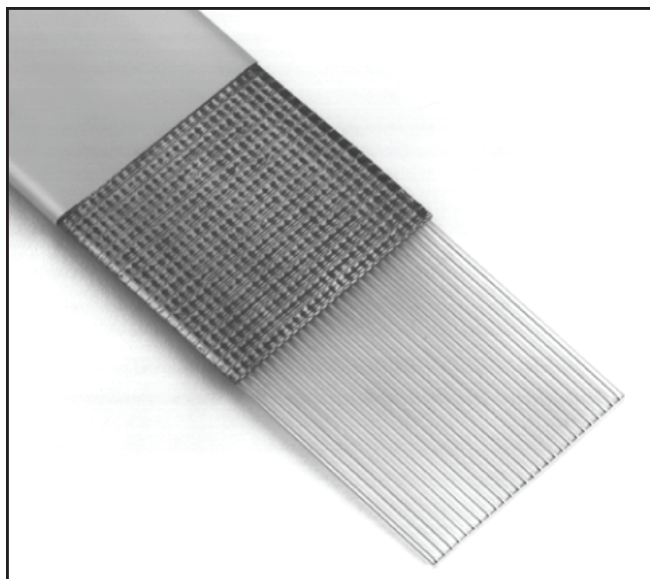


# 3M™ Pleated Foil Shielded Cable

.050" 28 AWG Stranded, TPE Primary, Thin TPE Cover

90204 Series



- Can be used with IDC mass termination connectors
- Can be used in applications requiring standard impedance of 100Ω balanced (differential)
- Perfect for board-to-board applications within electronic equipment, TPE covering prevents pleated copper foil from accidental shorting
- Solid pleated copper foil provides flexibility and 35 db average shielding effectiveness
- See Regulatory Information Appendix (RIA) for chemical compliance information (RIA E1 & C1 apply)

Date Modified: September 3, 2013

TS-0403-D  
Sheet 1 of 2

## Physical

**Cover Material:** Thermoplastic Elastomer (TPE) **Color:** Gray

**Primary Material:** Thermoplastic Elastomer (TPE) **Color:** Natural

**Marking Standard:** None

Canadian Option:  AWM 20674 105C 300V VW1 3M NU C  AWM IA 105C 150V FT1 EU <50V

**Conductors:** 28 AWG, 7 × 36 AWG [ 7 × Ø 0.127 ] Tinned Stranded Copper

**Shielding:** Solid, Pleated, Copper Foil

## Electrical

**Voltage Rating:** USA: 300V Canada: 150V EU: <50V

**Insulation Resistance:** (Primary Cable)  $> 1 \times 10^{10} \Omega/10 \text{ ft.}$  [ 3 m ]

| <b>Characteristic Impedance:</b> | <b>Unbalanced</b> | <b>Balanced</b> |
|----------------------------------|-------------------|-----------------|
|                                  | 53 Ω              | 110 Ω           |

|                     |                          |                          |
|---------------------|--------------------------|--------------------------|
| <b>Capacitance:</b> | 28.1 pF/ft [ 92.2 pF/m ] | 13.4 pF/ft [ 44.0 pF/m ] |
|---------------------|--------------------------|--------------------------|

|                    |                          |                          |
|--------------------|--------------------------|--------------------------|
| <b>Inductance:</b> | 0.08 μH/ft [ 0.26 μH/m ] | 0.16 μH/ft [ 0.54 μH/m ] |
|--------------------|--------------------------|--------------------------|

|                           |                          |                          |
|---------------------------|--------------------------|--------------------------|
| <b>Propagation Delay:</b> | 1.49 ns/ft [ 4.89 ns/m ] | 1.48 ns/ft [ 4.86 ns/m ] |
|---------------------------|--------------------------|--------------------------|

|                                 |     |     |
|---------------------------------|-----|-----|
| <b>Velocity of Propagation:</b> | 68% | 69% |
|---------------------------------|-----|-----|

Note: Unbalanced is measured between ground-signal-ground conductors, with shield grounded. Balanced is measured between signal conductors within a pair, with the shield floating.

