

Mechtrix Technical Data

Introduction to Mechtrix - Who We Are

Wire Sizing Information

Mechtrix Corporation is the worldwide leader in the design and manufacturing of cutting and stripping blades for the electrical wire processing industry. We are proud to be an ISO 9001:2000 Registered Company with the ability to provide our customers with complete part traceability for automotive and medical applications.

Since 1982 Mechtrix has been a one-stop shopping center for both standard and custom tooling for virtually all brands and makes of electrical wire processing machines. Our engineering expertise allows us to provide tooling solutions for all brands of wire processing equipment across all of a customer's processing equipment. With more than 17 U.S. Patents for electrical wire processing technology we are confident that we can help to improve your companies electrical wire processing effectiveness while reducing your overall tooling costs.



Mechtrix currently offers over 25,000 different cutting and stripping blades and we are adding more every day. This catalog details many but not all of the standard tools manufactured by Mechtrix. If you require a tool not listed please contact us for a more comprehensive search of our in-house tooling database.

All Mechtrix cutting and stripping blades are made of either specially alloyed tool steel or tungsten carbide to our own exacting standards. Additionally, all of the blades in this catalog are available with Titanium Nitride Coating (TiN). To order blades with the (TiN) Coating simply add the suffix -CT1 to the part number in the catalog.

If you have a custom, special or even a standard application you would like us to quote on, please send us approximately 3' (1m) of your wire or cable along with the finished end configuration and the machine make and model you want to use to process the wire. We will prepare a free detailed Wire Data Report with an analysis of your application along with a complete tooling list including pricing and delivery.

The following page is an example of a Mechtrix Wire Data Report. These reports are a valuable tool for quoting new jobs or when troubleshooting production problems. Our in-house database allows us to verify your wire and cable's characteristics and dimensional information to insure that the product has not changed over time.

Rev. 02/08/06



Mechtrix Corporation • W147 N9461 Held Drive • Menomonee Falls, WI 53051
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Mechtrix Wire Data Reports[®]

Wire Sizing
Information

Mechtrix Wire Data Reports detail the dimensional characteristics of our customer's wire or cable samples along with recommended tooling, part numbers and pricing. Mechtrix Wire Data Reports are provided free of charge and are a great way to document the required tooling for a specific job or wire.

Wire Data Report 12536

Company Name: Your Company
123 Easy Street

Anytown, USA, 99999
Phone: (555) 555-5555
FAX: (555) 555-5555

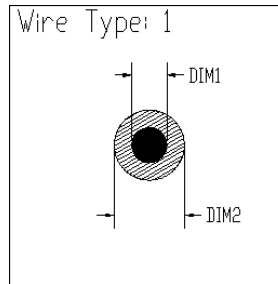
Company Contact: John Doe



Sales Contact : Bill DeGrace
Wire Sized By : CTJ
Date Filed : 2/21/05 1:03 PM
Date Revised : 2/21/05 1:06 PM

Wire Cross Sectional Dimensions

Wire Type : 1
No. of Strands : 26
Insulation Type : (WHITE)PVC
Gauge Size : 16
Strand Diameter : .01
No. of Conductors : 1
Customer Wire # :
Machine Type : KOMAX 40



Dimension 1: 0.0635
Dimension 2: 0.0900
Dimension 3:
Dimension 4:
Dimension 5:
Dimension 6:

Recommended Tooling

| Qty | Description | Part Number | Price Each |
|-----|-----------------------------|-------------|------------|
| 4 | KD-1.9 (003052) STRIP BLADE | 02348 | \$8.50 |
| 2 | KDG-2.3 (003152) WIRE GUIDE | 02577 | \$8.50 |
| 2 | KDC-2.0MM CUT-OFF BLADE | 11141 | \$8.50 |

Notes:

