INCH-POUND

MS20668G
w/Amendment 1
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SUPERSEDING
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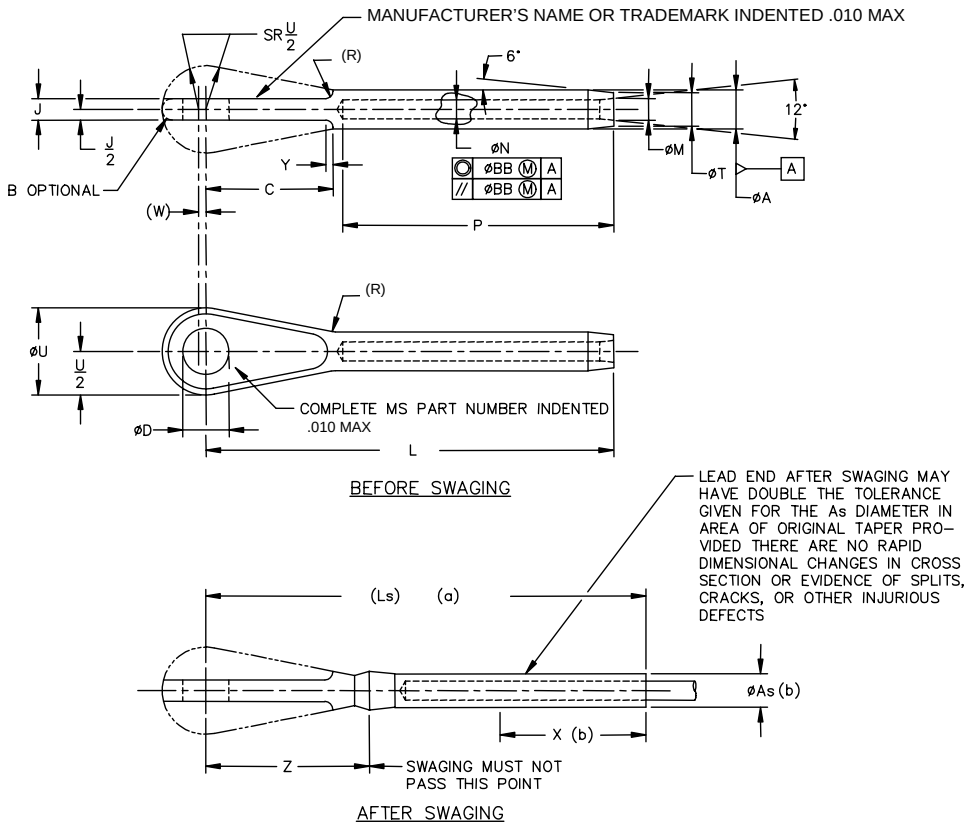
5 November 2001

DETAIL SPECIFICATION SHEET

# TERMINAL, WIRE ROPE, SWAGING, EYE END

This specification sheet is approved for use by all Departments and Agencies of the Department of Defense.

The requirements for acquiring the product described herein shall consist of this specification sheet, MIL-DTL-781, and QPL-781.




NOTES: (a) Reference dimensions are for design purposes only and are not an inspection requirement.
(b) Swaged terminals shall conform to ∅As for length X.

FIGURE 1. Terminal, wire rope, swaging, eye end.

TABLE I. Dash numbers and dimensions.

| Dash number | Wire rope diameter | | Minimum breaking strength lb 1/ | ØA | | ØAs | | B radius | C ±.020 |
|---|---|---|---|---|---|---|---|---|---|
| | Nominal reference | Minimum | | | | | | | |
| -2 | 1/16 | 0.062 | 480 | 0.160 | +0.000 -0.005 | 0.138 | +0.000 -0.005 | 0.062 | 0.523 |
| -3 | 3/32 | 0.093 | 920 | 0.218 | | 0.190 | | 0.078 | 0.707 |
| -4 | 1/8 | 0.125 | 2,000 | 0.250 | | 0.219 | | 0.125 | 0.738 |
| -5 | 5/32 | 0.156 | 2,800 | 0.297 | | 0.250 | | 0.140 | 0.831 |
| -6 | 3/16 | 0.187 | 4,200 | 0.359 | | 0.313 | | 0.171 | 0.903 |
| -7 | 7/32 | 0.218 | 5,600 | 0.427 | | 0.375 | +0.000 -0.007 | 0.187 | 1.007 |
| -8 | 1/4 | 0.250 | 7,000 | 0.494 | | 0.438 | | 0.203 | 1.133 |
| -9 | 9/32 | 0.281 | 8,000 | 0.563 | | 0.500 | +0.000 -0.008 | | 1.257 |
| -10 | 5/16 | 0.312 | 9,800 | 0.635 | | 0.563 | | 0.218 | 1.373 |
| -12 | 3/8 | 0.375 | 14,400 | 0.703 | +0.000 -0.005 | 0.625 | | 0.255 | 1.688 |
| -14 | 7/16 | 0.437 | 17,600 | 0.781 | | 0.688 | | 0.275 | 1.968 |
| -16 | 1/2 | 0.500 | 22,800 | 0.844 | | 0.750 | +0.000 -0.009 | 0.295 | 2.115 |
| -18 | 9/16 | 0.562 | 28,500 | 0.984 | | 0.875 | | 0.310 | 2.625 |
| -20 | 5/8 | 0.625 | 35,000 | 1.109 | | 1.000 | +0.000 -0.010 | 0.321 | 3.062 |
| -24 | 3/4 | 0.750 | 49,600 | 1.359 | | 1.250 | +0.000 -0.012 | 0.345 | 3.093 |
| -28 | 7/8 | 0.875 | 66,500 | 1.593 | +0.000 -0.010 | 1.437 | | 0.360 | 3.515 |
| -32 | 1 | 1.000 | 85,400 | 1.812 | | 1.625 | | 0.375 | 3.937 |

