

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. 08/01/10

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Mechtrix Wire Data Reports[®]

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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

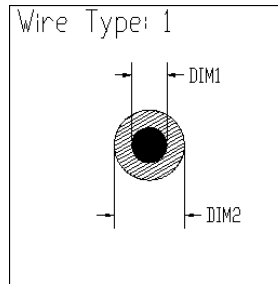
Anytown, USA, 99999
Phone: (555) 555-5555
FAX: (555) 555-5555

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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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
10	84	0.0089	0.0938	2.38
	165	0.0063	0.0950	2.41

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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
	133	0.0179	0.2570	6.53
2	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
	133	0.0223	0.3290	8.36
1	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
	4256	0.0063	0.6150	15.62
4/0	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
	2107	0.0100	0.6700	17.02
5/0	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
0.75	20	0.18	0.0366	0.93
	1	0.99	0.0390	0.99
0.85	30	0.18	0.0449	1.14
	11	0.32	0.0484	1.23
1.0	34	0.18	0.0476	1.21
	1	1.14	0.0450	1.14
1.25	7	0.43	0.0510	1.30
	16	0.32	0.0583	1.48
1.5	50	0.18	0.0579	1.47
	1	1.40	0.0550	1.40
2.0	7	5.33	0.0630	1.60
	26	0.32	0.0740	1.88
2.5	79	0.18	0.0728	1.85
	1	1.80	0.0710	1.80
3.0	7	0.69	0.0810	2.06
	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

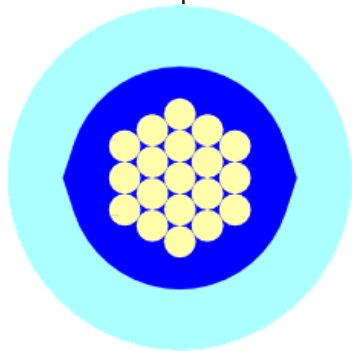
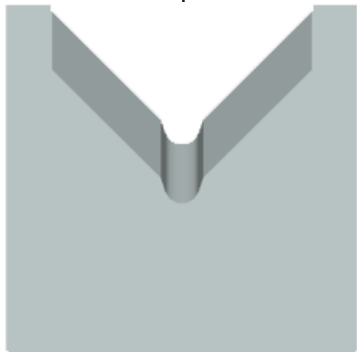
mm ²	Wire Stranding		Conductor Diameter	
	No.	Diameter	Inch	mm
15	84	0.45	0.1874	4.76
	98	0.45	0.2295	5.83
	168	0.32	0.2165	5.50
	171	0.32	0.2087	5.30
16	7	1.73	0.2040	5.18
20	19	0.32	0.2559	6.50
	126	0.45	0.2602	6.61
	245	0.32	0.2598	6.60
25	7	2.16	0.2550	6.48
	19	1.32	0.2600	6.60
30	189	0.45	0.3189	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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Mechtrix M-Series® Stripping Blade Forms for Teflon®



■ APPLICATIONS:

The patented industry proven Mechtrix M-Series® Stripping Blade Form Geometry provides superior insulation stripping for all stranded Teflon® insulated wires. The Mechtrix M-Series® Stripping Blades are designed to replace the conventional 90° Universal Stripping Blades supplied as standard equipment by most wire processing machine OEM's. The M-Series® Stripping Blade geometry was specifically designed and engineered to optimize the processing of wires with difficult to strip insulations in machines that typically use one set of blades to strip a wide range of wires.

The M-Series® Stripping Blades create a stripping form that is perfectly round for 86% of the stripping forms designed stripping hole circumference. The compound entry angle leading into the stripping form allows the M-Series® Stripping Blades to be opened up or closed down over an adjustable range to accommodate inconsistencies in the wire being processed. In addition to their adjustability, the M-Series® design offers superior slicing and stripping action compared with blades that have a completely round form.

Mechtrix M-Series® Stripping Blades are another innovative solution to difficult wire processing problems.

Mechtrix M-Series® Stripping Form Quick Selection Guide for Teflon® Insulated Wires w/stranded conductors

AWG	Ø
32	0.3mm
30	0.4mm
28	0.5mm
26	0.6mm
24	0.7mm
22	0.8mm
20	1.0mm
18	1.3mm
16	1.5mm
14	1.8mm
12	2.4mm
10	2.8mm

The chart on the left details the recommended M-Series® Stripping Blade sizes for standard AWG Teflon® insulated wires with stranded copper conductors. For actual part numbers for your specific wire processing machine and application please consult the Mechtrix Tooling Catalog or contact a Mechtrix salesperson directly.

■ WIRE PROCESSING MACHINE COMPATABILITY:

- The M-Series® Stripping Blade Form Geometry is available in blades to fit virtually all fully automatic and bench-top wire processing machine. Please consult Mechtrix for specific part numbers for your particular wire processing machine and application.

U.S. Patent 4,630,406 and 4,577,405