## Environmental

**Temperature Rating:** -20°C to +105°C

**Flammability Rating:** USA: VW-1 Canada: FT1

UL File No.: E42769, Style No.: 20674

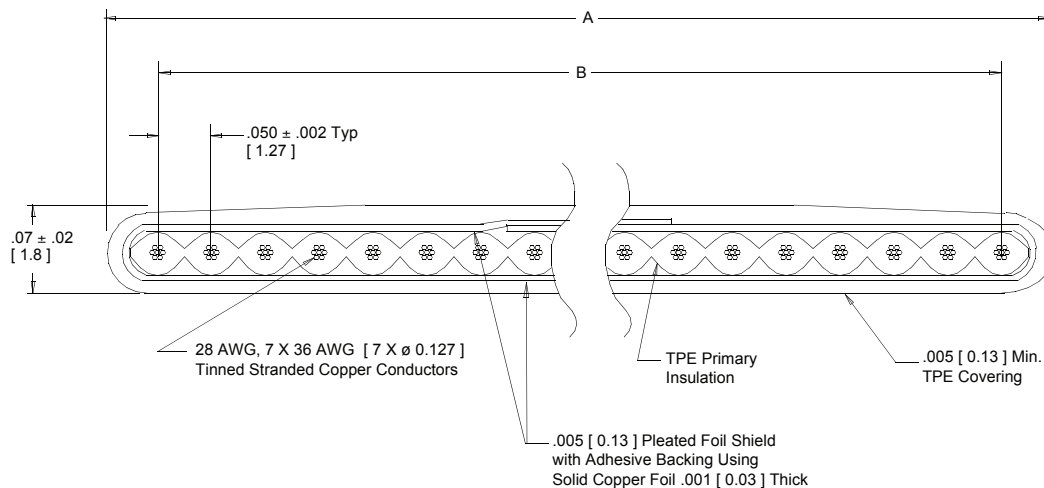
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90204 Series



| Number of Conductors | 3M Part Number | Dimension A   | Dimension B            |
|----------------------|----------------|---------------|------------------------|
| 15                   | 90204/15       | 0.79 [ 20.1 ] | 0.700 ± .007 [ 17.78 ] |
| 20                   | 90204/20       | 1.04 [ 26.5 ] | 0.950 ± .011 [ 24.13 ] |
| 25                   | 90204/25       | 1.29 [ 32.8 ] | 1.200 ± .011 [ 30.48 ] |
| 26                   | 90204/26       | 1.34 [ 34.1 ] | 1.250 ± .011 [ 31.75 ] |
| 34                   | 90204/34       | 1.74 [ 44.3 ] | 1.650 ± .015 [ 41.91 ] |
| 37                   | 90204/37       | 1.89 [ 48.1 ] | 1.800 ± .015 [ 45.72 ] |
| 40                   | 90204/40       | 2.04 [ 51.9 ] | 1.950 ± .015 [ 49.53 ] |
| 50                   | 90204/50       | 2.54 [ 64.6 ] | 2.450 ± .015 [ 62.23 ] |
| 60                   | 90204/60       | 3.04 [ 77.3 ] | 2.950 ± .015 [ 74.93 ] |
| 64                   | 90204/64       | 3.24 [ 82.4 ] | 3.150 ± .015 [ 80.01 ] |



Inch  
[mm]

| Tolerance Unless Noted |     |      |       |
|------------------------|-----|------|-------|
|                        | .0  | .00  | .000  |
| Inch                   | ±.1 | ±.05 | ±.010 |

Note: Blue marking on edge of primary cable designates wire #1.

[ ] Dimensions for Reference Only

## Ordering Information

90204/XX XX

Blank = Standard  
C = Canadian Certified Version

Number of Conductors  
(See Table)

Blank = Standard  
SF = Splice Free

Note: Available in standard 100 ft rolls. Contact 3M for availability of additional conductor counts and/or custom roll lengths.

TS-0403-D  
Sheet 2 of 2

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RIA-2217B-F

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