Jacket OD Range: 0.086 - 0.090

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Wire Sizing
Information

Standard AWG Wire Gage Stranding Combinations

| AWG | Wire Stranding | | Conductor Diameter | |
|-----|----------------|----------|--------------------|------|
| | No. | Diameter | Inch | mm |
| 36 | 1 | 0.0050 | 0.0050 | 0.13 |
| | 7 | 0.0020 | 0.0060 | 0.15 |
| 34 | 1 | 0.0063 | 0.0063 | 0.16 |
| | 7 | 0.0025 | 0.0075 | 0.19 |
| 32 | 1 | 0.0080 | 0.0080 | 0.20 |
| | 7 | 0.0031 | 0.0094 | 0.24 |
| | 19 | 0.0020 | 0.0099 | 0.25 |
| 30 | 1 | 0.0100 | 0.0100 | 0.25 |
| | 7 | 0.0040 | 0.0120 | 0.30 |
| | 19 | 0.0025 | 0.0120 | 0.30 |
| | 26 | 0.0020 | 0.0117 | 0.30 |
| 28 | 1 | 0.0126 | 0.0126 | 0.32 |
| | 7 | 0.0050 | 0.0152 | 0.39 |
| | 19 | 0.0031 | 0.0155 | 0.39 |
| 26 | 1 | 0.0159 | 0.0159 | 0.40 |
| | 3 | 0.0100 | 0.0215 | 0.55 |
| | 6 | 0.0063 | 0.0178 | 0.45 |
| | 7 | 0.0063 | 0.0192 | 0.49 |
| | 8 | 0.0056 | 0.0182 | 0.46 |
| | 10 | 0.0050 | 0.0182 | 0.46 |
| | 16 | 0.0040 | 0.0184 | 0.47 |
| | 18 | 0.0039 | 0.0190 | 0.48 |
| | 19 | 0.0040 | 0.0200 | 0.51 |
| | 26 | 0.0031 | 0.0182 | 0.46 |
| 24 | 72 | 0.0020 | 0.0195 | 0.50 |
| | 1 | 0.0201 | 0.0201 | 0.51 |
| | 4 | 0.0100 | 0.0241 | 0.61 |
| | 7 | 0.0080 | 0.0240 | 0.61 |
| | 8 | 0.0071 | 0.0231 | 0.59 |
| | 10 | 0.0063 | 0.0230 | 0.58 |
| | 13 | 0.0056 | 0.0232 | 0.59 |
| | 16 | 0.0050 | 0.0230 | 0.58 |
| | 19 | 0.0050 | 0.0240 | 0.61 |
| | 41 | 0.0031 | 0.0240 | 0.61 |
| 22 | 102 | 0.0020 | 0.0232 | 0.59 |
| | 1 | 0.0253 | 0.0253 | 0.64 |
| | 7 | 0.0100 | 0.0304 | 0.77 |
| | 8 | 0.0089 | 0.0289 | 0.73 |
| | 10 | 0.0080 | 0.0291 | 0.74 |
| | 16 | 0.0063 | 0.0290 | 0.74 |
| | 19 | 0.0063 | 0.0316 | 0.80 |
| 26 | 0.0050 | 0.0293 | 0.74 | |

| AWG | Wire Stranding | | Conductor Diameter | |
|-----|----------------|----------|--------------------|--------|
| | No. | Diameter | Inch | mm |
| 20 | 1 | 0.0315 | 0.0315 | 0.80 |
| | 7 | 0.0126 | 0.0383 | 0.97 |
| | 10 | 0.0100 | 0.0364 | 0.92 |
| | 16 | 0.0080 | 0.0368 | 0.93 |
| | 19 | 0.0079 | 0.0396 | 1.01 |
| | 20 | 0.0071 | 0.0365 | 0.93 |
| | 26 | 0.0063 | 0.0369 | 0.94 |
| | 41 | 0.0050 | 0.0370 | 0.94 |
| | 105 | 0.0032 | 0.0400 | 1.02 |
| | 18 | 1 | 0.0403 | 0.0403 |
| 7 | | 0.0153 | 0.0465 | 1.18 |
| 16 | | 0.0100 | 0.0460 | 1.17 |
| 19 | | 0.0092 | 0.0461 | 1.17 |
| 41 | | 0.0063 | 0.0464 | 1.18 |
| 65 | | 0.0050 | 0.0464 | 1.18 |
| 16 | 168 | 0.0032 | 0.0520 | 1.32 |
| | 1 | 0.0508 | 0.0508 | 1.29 |
| | 7 | 0.0201 | 0.0608 | 1.54 |
| | 16 | 0.0126 | 0.0580 | 1.47 |
| | 19 | 0.0113 | 0.0566 | 1.44 |
| | 26 | 0.0100 | 0.0586 | 1.49 |
| | 50 | 0.0071 | 0.0577 | 1.47 |
| | 65 | 0.0063 | 0.0584 | 1.48 |
| | 105 | 0.0050 | 0.0589 | 1.50 |
| | 14 | 1 | 0.0641 | 0.0641 |
| 7 | | 0.0242 | 0.0736 | 1.87 |
| 19 | | 0.0147 | 0.0736 | 1.87 |
| 26 | | 0.0126 | 0.0738 | 1.87 |
| 37 | | 0.0105 | 0.0734 | 1.86 |
| 41 | | 0.0100 | 0.0736 | 1.87 |
| 84 | | 0.0071 | 0.0748 | 1.90 |
| 12 | 105 | 0.0063 | 0.0742 | 1.88 |
| | 1 | 0.0808 | 0.0808 | 2.05 |
| | 7 | 0.0305 | 0.0927 | 2.35 |
| | 19 | 0.0185 | 0.0927 | 2.35 |
| | 37 | 0.0133 | 0.0930 | 2.36 |
| | 41 | 0.0126 | 0.0927 | 2.35 |
| | 65 | 0.0100 | 0.0927 | 2.35 |
| | 84 | 0.0089 | 0.0938 | 2.38 |
| 165 | 0.0063 | 0.0950 | 2.41 | |

