137 |
| 2643800302 | 12.7±0.25 .500 | 7.15±0.2 .282 | 4.9 - 0.25 .188 | 2.0 | .43 | 15 | 26 | 42 | 59 |
| 2643540402 | 14.3±0.45 .562 | 7.25±0.2 .286 | 28.6±0.75 1.125 | 16 | .40 | 88 | 143 | 215 | 230 |
| 2643801102 | 12.7±0.25 .500 | 7.9±0.2 .312 | 6.35±0.2 .250 | 2.4 | .40 | 16 | 26 | 41 | 59 |
| 2643801902 | 12.7±0.25 .500 | 7.9±0.2 .312 | 12.7±0.4 .500 | 4.7 | .40 | 29 | 44 | 73 | 91 |

* This dimension may be modified to suit specific applications.

⁺ Test frequency

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Round Cable EMI Suppression Cores

Listed by frequency range and in ascending order of "B" dimension.

Broadband Frequencies 25-300 MHz (43 material)

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

| Part Number | A | B | C* | Wt (g) | H (Oe) | Typical Impedance (Ω) | | | |
|-------------|----------------------|--------------------|----------------------|--------|--------|--------------------------------|---------------------|----------------------|---------|
| | | | | | | 10 MHz | 25 MHz ⁺ | 100 MHz ⁺ | 250 MHz |
| 2643625002 | 16.25 - 0.75 .625 | 7.9±0.25 .312 | 14.3±0.35 .562 | 10.3 | .36 | 45 | 70 | 113 | 135 |
| 2643625102 | 16.25 - 0.75 .625 | 7.9±0.25 .312 | 28.6±0.75 1.125 | 20.5 | .36 | 90 | 130 | 213 | 305 |
| 2643625202 | 15.9±0.4 .625 | 7.9±0.3 .312 | 50.8±1.0 2.000 | 36 | .36 | 158 | 235 | 384 | 373 |
| 2643665902 | 17.45±0.4 .687 | 9.5±0.25 .375 | 6.35±0.25 .250 | 5.1 | .32 | 19 | 26 | 44 | 62 |
| 2643665802 | 17.45±0.4 .687 | 9.5±0.25 .375 | 12.7±0.5 .500 | 10.3 | .32 | 35 | 55 | 88 | 108 |
| 2643665702 | 17.45±0.4 .687 | 9.5±0.25 .375 | 28.6±0.75 1.125 | 23.1 | .32 | 78 | 125 | 200 | 255 |
| 2643626302 | 18.7±0.5 .735 | 10.15±0.25 .400 | 14.65 - 0.75 .562 | 13.3 | .29 | 41 | 63 | 96 | 123 |
| 2643626402 | 18.7±0.5 .735 | 10.15±0.25 .400 | 28.6±0.75 1.125 | 26.6 | .29 | 79 | 128 | 196 | 220 |
| 2643626502 | 18.7±0.6 .735 | 10.15±0.4 .400 | 50.8±1.0 2.000 | 47 | .29 | 138 | 225 | 348 | 405 |
| 2643801502 | 25.4±0.65 1.000 | 12.7±0.35 .500 | 6.35±0.25 .250 | 11.6 | .23 | 22 | 34 | 53 | 87 |
| 2643102402 | 25.9±0.75 1.020 | 12.8±0.25 .505 | 21.3±0.5 .840 | 41 | .22 | 68 | 110 | 183 | 230 |
| 2643102002 | 25.9±0.75 1.020 | 12.8±0.25 .505 | 28.6±0.8 1.125 | 55 | .22 | 91 | 145 | 235 | 275 |
| 2643800602 | 20.95±0.4 .825 | 13.2±0.3 .520 | 6.35±0.2 .250 | 6.3 | .24 | 16 | 24 | 44 | 67 |
| 2643800502 | 20.95±0.4 .825 | 13.2±0.3 .520 | 11.9±0.4 .468 | 11.9 | .24 | 27 | 45 | 82 | 115 |
| 2643801802 | 22.1±0.4 .870 | 13.7±0.3 .540 | 6.35±0.2 .250 | 7.2 | .23 | 15 | 25 | 45 | 70 |
| 2643101902 | 28.5±0.6 1.122 | 13.8±0.3 .543 | 28.6±0.8 1.125 | 67 | .21 | 93 | 145 | 230 | 290 |
| 2643801402 | 25.4±0.6 1.000 | 15.5±0.5 .610 | 8.1±0.3 .320 | 12.4 | .20 | 20 | 35 | 55 | 95 |
| 2643806402 | 25.4±0.6 1.000 | 15.5±0.5 .610 | 12.7±0.4 .500 | 19.4 | .20 | 30 | 53 | 90 | 130 |
| 2643251002 | 39.1±0.75 1.540 | 16.75±0.5 .660 | 22.2±0.8 .875 | 104 | .16 | 85 | 135 | 230 | 325 |
| 2643801002 | 29.0±0.75 1.142 | 19.0±0.5 .748 | 7.5±0.25 .295 | 13.6 | .17 | 17 | 28 | 47 | 80 |
| 2643801202 | 29.0±0.75 1.142 | 19.0±0.5 .748 | 13.85±0.4 .545 | 25.1 | .17 | 28 | 51 | 92 | 142 |
| 2643103102 | 29.0±0.75 1.142 | 19.0±0.5 .748 | 38.1±0.75 1.500 | 69 | .17 | 87 | 130 | 200 | 250 |

