

# WIRE WRAPPING

## TOOLS & ACCESSORIES



**JDV Products Inc.**

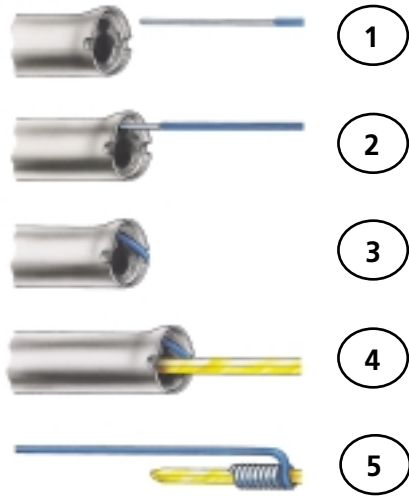
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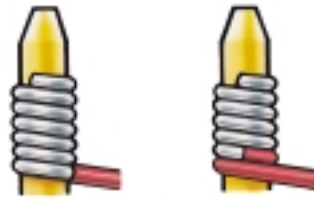
# The Technology of Wire Wrapping

A wire wrapped connection is made by coiling the wire around the sharp corners of a terminal under mechanical tension. This method of connection was developed by Bell Telephone Laboratories, Western Electric Company.

## Five Steps To Make Connection



### Regular Modified



- A "Regular" bit wraps the bare wire around the terminal. A "Modified" bit wraps a portion of insulation around the terminal in addition to the bare wire. This greatly increases the ability to withstand vibration.
- A distinct advantage of wire wrapping is the ease with which a wire may be removed from a terminal to correct errors or modify wiring. An unwrap tool is slipped over the terminal, engaging the first turn of the connection. Rotating the tool, the connection is removed in seconds, without damage to the terminal.
- There is a constant surveillance of manufacturing dimensions. Each wrapping bit is subjected to a series of "Qualification Tests". These consist of wrapping groups of wire on various types of test terminals. The wrapped wires are then subjected to a "Strip" test to determine adequate tightness. "Unwrap" tests are also performed to ensure against an "Over tight" wrap.
- Solid wire is used for wire wrapped connections. Copper is the most commonly used wire. Minimum elongation of 15% is required for 24 through 32 AWG; 20% for larger wire.

## Wire Size Chart

Bare Wire Dia. Inches	mm	AWG (USA)	SWG (GB)
.0403	1.022	18	
.040	1.016		19
.036	0.914	19	20
.032	0.813	20	21
.028	0.711	21	22
.0253	0.643	22	
.024	0.61		23
.0226	0.574	23	
.022	0.559		24
.0201	0.51	24	
.020	0.508		25
.018	0.457		26
.0179	0.455	25	
.0164	0.417		27
.0159	0.404	26	
.0148	0.376		28
.0142	0.361	27	
.0136	0.345		29
.0126	0.320	28	
.0124	0.315		30
.0116	0.295		31
.0113	0.287	29	
.0108	0.274		32
.0100	0.254	30	33
.0092	0.234		34
.0089	0.226	31	
.0084	0.213		35
.008	0.203	32	

## "Strip" Force Chart\*

AWG	Wire Size		Min. number of turns (Bare Wire)	Min. strip force	
	Dia. inches	Dia. mm		lbs.	gms
16	.051	1.30	4	15	6800
18	.0403	1.00	4	15	6800
20	.032	0.80	5	8	3600
22	.0253	0.65	5	8	3600
24	.0201	0.50	6	7	3200
26	.0159	0.40	7	6	2700
28	.0126	0.32	7	5	2200
30	.0100	0.25	7	3.3	1500