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Wire Sizing
Information

Standard AWG Wire Gage Stranding Combinations

| AWG | Wire Stranding | | Conductor Diameter | |
|-----|----------------|----------|--------------------|--------|
| | No. | Diameter | Inch | mm |
| 10 | 1 | 0.1087 | 0.1087 | 2.76 |
| | 7 | 0.0385 | 0.1170 | 2.97 |
| | 19 | 0.0234 | 0.1172 | 2.98 |
| | 37 | 0.0167 | 0.1167 | 2.96 |
| | 41 | 0.0159 | 0.1170 | 2.97 |
| | 49 | 0.0142 | 0.1200 | 3.05 |
| | 65 | 0.0126 | 0.1168 | 2.97 |
| | 84 | 0.0118 | 0.1244 | 3.16 |
| | 105 | 0.0100 | 0.1178 | 2.99 |
| | 8 | 1 | 0.1285 | 0.1285 |
| 7 | | 0.0486 | 0.1477 | 3.75 |
| 13 | | 0.0320 | 0.1327 | 3.37 |
| 19 | | 0.0295 | 0.1478 | 3.75 |
| 37 | | 0.0211 | 0.1475 | 3.75 |
| 49 | | 0.0184 | 0.1481 | 3.76 |
| 50 | | 0.0177 | 0.1439 | 3.66 |
| 54 | | 0.0179 | 0.1506 | 3.83 |
| 84 | | 0.0142 | 0.1490 | 3.78 |
| 133 | | 0.0113 | 0.1670 | 4.24 |
| 6 | 168 | 0.0100 | 0.1740 | 4.42 |
| | 420 | 0.0063 | 0.1620 | 4.11 |
| | 1 | 0.1620 | 0.1620 | 4.11 |
| | 7 | 0.0612 | 0.1860 | 4.72 |
| | 19 | 0.0372 | 0.1864 | 4.73 |
| | 37 | 0.0266 | 0.1859 | 4.72 |
| | 133 | 0.0142 | 0.2100 | 5.33 |
| 4 | 266 | 0.0100 | 0.2040 | 5.18 |
| | 665 | 0.0063 | 0.2150 | 5.46 |
| | 1 | 0.2040 | 0.2040 | 5.18 |
| | 7 | 0.0772 | 0.2320 | 5.89 |
| | 19 | 0.0469 | 0.2350 | 5.97 |
| | 33 | 0.0336 | 0.2218 | 5.63 |
| 2 | 133 | 0.0179 | 0.2570 | 6.53 |
| | 420 | 0.0100 | 0.2570 | 6.53 |
| | 1064 | 0.0063 | 0.2690 | 6.83 |
| | 1 | 0.2570 | 0.2570 | 6.53 |
| | 7 | 0.0904 | 0.2748 | 6.98 |
| | 19 | 0.0590 | 0.2956 | 7.51 |
| | 37 | 0.0424 | 0.2964 | 7.53 |
| 1 | 133 | 0.0223 | 0.3290 | 8.36 |
| | 665 | 0.0100 | 0.3380 | 8.59 |
| | 1666 | 0.0063 | 0.3370 | 8.56 |
| | 19 | 0.0664 | 0.3320 | 8.43 |
| | 133 | 0.0251 | 0.3800 | 9.65 |
| 1 | 259 | 0.0180 | 0.3780 | 9.60 |
| | 836 | 0.0010 | 0.3650 | 9.27 |
| | 2107 | 0.0063 | 0.3760 | 9.55 |

