

# Mil-DTL-27500

All Mil-DTL-27500 cables are designated by a seven digit code that indicates the exact construction of each cable.



Please note the following example.

M27500 - 22 SB 2 T 23

|   |   |   |   |   |   |   |
|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|

1. Military Specification- M27500 is used to designate Mil-DTL-27500.
2. Shield Coverage and Color Identification- a slash followed by a dash (-) or letter code indicates both shielding coverage and the method of color identification of primary core insulation as detailed in **Table A**. The example indicates 85% and white primaries with colored stripes.
3. Conductor Size- This position identifies the wire AWG. Judd Wire can manufacture cables utilizing wire AWG's of 30-2/0, depending on Basic Wire Specification.
4. Basic Wire Specification- The component wires are identified by a two letter code. Cables utilizing Judd Wire's components are detailed in **Table B**.
5. Number of Conductors- M27500 currently specifies from 1 to 15 conductors for shielded and jacketed cables, and from 2 to 15 for unshielded unjacketed or unshielded jacketed cables.
6. Shield- The specific shield style and material are designated by a single letter code. Detailed in **Table C**.
7. Jacket- Cable jacketing materials are specified with a two digit code. Detailed in **Table D**.

The materials listed in the tables presented here are not meant to be the complete listing of wires, shields, or jackets available within Mil-DTL-27500. They represent wire styles manufactured by Judd Wire and the recommended shields and jackets that correspond to those wire styles. For a complete listing of the materials and requirements of Mil-DTL-27500 you must consult that document.

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## Table A Identification Codes

| Identification method of cable (with 85% shield coverage) | Optional identification method (with 90% shield coverage) | Statement taken from Mil-DTL-27500                | Judd Wire description of the requirement from Mil-DTL-27500  |
|---|---|---|--|
| -   | C   | Preferred identification method using Table III A | All wires are colored white with spiral stripes for identification.  |
| F   | H   | Preferred identification method using Table III B | All wires are colored white with spiral stripes for identification, but a different stripe color sequence is used. |

|   |   |   |  |
|---|---|---|--|
| A | D | Optional identification method A, Table III A | All solid colors are used instead of white striped wires.  |
| G | J | Optional identification method A, Table III B | All solid colors are used instead of white striped wires, but a different color sequence is used.  |
| B | E | Optional identification method A, Table III C | All wires are the same solid color determined by the Table to denote the AWG. Color bands are added for individual conductor identification. |
| K | M | Optional identification method C              | All wires are the same solid color determined by the Table to denote the AWG. Numbers are added for individual conductor identification.     |
| L | N | Optional identification method D              | All wires are white and numbers are added for individual conductor identification.   |
| P | R | Optional identification method E              | All wires are white with the same color spiral stripe added to denote AWG. Color bands are added for individual conductor identification.    |
| S | T | Optional identification method F              | All wires are white with color bands added for individual conductor identification.  |

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## Table B

### Letter Code Base Description

| Base Specification | Material Available | Description   | Wire AWG |
|--------------------|--------------------|---|----------|
| SB                 | Mil-W-22759/32     | Single Insulation, Tin Coated Copper                        | 30-12    |
| SC                 | Mil-W-22759/33     | Single Insulation, Silver Coated High Strength Copper Alloy | 30-20    |
| SD                 | Mil-W-22759/34     | Dual Insulation, Tin Coated Copper                          | 24-2/0   |
| SE                 | Mil-W-22759/35     | Dual Insulation, Silver Coated High Strength Copper Alloy   | 26-20    |
| SM                 | Mil-W-22759/41     | Dual Insulation, Nickel Coated Copper                       | 26-2/0   |
| SN                 | Mil-W-22759/42     | Dual Insulation, Nickel Coated High Strength Copper Alloy   | 26-20    |
| SP                 | Mil-W-22759/43     | Dual Insulation, Silver Coated Copper                       | 26-2/0   |
| SR                 | Mil-W-22759/44     | Single Insulation, Silver Coated Copper                     | 28-12    |
| SS                 | Mil-W-22759/45     | Single Insulation, Nickel Coated Copper                     | 28-12    |

|    |                  |   |       |
|----|------------------|---|-------|
| ST | Mil-W-22759/46   | Single Insulation, Nickel Coated High Strength Copper Alloy   | 28-20 |
| WB | Mil-DTL-22759/80 | Composite Insulation (Light weight), Tin Coated Copper  | 26-14 |
| WC | Mil-DTL-22759/81 | Composite Insulation (Light weight), Silver Coated High Strength or Ultra High Strength Copper Alloy  | 26-20 |
| WE | Mil-DTL-22759/82 | Composite Insulation (Light weight), Nickel Coated High Strength or Ultra High Strength Copper Alloy  | 26-20 |
| WJ | Mil-DTL-22759/86 | Composite Insulation (Normal weight), Silver Coated Copper  | 26-14 |
| WK | Mil-DTL-22759/87 | Composite Insulation (Normal weight), Nickel Coated Copper  | 26-14 |
| WL | Mil-DTL-22759/88 | Composite Insulation (Normal weight), Tin Coated Copper   | 26-14 |
| WM | Mil-DTL-22759/89 | Composite Insulation (Normal weight), Silver Coated High Strength or Ultra High Strength Copper Alloy | 26-20 |
| WN | Mil-DTL-22759/90 | Composite Insulation (Normal weight), Nickel Coated High Strength or Ultra High Strength Copper Alloy | 26-20 |
| WP | Mil-DTL-22759/91 | Composite Insulation (Light weight), Silver Coated Copper   | 26-14 |
| WR | Mil-DTL-22759/92 | Composite Insulation (Light weight), Nickel Coated Copper   | 26-14 |

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**Table C**  
**Shield Letter Code**

| Single Shield | Double Shield | Description                                     |
|---------------|---------------|---|
| U             | -             | No Shield                                       |
| T             | V             | Round, Tin Coated Copper                        |
| S             | W             | Round, Silver Coated Copper                     |
| N             | Y             | Round, Nickel Coated Copper                     |
| M             | K             | Round, Silver Coated High Strength Copper Alloy |
| P             | L             | Round, Nickel Coated High Strength Copper Alloy |
| G             | A             | Flat, Silver Coated Copper                      |
| H             | B             | Flat, Silver Coated High Strength Copper Alloy  |
| *             | #             | Flat, Nickel Coated Copper                      |
| J             | D             | Flat, Tin Coated Copper                         |

**Table D**  
**Jacket Letter Code**

| Single Jacket | Double Jacket | Description   | Temp. Rating  |
|---------------|---------------|---|---------------|
| 00            | 00            | No Jacket   | -             |
| 06            | 56            | Extruded or taped and heat sealed white polytetrafluoroethylene (PTFE)                  | 260°C (500°F) |
| 09            | 59            | Extruded white fluorinated ethylene propylene (FEP)                                     | 260°C (500°F) |
| 14            | 64            | Extruded white, Ethylene-tetrafluoroethylene Copolymer (ETFE)                           | 150°C (302°F) |
| 23            | 73            | White, crosslinked, extruded, modified, Ethylene-Tetrafluoroethylene Copolymer (XLETFE) | 200°C (392°F) |

|   |   |  |    |    |  |                  |
|---|---|--|----|----|--|------------------|
| E | X | Flat, Nickel Coated High Strength Copper Alloy | 24 | 74 | Tape layer of white polytetrafluoroethylene (PTFE) wrapped over a tape layer of natural polyimide combined with FEP and heat sealed. | 260°C<br>(500°F) |
|---|---|--|----|----|--|------------------|

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