\*Conforms to MIL-STD-1130B

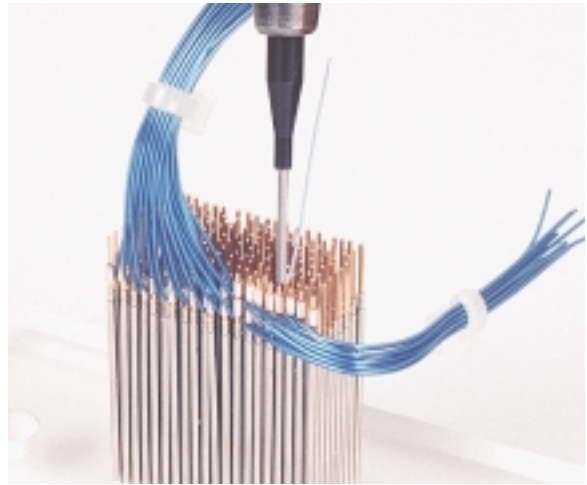
## Terminal Diagonal Chart

In.	.010	.015	.020	.025	.030	.035	.040	.045	.050	.055	.060	.065	.070	.075	.080	.085	.090	.095	.100
mm	.25	.38	.51	.64	.76	.89	1.02	1.14	1.27	1.40	1.52	1.65	1.78	1.91	2.03	2.16	2.29	2.41	2.54
.010	.014	.018	.022	.027	.032	.036	.041	.046	.051	.056	.061	.066	.071	.076	.081	.086	.091	.096	.101
.025	.036	.046	.056	.069	.081	.091	1.04	1.17	1.30	1.42	1.55	1.68	1.80	1.93	2.06	2.18	2.31	2.44	2.57
.015	.018	.021	.025	.029	.033	.038	.043	.047	.052	.057	.062	.067	.072	.077	.082	.087	.092	.097	.102
.038	.046	.053	.064	.074	.084	.097	1.09	1.19	1.32	1.45	1.58	1.70	1.83	1.96	2.08	2.21	2.34	2.46	2.59
.020	.022	.025	.028	.032	.036	.040	.045	.049	.053	.058	.063	.068	.073	.078	.083	.088	.093	.098	.103
.051	.056	.064	.071	.081	.091	1.02	1.14	1.25	1.35	1.47	1.60	1.73	1.85	1.98	2.11	2.24	2.36	2.49	2.62
.025	.027	.029	.032	.035	.039	.043	.047	.050	.056	.060	.065	.069	.074	.079	.084	.089	.094	.099	.104
.064	.069	.074	.081	.089	.099	1.09	1.19	1.27	1.42	1.52	1.65	1.75	1.88	2.01	2.13	2.26	2.39	2.52	2.64
.030	.032	.033	.036	.039	.042	.046	.050	.054	.058	.062	.067	.071	.076	.080	.085	.090	.095	.100	.105
.076	.081	.084	.091	.099	1.07	1.17	1.27	1.37	1.47	1.58	1.70	1.80	1.93	2.03	2.16	2.29	2.41	2.54	2.67
.035	.036	.038	.040	.043	.046	.049	.052	.056	.060	.064	.069	.073	.078	.082	.087	.091	.096	.101	.106
.089	.091	.097	1.02	1.09	1.17	1.25	1.32	1.42	1.52	1.63	1.75	1.85	1.98	2.08	2.21	2.31	2.44	2.57	2.69
.040	.041	.043	.045	.047	.050	.052	.056	.060	.064	.068	.072	.076	.080	.084	.089	.092	.097	.102	.107
1.02	1.04	1.09	1.14	1.19	1.27	1.32	1.42	1.52	1.63	1.73	1.83	1.93	2.03	2.13	2.26	2.34	2.46	2.59	2.72
.045	.046	.047	.049	.050	.054	.056	.060	.063	.067	.071	.074	.078	.083	.087	.091	.096	.101	.105	.109
1.14	1.17	1.19	1.25	1.27	1.37	1.42	1.52	1.60	1.70	1.80	1.88	1.98	2.11	2.21	2.31	2.44	2.57	2.67	2.77
.050	.051	.052	.053	.056	.058	.060	.064	.067	.071	.074	.078	.082	.086	.090	.094	.098	.103	.107	.111
1.27	1.30	1.32	1.35	1.42	1.47	1.52	1.63	1.70	1.80	1.88	1.98	2.08	2.18	2.29	2.39	2.49	2.62	2.72	2.82

# New Wire Wrap Tool For High Density Terminal Boards



**NEW**  
**JdV**  
**FROM**



JDV Products Inc. introduces the series 5000 and series 7500 Micro-Bit wire wrapping and unwrapping tools. These tools are designed for wrapping wire on .016 in. (0.4mm) square terminals in high-density connectors with pin center distances of .050 in. and .075 in. (1.27mm and 1.9mm)

The 5000 series is designed to work with .050 in. (1.27mm) pin spacing. The extreme density of these connectors make the use of conventional wire wrap tool designs impractical; there is no space to permit the use of a sleeve on the working end. Thus, the 5000 series Micro-Bit requires the use of a sleeve whose only function is to control bit rotation in a power tool.

The 7500 series is designed to work with .075 in. (1.9mm) pin spacing and are conventional wire wrap tools.