* This dimension may be modified to suit specific applications.

⁺ Test frequency

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Round Cable EMI Suppression Cores

Listed by frequency range and in ascending order of "B" dimension.

Broadband Frequencies 25-300 MHz (43 material)

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

| Part Number | A | B | C* | Wt (g) | H (Oe) | Typical Impedance (Ω) | | | |
|-------------|----------------------------|----------------------------|----------------------------|--------|--------|--------------------------------|---------------------|----------------------|---------|
| | | | | | | 10 MHz | 25 MHz ⁺ | 100 MHz ⁺ | 250 MHz |
| 2643804502 | 31.1±0.75 1.225 | 19.05±0.5 .750 | 16.3 - 0.75 .627 | 36 | .17 | 37 | 60 | 100 | 153 |
| 2643103002 | 31.1±0.85 1.225 | 19.05±0.6 .750 | 50.8 ± 1.0 2.000 | 116 | .17 | 105 | 195 | 330 | 310 |
| 2643802702 | 35.55±0.75 1.400 | 22.85±0.5 .900 | 12.7±0.5 .500 | 36 | .14 | 28 | 48 | 80 | 135 |
| 2643626102 | 50.8±1.0 2.000 | 25.4±0.5 1.000 | 25.4±0.75 1.000 | 190 | .11 | 80 | 128 | 224 | 310 |
| 2643625902 | 50.8±1.0 2.000 | 25.4±0.5 1.000 | 28.7±0.75 1.130 | 215 | .11 | 90 | 145 | 254 | 373 |
| 2643626202 | 50.8±1.3 2.000 | 25.4±0.8 1.000 | 38.1±0.75 1.500 | 285 | .11 | 118 | 193 | 336 | 280 |
| 2643626002 | 50.8±1.3 2.000 | 25.4±0.8 1.000 | 50.8±1.0 2.000 | 380 | .11 | 157 | 240 | 360 | 257 |
| 2643803802 | 61.0±1.3 2.400 | 35.55±0.85 1.400 | 12.7±0.5 .500 | 118 | .09 | 33 | 58 | 108 | 218 |

Broadband Frequencies 25-300 MHz (Economical 46 material)

| Part Number | A | B | C* | Wt (g) | H (Oe) | Typical Impedance (Ω) | | | |
|-------------|-----------------------------|--------------------------|---------------------------|--------|--------|--------------------------------|--------|----------------------|---------|
| | | | | | | 10 MHz | 25 MHz | 100 MHz ⁺ | 250 MHz |
| 2646480102 | 12.3±0.4 .485 | 4.95±0.25 .200 | 12.7±0.4 .500 | 6.0 | .52 | 42 | 62 | 110 | 145 |
| 2646480002 | 12.3±0.4 .485 | 4.95±0.25 .200 | 25.4±0.75 1.000 | 12 | .52 | 83 | 125 | 212 | 233 |
| 2646540202 | 14.3±0.45 .562 | 6.35±0.25 .250 | 13.8 - 0.7 .530 | 8.3 | .43 | 45 | 66 | 106 | 127 |
| 2646540002 | 14.3±0.45 .562 | 6.35±0.25 .250 | 28.6±0.75 1.125 | 17.7 | .43 | 89 | 134 | 225 | 253 |
| 2646625002 | 16.25 - 0.75 .625 | 7.9±0.25 .312 | 14.3±0.35 .562 | 10.3 | .36 | 44 | 63 | 102 | 135 |
| 2646625102 | 16.25 - 0.75 .625 | 7.9±0.25 .312 | 28.6±0.75 1.125 | 20.5 | .36 | 78 | 115 | 192 | 235 |
| 2646625202 | 15.9±0.4 .625 | 7.9±0.3 .312 | 50.8±1.0 2.000 | 36 | .36 | 138 | 204 | 345 | 270 |
| 2646665802 | 17.45±0.4 .687 | 9.5±0.25 .375 | 12.7±0.5 .500 | 10.3 | .32 | 32 | 49 | 79 | 110 |
| 2646665702 | 17.45±0.4 .687 | 9.5±0.25 .375 | 28.6±0.75 1.125 | 23.1 | .32 | 72 | 106 | 180 | 225 |
| 2646102402 | 25.9±0.75 1.020 | 12.8±0.25 .505 | 21.3±0.5 .840 | 41 | .22 | 67 | 100 | 165 | 218 |
| 2646102002 | 25.9±0.75 1.020 | 12.8±0.25 .505 | 28.6±0.8 1.125 | 55 | .22 | 74 | 118 | 212 | 268 |
| 2646101902 | 28.5±0.6 1.122 | 13.8±0.3 .543 | 28.6±0.8 1.125 | 67 | .21 | 80 | 121 | 207 | 285 |