| AWG | Wire Stranding | | Conductor Diameter | |
|------|----------------|----------|--------------------|--------|
| | No. | Diameter | Inch | mm |
| 1/0 | 7 | 0.1228 | 0.3690 | 9.37 |
| | 19 | 0.0745 | 0.3730 | 9.47 |
| | 37 | 0.0534 | 0.3700 | 9.40 |
| | 259 | 0.0201 | 0.4240 | 10.77 |
| | 1064 | 0.0010 | 0.4510 | 11.46 |
| | 2646 | 0.0063 | 0.4370 | 11.10 |
| | 2/0 | 7 | 0.1379 | 0.4140 |
| 19 | | 0.0837 | 0.4190 | 10.64 |
| 37 | | 0.0600 | 0.4200 | 10.67 |
| 259 | | 0.0227 | 0.4560 | 11.58 |
| 1330 | | 0.0100 | 0.4960 | 12.60 |
| 3/0 | 3325 | 0.0063 | 0.5340 | 13.56 |
| | 7 | 0.1548 | 0.4650 | 11.81 |
| | 19 | 0.0940 | 0.4700 | 11.94 |
| | 37 | 0.0673 | 0.4700 | 11.94 |
| | 259 | 0.0255 | 0.5360 | 13.61 |
| | 1666 | 0.0100 | 0.5330 | 13.54 |
| 4/0 | 4256 | 0.0063 | 0.6150 | 15.62 |
| | 7 | 0.1739 | 0.5220 | 13.26 |
| | 19 | 0.1055 | 0.5280 | 13.41 |
| | 37 | 0.0756 | 0.5290 | 13.44 |
| | 259 | 0.0286 | 0.6010 | 15.27 |
| | 427 | 0.0223 | 0.6020 | 15.29 |
| 4/0 | 2107 | 0.0100 | 0.6700 | 17.02 |
| | 5320 | 0.0063 | 0.6450 | 16.38 |



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Standard MCM Wire Gage Stranding Combinations

| MCM | Wire Stranding | | Conductor Diameter | |
|-----|----------------|----------|--------------------|-------|
| | No. | Diameter | Inch | mm |
| 250 | 19 | 0.1147 | 0.5750 | 14.61 |
| | 37 | 0.0822 | 0.5750 | 14.61 |
| 300 | 37 | 0.0900 | 0.6300 | 16.00 |
| 350 | 19 | 0.1357 | 0.6810 | 17.30 |
| | 37 | 0.0973 | 0.6810 | 17.30 |
| 400 | 37 | 0.1040 | 0.7280 | 18.50 |
| 500 | 19 | 0.1622 | 0.8130 | 20.65 |
| | 37 | 0.1162 | 0.8130 | 20.65 |
| | 61 | 0.0905 | 0.8140 | 20.68 |
| 600 | 61 | 0.0992 | 0.8930 | 22.68 |
| 700 | 61 | 0.1071 | 0.9640 | 24.49 |

| MCM | Wire Stranding | | Conductor Diameter | |
|------|----------------|----------|--------------------|-------|
| | No. | Diameter | Inch | mm |
| 750 | 61 | 0.1109 | 0.9980 | 25.35 |
| | 91 | 0.0908 | 0.9990 | 25.37 |
| 800 | 61 | 0.1145 | 1.0310 | 26.19 |
| | 91 | 0.0938 | 1.0320 | 26.21 |
| 1000 | 61 | 0.1280 | 1.1520 | 29.26 |
| | 91 | 0.1048 | 1.1530 | 29.29 |
| 1250 | 91 | 0.1172 | 1.2890 | 32.74 |
| | 127 | 0.0992 | 1.2900 | 32.77 |
| 1500 | 91 | 0.1284 | 1.4120 | 35.86 |
| | 127 | 0.1087 | 1.4130 | 35.89 |
| 2000 | 127 | 0.1255 | 1.6320 | 41.45 |