Both series are very small tools and require extra care when wire wrapping these applications.

## MICRO BIT WIRE WRAPPING TOOL—SERIES 5000

JDV PART NO	PIN DISTANCE		PIN SIZE INCH	WIRE DIAMETER		RETAINING SLEEVE PART NO.	WRAP TYPE
	INCH	MM		AWG	MM		
BRH5030	0.050	1.27	0.016 SQ.	30-32	0.20-0.25	S50	REGULAR

## MICRO BIT WIRE WRAPPING TOOL—SERIES 7500

JDV PART NO	PIN DISTANCE		PIN SIZE INCH	WIRE DIAMETER		SLEEVE PART NO.	WRAP TYPE
	INCH	MM		AWG	MM		
BMH7528	0.075	1.90	0.016 SQ.	28	0.032	S75	MODIFIED
BMH7530	0.075	1.90		30-32	0.20-0.25		

## MICRO WIRE WRAPPING HAND WRAP TOOL

JDV PART NO	PIN DISTANCE		PIN SIZE INCH	WIRE DIAMETER		WRAP TYPE
	INCH	MM		AWG	MM	
HR5030	0.050	1.27	0.016 SQ.	30-32	0.20-0.25	REGULAR
HM7528	0.075	1.90	0.016 SQ.	28	0.32	MODIFIED
HM7530	0.075	1.90		30-32	0.20-0.25	

## UNWRAP TOOL

JDV PART NO	TERMINAL HOLE DIAMETER		TERMINAL HOLE DEPTH	
	INCH	MM	INCH	MM
UHD 5075	0.022	0.56	0.50	12.70



S50 & BHD5030



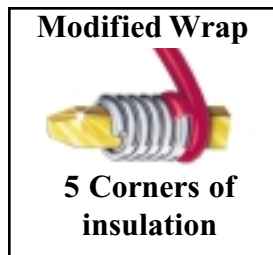
HR5030



UHD

# MODIFIED

## Wire Wrapping Bits and Sleeves Selection Chart



All Bits & Sleeves are  
Fully Compatible with any make or Model Wire Wrapping Tool.

AWG (inches)						Bit Part No.	Sleeve Part No.	METRIC (mm)					
Wire Gauge (AWG) Inches	Max Insulation Diameter Inches	Min/Max Terminal Diagonal Inches	Terminal Hole Depth Inches	Effective Radius Inches	Terminal Hole Diameter Inches			Terminal Hole Diameter mm.	Effective Radius mm.	Terminal Hole Depth mm.	Min/Max Terminal Diagonal mm.	Max Insulation Diameter mm.	Wire Gauge mm.
20	.058	.042/.073	1.000	.150	.075	BM20	S194LN	1.90	3.81	25.40	1.07/1.85	1.47	0.80
22	.060	.049/.073	1.000	.136	.075	BM22LI	S212	1.90	3.45	25.40	1.24/1.85	1.52	0.65
22	.054	.049/.074	1.000	.132	.075	BM22	S171	1.90	3.35	25.40	1.24/1.87	1.37	0.65
22-24	.050	.049/.074	1.250	.121	.075	BM224	S171	1.90	3.07	31.75	1.24/1.87	1.27	.50-.65
24	.046	.054/.073	1.750	.117	.075	BM24DD	S171	1.90	2.97	44.50	1.37/1.87	1.17	0.50
24	.044	.024/.043	0.750	.098	.044	BM2444*	S125LN*	1.11	2.48	19.05	0.60/1.09	1.11	0.50
24	.046	.054/.073	0.750	.118	.075	BM24	S171	1.90	2.99	19.05	1.07/1.85	1.17	0.50
24	.050	.049/.068	1.125	.118	.069	BM24D	S171	1.75	2.99	28.50	1.24/1.72	1.27	0.50
24	.046	.058/.073	1.125	.118	.075	BM24G	S171	1.90	2.99	28.50	1.47/1.85	1.17	0.50
24-26	.046	.054/.073	0.750	.118	.075	BM2426	S171	1.90	2.99	19.05	1.37/1.85	1.17	.40-.50
26	.031	.023/.038	0.750	.075	.040	BM2640*	S93*	1.02	1.90	19.05	0.58/0.96	0.79	0.40
26	.046	.054/.073	1.000	.118	.075	BM26	S171	1.90	2.99	25.40	1.37/1.85	1.17	0.40
26	.044	.028/.044	0.750	.098	.044	BM2644*	S125LN*	1.11	2.48	19.05	0.71/1.12	1.11	0.40
26	.042	.053/.068	1.000	.109	.069	BM2669	S159	1.75	2.77	25.40	1.34/1.72	1.04	0.40
26	.050	.053/.068	1.125	.118	.069	BM26D	S171	1.75	2.99	28.50	1.34/1.72	1.27	0.40
28	.030	.031/.035	0.750	.066	.036	BM28*	S93*	0.91	1.67	19.05	0.79/0.89	0.76	0.32
28	.034	.053/.068	1.000	.103	.070	BM2870	S159	1.78	2.61	25.40	1.35/1.72	0.86	0.32
28-29	.036	.033/.038	0.750	.091	.040	BM2840*	S125*	1.02	2.31	19.05	0.83/0.96	0.91	.29-.32
28	.034	.039/.044	0.750	.080	.045	BM2845*	S125*	1.11	2.03	19.05	1.00/1.12	0.86	0.32
30	.023	.030/.035	0.750	.061	.036	BM30SW*	S93*	.091	1.54	19.05	.099/1.06	0.58	0.25
30	.027	.031/.035	0.750	.064	.043	BM3043*	S93*	1.09	1.62	19.05	0.79/0.89	0.69	0.25
30	.027	.031/.035	0.750	.064	.036	BM30*	S93*	0.91	1.62	19.05	0.79/0.89	0.68	0.25
30	.023	.030/.035	0.750	.064	.036	BM30SI*	S93*	0.91	1.62	19.05	0.76/0.89	0.58	0.25
30	.027	.060/.064	1.000	.106	.066	BM3066	S159	1.67	2.70	25.40	1.52/1.62	0.69	0.25
30	.027	.027/.030	0.750	.066	.031	BM3031*	S93*	0.79	1.67	19.05	0.69/0.76	0.69	0.25
30-32	.027	.034/.038	0.750	.064	.040	BM3040*	S93*	1.02	1.62	19.05	0.86/0.96	0.69	.20-.25
30-32	.029	.062/.065	1.000	.100	.067	BM3068	S125LD	1.70	2.54	25.40	1.57/1.65	0.74	.20-.25
30	.027	.040/.044	0.750	.063	.045	BM3045*	S93*	1.11	1.60	19.05	1.00/1.12	0.69	0.25