1/ To achieve the minimum breaking strength, for the terminal test only, a galvanized carbon steel wire rope shall be used.

TABLE I. Dash numbers and dimensions - Continued.

| Dash number | ØD | | J | | L +0.020 -0.000 | Ls reference | ØM | |
|---|---|---|---|---|---|---|---|---|
| -2 | 0.190 | +0.002 -0.000 | 0.088 | +0.000 -0.005 | 1.631 | 1.809 | 0.090 | +0.010 -0.000 |
| -3 | | | 0.103 | | 2.043 | 2.160 | 0.119 | |
| -4 | | | 0.190 | | 2.337 | 2.593 | 0.154 | |
| -5 | 0.250 | | 0.197 | | 2.684 | 3.029 | 0.188 | |
| -6 | 0.313 | | 0.255 | | 3.019 | 3.187 | 0.223 | |
| -7 | | | 0.291 | | 3.382 | 3.678 | 0.257 | |
| -8 | 0.375 | | 0.307 | | 3.763 | 4.062 | 0.291 | |
| -9 | 0.438 | | 0.322 | | 4.153 | 4.512 | 0.326 | |
| -10 | | | 0.343 | | 4.546 | 4.969 | 0.360 | |
| -12 | 0.500 | +0.005 -0.000 | 0.375 | +0.000 -0.015 | 5.562 | 5.968 | 0.430 | +0.012 -0.000 |
| -14 | 0.562 | | | | 6.398 | 6.867 | 0.514 | |
| -16 | 0.625 | | 0.468 | | 7.323 | 7.886 | 0.584 | |
| -18 | 0.750 | | 0.562 | | 8.185 | 8.778 | 0.653 | |
| -20 | 0.875 | | 0.657 | | 9.167 | 9.854 | 0.722 | |
| -24 | | | | | 10.328 | 10.900 | 0.860 | +0.015 -0.000 |
| -28 | 1.000 | | 0.750 | | 11.530 | 12.290 | 1.013 | |
| -32 | 1.125 | | 0.844 | | 13.156 | 14.062 | 1.151 | |

TABLE I. Dash numbers and dimensions - Continued.

| Dash number | ØN | | P | | R radius reference | ØT | |
|---|---|---|---|---|---|---|---|
| -2 | 0.078 | +0.005 -0.000 | 1.042 | +0.031 -0.000 | 0.088 | 0.136 | +0.000 -0.005 |
| -3 | 0.109 | | 1.261 | | 0.103 | 0.190 | |
| -4 | 0.141 | | 1.511 | | 0.190 | 0.219 | |
| -5 | 0.172 | | 1.761 | | 0.197 | 0.250 | |
| -6 | 0.203 | | 2.011 | | 0.255 | 0.313 | |
| -7 | 0.234 | | 2.261 | | 0.291 | 0.375 | +0.000 -0.007 |
| -8 | 0.265 | | 2.511 | | 0.307 | 0.438 | |
| -9 | 0.297 | | 2.761 | | 0.322 | 0.500 | +0.000 -0.008 |
| -10 | 0.328 | | 3.011 | | 0.343 | 0.563 | |
| -12 | 0.390 | +0.008 -0.000 | 3.511 | +0.047 -0.000 | 0.375 | 0.625 | |
| -14 | 0.468 | | 4.011 | | | 0.688 | |
| -16 | 0.531 | +0.009 -0.000 | 4.698 | | 0.468 | 0.750 | +0.000 -0.009 |
| -18 | 0.594 | | 5.011 | | 0.562 | 0.875 | |
| -20 | 0.656 | +0.010 -0.000 | 5.511 | +0.062 -0.000 | 0.657 | 1.000 | +0.000 -0.010 |
| -24 | 0.781 | +0.012 -0.000 | 6.511 | | | 1.250 | +0.000 -0.012 |
| -28 | 0.921 | | 7.166 | | 0.750 | 1.437 | |
| -32 | 1.046 | | 8.229 | | 0.844 | 1.625 | |