Standard mm² Wire Gage Stranding Combinations

| mm ² | Wire Stranding | | Conductor Diameter | |
|-----------------|----------------|----------|--------------------|------|
| | No. | Diameter | Inch | mm |
| 0.3 | 7 | 0.26 | 0.0307 | 0.78 |
| | 12 | 0.18 | 0.0283 | 0.72 |
| 0.5 | 1 | 0.81 | 0.0320 | 0.81 |
| | 7 | 0.32 | 0.0378 | 0.96 |
| | 20 | 0.18 | 0.0366 | 0.93 |
| 0.75 | 1 | 0.99 | 0.0390 | 0.99 |
| | 30 | 0.18 | 0.0449 | 1.14 |
| 0.85 | 11 | 0.32 | 0.0484 | 1.23 |
| | 34 | 0.18 | 0.0476 | 1.21 |
| 1.0 | 1 | 1.14 | 0.0450 | 1.14 |
| | 7 | 0.43 | 0.0510 | 1.30 |
| 1.25 | 16 | 0.32 | 0.0583 | 1.48 |
| | 50 | 0.18 | 0.0579 | 1.47 |
| 1.5 | 1 | 1.40 | 0.0550 | 1.40 |
| | 7 | 5.33 | 0.0630 | 1.60 |
| 2.0 | 26 | 0.32 | 0.0740 | 1.88 |
| | 79 | 0.18 | 0.0728 | 1.85 |
| 2.5 | 1 | 1.80 | 0.0710 | 1.80 |
| | 7 | 0.69 | 0.0810 | 2.06 |
| 3.0 | 41 | 0.32 | 0.0929 | 2.36 |
| 4.0 | 1 | 2.26 | 0.0890 | 2.26 |
| | 7 | 0.86 | 0.1020 | 2.59 |
| 5.0 | 65 | 0.32 | 0.1173 | 2.98 |
| 6.0 | 1 | 2.77 | 0.1090 | 2.77 |
| | 7 | 1.07 | 0.1260 | 3.21 |
| 8.0 | 50 | 0.45 | 0.1445 | 3.67 |
| 10 | 1 | 3.58 | 0.1410 | 3.58 |
| | 7 | 1.37 | 0.1620 | 4.12 |
| | 112 | 0.32 | 0.1654 | 4.20 |

| mm ² | Wire Stranding | | Conductor Diameter | |
|-----------------|----------------|----------|--------------------|-------|
| | No. | Diameter | Inch | mm |
| 15 | 84 | 0.45 | 0.1874 | 4.76 |
| | 98 | 0.45 | 0.2295 | 5.83 |
| | 168 | 0.32 | 0.2165 | 5.50 |
| | 171 | 0.32 | 0.2087 | 5.30 |
| 16 | 7 | 1.73 | 0.2040 | 5.18 |
| 20 | 19 | 0.32 | 0.2559 | 6.50 |
| | 126 | 0.45 | 0.2602 | 6.61 |
| | 245 | 0.32 | 0.2598 | 6.60 |
| 25 | 7 | 2.16 | 0.2550 | 6.48 |
| | 19 | 1.32 | 0.2600 | 6.60 |
| 30 | 189 | 0.45 | 0.3189 | 8.10 |
| | 361 | 0.32 | 0.3071 | 7.80 |
| 35 | 7 | 2.54 | 0.3000 | 7.62 |
| | 19 | 1.55 | 0.3050 | 7.75 |
| 50 | 19 | 1.85 | 0.3650 | 9.27 |
| 70 | 19 | 2.18 | 0.4300 | 10.90 |
| 95 | 19 | 2.57 | 0.5050 | 12.80 |
| | 37 | 1.83 | 0.5040 | 12.80 |
| 120 | 37 | 2.06 | 0.5670 | 14.40 |
| 150 | 37 | 2.29 | 0.6300 | 16.00 |
| 185 | 37 | 2.54 | 0.7000 | 17.80 |
| 240 | 37 | 2.90 | 0.7980 | 20.30 |
| | 61 | 2.26 | 0.8010 | 20.30 |
| 300 | 61 | 2.51 | 0.8910 | 22.60 |
| 400 | 61 | 2.90 | 1.0260 | 26.10 |
| 500 | 61 | 3.25 | 1.1520 | 29.30 |
| 625 | 91 | 2.97 | 1.2870 | 32.70 |
| 800 | 91 | 0.13 | 1.4520 | 36.90 |
| 1000 | 91 | 3.73 | 1.6170 | 41.10 |



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