\* These tools are recommended for .025" square terminals on 0.100 centers / 0.63 mm on 2.54 mm centers.



# REGULAR

## Wire Wrapping Bits and Sleeves Selection Chart



All Bits and Sleeves are  
Fully Compatible with any make or Model Wire Wrapping Tool.

AWG (inches)						Bit Part No.	Sleeve Part No.	METRIC (mm)					
Wire Gauge (AWG) Inches	Max Insulation Diameter Inches	Min/Max Terminal Diagonal Inches	Terminal Hole Depth Inches	Effective Radius Inches	Terminal Hole Diameter Inches			Terminal Hole Diameter mm.	Effective Radius mm.	Terminal Hole Depth mm.	Min/Max Terminal Diagonal mm.	Max Insulation Diameter mm.	Wire Gauge mm.
18	N/A	.060/.073	1.000	.150	.075	BR18	S194	1.90	3.81	25.40	1.52/1.85	N/A	1.00
19	N/A	.042/.073	1.000	.123	.075	BR19	S171	1.90	3.12	25.40	1.07/1.85	N/A	0.91
19-20	N/A	.091/.122	1.000	.150	.125	BR1920L	S212	3.17	3.81	25.40	2.31/3.09	N/A	.80-.91
20	N/A	.091/.122	1.000	.150	.125	BR20L	S212	3.17	3.81	25.40	2.31/3.09	N/A	.80-.91
20-22	N/A	.042/0.73	1.000	.123	.075	BR20	S171	1.90	3.12	25.40	1.07/1.85	N/A	.65-.80
22	N/A	.098/.122	0.625	.142	.125	BR22VL	S212	3.17	3.61	15.90	2.49/3.10	N/A	0.65
22	N/A	.061/.085	1.000	.125	.086	BR22T	S171	2.18	3.17	25.40	1.54/2.15	N/A	0.65
22	N/A	.054/.073	0.750	.117	.075	BR22	S171	1.90	2.97	19.05	1.37/1.85	N/A	0.65
22-24	N/A	.061/.085	1.000	.117	.086	BR224L	S171	2.18	2.97	25.40	1.54/2.15	N/A	.50-.65
22-24	N/A	.054/.073	1.000	.111	.075	BR224-1	S171	1.90	2.82	25.40	1.37/1.85	N/A	.50-.65
22-24	N/A	.054/.073	0.807	.111	.075	BR224	S171	1.90	2.82	20.50	1.37/1.85	N/A	.50-.65
24	N/A	.024.043	1.000	.083	.044	BR2444*	S125LN*	1.11	2.10	25.40	0.60/1.09	N/A	0.50
24	N/A	.055/.074	1.500	.100	.075	BR24D	S159	1.90	2.54	38.10	1.39/1.87	N/A	0.50
24	N/A	.073/.092	0.625	.124	.093	BR24S	S159	2.38	3.14	15.80	1.85/2.33	N/A	0.50
24	N/A	.055/.074	0.750	.100	.075	BR24	S159	1.90	2.54	19.05	1.39/1.87	N/A	0.50
24-26	N/A	.058/.073	0.750	.100	.075	BR2426	S159	1.90	2.54	19.05	1.47/1.85	N/A	.40-.50
24-26	N/A	.054/.065	1.000	.098	.066	BR2466	S125LD	1.67	2.48	25.40	1.37/1.65	N/A	.40-.50
26	N/A	.054/.073	1.000	.112	.075	BR16903	S159	1.90	2.84	25.40	1.37/1.85	N/A	0.40
26	N/A	.023/.038	0.750	.068	.040	BR2639*	S93LN*	1.02	1.72	19.05	0.58/0.96	N/A	0.40
26	N/A	.058/.073	1.000	.100	.075	BR26	S159	1.90	2.54	25.40	1.47/1.85	N/A	0.40
30-32	N/A	.034/.038	0.750	.064	.040	BR30*	S93*	1.02	1.62	19.05	0.86/0.96	N/A	.20-.25