TABLE I. Dash numbers and dimensions - Continued.

| Dash number | ØU +0.025 -0.010 | W Reference | X Minimum | Y | Z | ØBB (FIM) |
|---|---|---|---|---|---|---|
| -2 | 0.359 | 0.031 | 0.70 | 0.072 | 0.662 | 0.016 |
| -3 | 0.438 | | 0.80 | 0.092 | 0.856 | |
| -4 | 0.500 | | 1.05 | 0.103 | 0.900 | |
| -5 | 0.640 | | 1.29 | 0.131 | 0.997 | |
| -6 | 0.781 | 0.047 | 1.31 | 0.155 | 1.082 | |
| -7 | 0.813 | | 1.55 | 0.187 | 1.195 | |
| -8 | 0.968 | | 1.70 | 0.221 | 1.326 | |
| -9 | 1.109 | 0.063 | 1.89 | 0.251 | 1.465 | |
| -10 | 1.218 | | 2.06 | 0.281 | 1.609 | |
| -12 | 1.500 | | 3.12 | 0.320 | 2.124 | 0.020 |
| -14 | 1.750 | | 3.57 | 0.350 | 2.460 | |
| -16 | 1.875 | | 4.31 | 0.406 | 2.698 | |
| -18 | 2.340 | | 4.51 | 0.450 | 3.247 | |
| -20 | 2.730 | | 5.04 | 0.515 | 3.729 | 0.030 |
| -24 | 2.750 | 0.093 | 5.80 | 0.600 | 3.890 | |
| -28 | 3.125 | | 6.31 | 0.675 | 4.437 | 0.040 |
| -32 | 3.510 | | 7.26 | 0.775 | 5.000 | |

REQUIREMENTS:

1. Material: Material shall be in accordance with MIL-DTL-781.

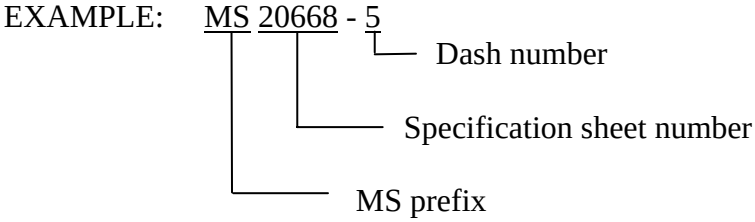
2. Finish: Finish shall be in accordance with MIL-DTL-781.

3. Swage: Swage shall be in accordance with MIL-DTL-6117.

4. Tolerances: Unless otherwise specified, tolerances: decimals ± 0.010, angles ± 3°.

NOTES:

1. The part or identifying number (PIN) consists of the letters MS, the specification sheet number, and a dash number taken from table I.




2. Dimensions are in inches.

3. Remove burrs and sharp edges. (See MIL-DTL-781.)

4. Interpret drawing in accordance with ASME Y14.5M.

5. In the event of a conflict between the text of this document and the references cited herein, the text of this document takes precedence.

6. Unless otherwise specified, issues of referenced documents are those in effect at the time of solicitation.

7. Corrosion resistant steel parts can universally replace carbon and alloy steel parts as shown in table II. Carbon and alloy steel parts are inactive for new design and cannot be substituted for corrosion resistant steel parts.

TABLE II. Substitution table.

| MS PART NUMBERS | |
|---|---|
| Corrosion resistant steel | Carbon steel, cadmium plated |
| MS20668-2 | MS20668F2 |
| MS20668-3 | MS20668F3 |
| MS20668-4 | MS20668F4 |
| MS20668-5 | MS20668F5 |
| MS20668-6 | MS20668F6 |
| MS20668-7 | MS20668F7 |
| MS20668-8 | MS20668F8 |
| MS20668-9 | MS20668F9 |
| MS20668-10 | MS20668F10 |
| MS20668-12 | MS20668F12 |
| MS20668-14 | MS20668F14 |
| MS20668-16 | MS20668F16 |

TABLE II. Substitution table - Continued.

| MS PART NUMBERS | |
|---|---|
| MS20668-18 | MS20668F18 |
| MS20668-20 | MS20668F20 |
| MS20668-24 | MS20668F24 |
| MS20668-28 | MS20668F28 |
| MS20668-32 | MS20668F32 |

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