* This dimension may be modified to suit specific applications.

⁺ Test frequency

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Broadband Frequencies 25-300 MHz (Economical 46 material)

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

| Part Number | A | B | C* | Wt (g) | H (Oe) | Typical Impedance (Ω) | | | |
|-------------|---------------------------|----------------------------|----------------------------|--------|--------|--------------------------------|--------|----------------------|---------|
| | | | | | | 10 MHz | 25 MHz | 100 MHz ⁺ | 250 MHz |
| 2646804502 | 31.1±0.75 1.225 | 19.05±0.5 .750 | 16.3 - 0.75 .627 | 36 | .17 | 33 | 49 | 90 | 150 |
| 2646103002 | 31.1±0.85 1.225 | 19.05±0.6 .750 | 50.8 ± 1.0 2.000 | 116 | .17 | 95 | 155 | 297 | 310 |
| 2646626202 | 50.8±1.3 2.000 | 25.4±0.8 1.000 | 38.1±0.75 1.500 | 285 | .11 | 102 | 165 | 302 | 280 |
| 2646803802 | 61.0±1.3 2.400 | 35.55±0.85 1.400 | 12.7±0.5 .500 | 118 | .09 | 30 | 44 | 100 | 200 |

Higher Frequencies 200-1000 MHz (61 material)

| Part Number | A | B | C* | Wt (g) | H (Oe) | Typical Impedance(Ω) | | | |
|-------------|----------------------------|---------------------------|-----------------------------|--------|--------|-------------------------------|----------------------|----------------------|----------|
| | | | | | | 100 MHz | 250 MHz ⁺ | 500 MHz ⁺ | 1000 MHz |
| 2661480002 | 12.3±0.4 .485 | 4.95±0.25 .200 | 25.4±0.75 1.000 | 12 | .52 | ??? | ??? | ??? | ??? |
| 2661540202 | 14.3±0.45 .562 | 6.35±0.25 .250 | 13.8 - 0.7 .530 | 8.3 | .43 | 100 | 145 | 185 | 260 |
| 2661540002 | 14.3±0.45 .562 | 6.35±0.25 .250 | 28.6±0.75 1.125 | 17.7 | .43 | 205 | 295 | 370 | 350 |
| 2661801902 | 12.7±0.25 .500 | 7.9±0.25 .312 | 12.7± 0.4 .500 | 4.7 | .40 | 45 | 70 | 105 | 175 |
| 2661665802 | 17.45±0.4 .687 | 9.5±0.25 .375 | 12.7±0.5 .500 | 10.3 | .32 | 85 | 125 | 160 | 205 |
| 2661665702 | 17.45±0.4 .687 | 9.5±0.25 .375 | 28.6±0.75 1.125 | 23.1 | .32 | 190 | 280 | 360 | 450 |
| 2661626302 | 19.0 - 0.65 .735 | 10.15±0.25 .400 | 14.65 - 0.75 .562 | 13.3 | .29 | 90 | 135 | 180 | 235 |
| 2661626402 | 19.0 - 0.65 .735 | 10.15±0.25 .400 | 28.6±0.75 1.125 | 26.6 | .29 | 185 | 250 | 370 | 460 |
| 2661102402 | 25.9±0.75 1.020 | 12.8±0.25 .505 | 21.3±0.5 .840 | 41 | .22 | 125 | 200 | 310 | 550 |
| 2661102002 | 25.9±0.75 1.020 | 12.8±0.25 .505 | 28.6±0.8 1.125 | 55 | .22 | 190 | 300 | 380 | 400 |

* This dimension may be modified to suit specific applications.

⁺ Test frequency

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