## Extended (5" Long) Bits and Sleeves

Regular and Modified

22	N/A	.054/.073	0.750	.117	.075	BR22-5	S171-5	1.90	2.97	19.05	1.37/1.85	N/A	0.65
24	N/A	.055/.073	0.750	.100	.075	BR24-5	S159-5	1.90	2.54	19.05	1.39/1.87	N/A	0.50
26	N/A	.058/.073	1.000	.100	.075	BR26-5	S159-5	1.90	2.54	25.40	1.47/1.85	N/A	0.40
26	.031	.023/.038	0.750	.075	.040	BM2640-5*	S93LN-5*	1.02	1.90	19.05	0.58/0.96	0.79	0.40
30	.027	.031/.035	0.750	.064	.036	BM30-5*	S93-5*	0.91	1.62	19.05	0.79/0.89	0.69	0.25

\* These tools are recommended for .025" square terminals on 0.100 centers / 0.63 mm on 2.54 mm centers.



# Hand Wrap/Unwrap Holder HH20



**NEW !!!**

This **NEW** tool is ideal for wrapping and unwrapping any size AWG wire. Any bit and sleeve (Regular or Modified) can be used in the **HH20** wrap/unwrap holder.

(Bits and Sleeves NOT included. See page 7 for bit and sleeve selections).

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## HH20 Series

- ◆ Accepts all bits 18 to 32 AWG
- ◆ Handle has rugged grooves to prevent slippage
- ◆ Collet allows operator to easily change bits/sleeves
- ◆ Lightweight



This product is made in Fair Lawn, NJ USA. For more information on our tools and accessories, please visit our company website at [www.jdvproducts.com](http://www.jdvproducts.com).



**MADE IN**  
  
**U. S. A.**

For Additional Information;

Please contact The JDV Products sales team at:

**201.796.1720**

# Hand Wrap/Unwrap Holder



HH20



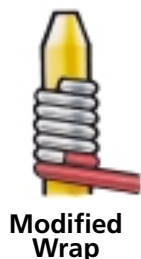
Regular Wrap

## Regular Wrap Tools

Bit Part No.	Sleeve Part No.	Wire Gauge		Terminal Hole Diameter		Terminal Hole Depth		Outside Diameter	
		AWG	mm	In.	mm	In.	mm	In.	mm
BR18	SH194	18	1.00	.075	1.90	1.000	25.40	.250	6.35
BR19	SH171	19	0.91	.075	1.90	1.000	25.40	.214	5.43
BR1920L	SH212	19-20	0.80-0.91	.125	3.17	1.000	25.40	.250	6.35
BR20	SH171	20-22	0.65-0.80	.075	1.90	1.000	25.40	.214	5.43
BR22	SH171	22	0.65	.075	1.90	.750	19.05	.214	5.43
BR22VL	SH212	22	0.65	.125	3.17	.625	15.90	.250	6.35
BR22T	SH171	22	0.65	.086	2.18	1.000	25.40	.214	5.43
BR224L	SH171	22-24	0.50-0.65	.086	2.18	1.000	25.40	.214	5.43
BR224-1	SH171	22-24	0.50-0.65	.075	1.90	1.000	25.40	.214	5.43
BR224	SH171	22-24	0.50-0.65	.075	1.90	.807	20.50	.214	5.43
BR2444	SH125	24	0.50	.044	1.11	1.000	25.40	.158	4.01
BR24D	SH159	24	0.50	.075	1.90	1.500	38.10	.200	5.08
BR24S	SH159	24	0.50	.093	2.38	.625	15.80	.200	5.08
BR24	SH159	24	0.50	.075	1.90	.750	19.05	.200	5.08
BR2426	SH159	24-26	0.40-0.50	.075	1.90	.750	19.05	.200	5.08
BR2466	SH125	24-26	0.40-0.50	.066	1.67	1.000	25.40	.158	4.01
BR2639	SH93	26	0.40	.040	1.02	.750	19.05	.125	3.17
BR26	SH159	26	0.40	.075	1.90	1.000	25.40	.200	5.08
BR30	SH93	30-32	0.20-0.25	.040	1.02	.750	19.05	.125	3.17

## Unwrap

Unwrap Bit & Sleeve Set
UP70
UP70
-
UP70
UP70
-
-
-
UP70
UP70
-
UP70
UP70
UP70
UP36
UP70
-
UP70
UP70
UP70
UP36
UP70
UP36



Modified Wrap

## Modified Wrap Tools

Bit Part No.	Sleeve Part No.	Wire Gauge		Maximum Insulation Diameter		Terminal Hole Diameter		Terminal Hole Depth		Outside Diameter	
		AWG	mm	In.	mm	In.	mm	In.	mm	In.	mm
BM20	SH194	20	0.80	.058	1.50	.075	1.90	1.000	25.40	.250	6.35
BM22LI	SH212	22	0.65	.060	1.47	.075	1.90	1.000	25.40	.250	6.35
BM22	SH171	22	0.65	0.54	1.32	.075	1.90	1.000	25.40	.214	5.43
BM24DD	SH171	24	0.50	.046	1.17	.075	1.90	1.750	44.50	.214	5.43
BM2444 *	SH125	24	0.50	.044	1.11	.044	1.11	.750	19.05	.158	4.01
BM24	SH171	24	0.50	.046	1.17	.075	1.90	.750	19.05	.214	5.43
BM24D	SH171	24	0.50	.050	1.27	.069	1.75	1.125	28.50	.214	5.43
BM2426	SH171	24-26	0.40-0.50	.046	1.17	.075	1.90	.750	19.05	.214	5.43
BM2640 *	SH93	26	0.40	.031	0.79	.040	1.02	.750	19.05	.125	3.17
BM26	SH171	26	0.40	.046	1.17	.075	1.90	1.000	25.40	.214	5.43
BM2644 *	SH125	26	0.40	.044	1.17	.044	1.11	.750	19.05	.158	4.01
BM2669	SH159	26	0.40	.042	1.04	.069	1.75	1.000	25.40	.200	5.08
BM26D	SH171	26	0.40	.050	1.27	.069	1.75	1.125	28.50	.214	5.43
BM28 *	SH93	28	0.32	.030	0.76	.036	0.91	.750	19.05	.125	3.17
BM2870	SH159	28	0.32	.034	0.86	.070	1.78	1.000	25.40	.200	5.08
BM2840 *	SH125	28-29	0.29-0.32	.036	0.91	.040	1.02	.750	19.05	.158	4.01
BM3043 *	SH93	30	0.25	.027	0.69	.043	1.09	.750	19.05	.125	3.17
BM30 *	SH93	30	0.25	.027	0.69	.036	0.91	.750	19.05	.125	3.17
BM30SI *	SH93	30	0.25	.023	0.58	.036	0.91	.750	19.05	.125	3.17
BM30SW *	SH93	30	0.25	.023	0.58	.036	0.91	.750	19.05	.125	3.17
BM3066	SH159	30	0.25	.027	0.69	.066	1.67	1.000	25.40	.200	5.08
BM3031 *	SH93	30	0.25	.027	0.69	.031	0.79	.750	19.05	.125	3.17
BM3040 *	SH93	30-32	0.20-0.25	.027	0.69	.040	1.02	.750	19.05	.125	3.17
BM3068	SH125	30-32	0.20-0.25	.029	0.74	.067	1.70	.750	19.05	.158	4.01

## Unwrap

Unwrap Bit & Sleeve Set
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# Hand Wrapping/Unwrapping Tools



## Wrap Side

## Regular Wrap Tools

## Unwrapping Side



Part Number	Wire Size		Max. Insulation Diameter		Terminal Hole Diameter		Terminal Hole Depth		Outside Diameter	
	AWG	mm	In.	mm	In.	mm	In.	mm	In.	mm
HWR18	18-19	1.00 0.91	-	-	.075	1.90	1.000	25.40	.250	6.35
HWR20	20	0.80	-	-	.075	1.90	1.000	25.40	.218	5.53
HWR22	22	0.65	-	-	.075	1.90	.750	19.05	.218	5.53
HWR224	22-24	0.50 0.65	-	-	.075	1.90	.807	20.50	.218	5.53
HWR224-1	22-24	0.50 0.65	-	-	.075	1.90	1.000	25.40	.218	5.53
HWR224L	22-24	0.50 0.65	-	-	.086	2.18	1.000	25.40	.218	5.53
HWR24	24	0.50	-	-	.075	1.90	.750	19.05	.218	5.53
HWR24D	24	0.50	-	-	.075	1.90	1.500	38.10	.218	5.53
HWR24SP	24	0.50	-	-	.075	1.90	.750	19.05	.187	4.74
HWR2426	24-26	0.40 0.50	-	-	.075	1.90	.750	19.05	.218	5.53
HWR2444 *	24	0.50	-	-	.044	1.11	1.000	25.40	.156	3.96
HWR26	26	0.40	-	-	.075	1.90	1.000	25.40	.218	5.53

Terminal Hole Diameter		Terminal Hole Depth		Outside Diameter	
In.	mm	In.	mm	In.	mm
.075	1.90	1.000	25.40	.187	4.74
.070	1.77	1.000	25.40	.156	3.96
.070	1.77	1.000	25.40	.156	3.96
.070	1.77	1.000	25.40	.156	3.96
.070	1.77	1.000	25.40	.156	3.96
.086	2.18	1.000	25.40	.156	3.96
.070	1.77	1.000	25.40	.156	3.96
.070	1.77	1.000	25.40	.156	3.96
.070	1.77	1.000	25.40	.156	3.96
.038	0.96	1.000	25.40	.093	2.36
.070	1.77	1.000	25.40	.156	3.96

## Wrap Side

## Modified Wrap Tools

## Unwrapping Side

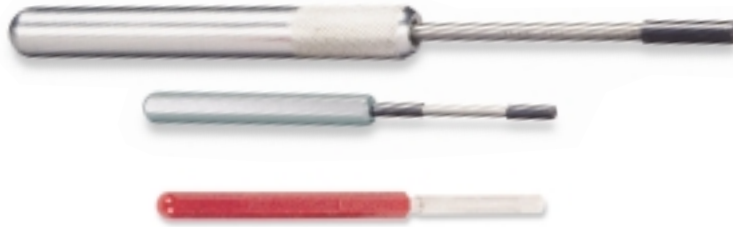


Part Number	Wire Size		Max. Insulation Diameter		Terminal Hole Diameter		Terminal Hole Depth		Outside Diameter	
	AWG	mm	In.	mm	In.	mm	In.	mm	In.	mm
HWM22	22	0.65	.052	1.32	.075	1.90	1.000	25.40	.218	5.53
HWM24	24	0.50	.046	1.17	.075	1.90	.750	19.05	.218	5.53
HWM24D	24	0.50	.050	1.27	.069	1.75	1.125	28.50	.218	5.53
HWM2444 *	24	0.50	.044	1.11	.044	1.11	.750	19.05	.156	3.96
HWM26	26	0.40	.046	1.17	.075	1.90	1.000	25.40	.218	5.53
HWM2640 *	26	0.40	.031	0.79	.040	1.02	.750	19.05	.125	3.17
HWM28	28	0.32	.030	0.76	.036	0.91	.750	19.05	.125	3.17
HWM2840 *	28-29	0.29 0.32	.036	0.91	.040	1.02	.750	19.05	.156	3.96
HWM30 *	30	0.25	.027	0.69	.036	0.91	.750	19.05	.125	3.17
HWM3066	30	0.25	.027	0.69	.066	1.67	1.000	25.40	.218	5.53

Terminal Hole Diameter		Terminal Hole Depth		Outside Diameter	
In.	mm	In.	mm	In.	mm
.070	1.77	1.000	25.40	.156	3.96
.070	1.77	1.000	25.40	.156	3.96
.070	1.77	1.000	25.40	.156	3.96
.038	0.96	1.000	25.40	.093	2.36
.070	1.77	1.000	25.40	.156	3.96
.038	0.96	1.000	25.40	.093	2.36
.038	0.96	1.000	25.40	.093	2.36
.038	0.96	1.000	25.40	.093	2.36
.070	1.77	1.000	25.40	.156	3.96

\*These tools are recommended for .025 (0.63mm) square terminals on .100 (2.54mm) centers

# Hand Wrapping Tools



## Regular Wrap Tools

Part No.	Wire Size		Max. Insulation Diameter		Terminal Hole Diameter		Terminal Hole Depth		Outside Diameter	
	AWG	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm
HR18	18-19	1.00-0.91	-	-	.075	1.90	1.000	25.40	.250	6.35
HR1920L	20	0.80	-	-	.125	3.17	1.000	25.40	.250	6.35
HR1920	20	0.80	-	-	.075	1.90	1.000	25.40	.218	5.53
HR22	22	0.65	-	-	.075	1.90	.750	25.40	.218	5.53
HR22VL	22	0.65	-	-	.125	3.17	.625	15.09	.250	6.35
HR224	22-24	0.65-0.50	-	-	.075	1.90	.807	20.50	.218	5.53
HR224-1	22-24	0.65-0.50	-	-	.075	1.90	1.000	25.40	.218	5.53
HR224L	22-24	0.65-0.50	-	-	.086	2.18	1.000	25.40	.218	5.53
HR24	24	0.50	-	-	.075	1.90	.750	19.05	.218	5.53
HR24D	24	0.50	-	-	.075	1.90	1.500	38.10	.218	5.53
HR24S	24	0.50	-	-	.093	2.38	.625	15.87	.218	5.53
HR2444	24	0.50	-	-	.044	1.11	1.000	25.40	.156	3.96
HR2426	24-26	0.50-0.40	-	-	.075	1.90	.750	19.05	.218	5.53
HR26	26	0.40	-	-	.075	1.90	1.000	25.40	.218	5.53
HR2268A	22-24	0.65-0.50	-	-	.075	1.90	1.500	38.1	.187	4.70



## Modified Wrap Tools

Part No.	Wire Size		Max. Insulation Diameter		Terminal Hole Diameter		Terminal Hole Depth		Outside Diameter	
	AWG	mm	Inches	mm	Inches	mm	Inches	mm	Inches	mm
HM20	20	0.80	.058	1.47	.075	1.90	1.000	25.40	.250	6.35
HM22	22	0.65	.052	1.32	.075	1.90	1.000	25.40	.218	5.53
HM24	24	0.50	.046	1.17	.075	1.90	.750	19.05	.218	5.53
HM24D	24	0.50	.050	1.27	.069	1.75	1.125	28.50	.218	5.53
HM2444 *	24	0.50	.044	1.11	.044	1.11	.750	19.05	.156	3.96
HM2426	24-26	0.50-0.40	.046	1.17	.075	1.90	.750	19.05	.218	5.53
HM26	26	0.40	.046	1.17	.075	1.90	1.000	25.40	.218	5.53
HM2640 *	26	0.40	.031	0.79	.040	1.02	.750	19.05	.125	3.17
HM2669	26	0.40	.041	1.04	.069	1.75	1.000	25.40	.218	5.53
HM2840 *	28-29	0.32-0.29	.036	0.91	.040	1.02	.750	19.05	.156	3.96
HM30 *	30	0.25	.027	0.69	.036	0.91	.750	19.05	.125	3.17
HM30SP *	30	0.25	.027	0.69	.036	0.91	.750	19.05	.125	3.17
HM3066	30	0.25	.027	0.69	.066	1.67	1.000	25.40	.218	5.53
HM3040 *	30	0.25	.027	0.69	.040	1.02	.750	19.05	.125	3.17
HM3043 *	30	0.25	.027	0.69	.043	1.09	.750	19.05	.125	3.17

