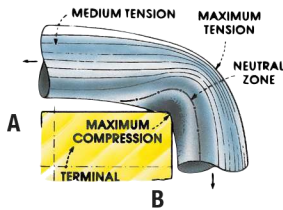




Wire Wrapping is a method of making a wire connection by coiling the bare wire around the sharp corners of a terminal under mechanical tension. The technology was developed as an alternative to soldering, which presents various safety and reliability problems in many applications. A principal advantage of wire wrapping is that it provides a high-reliability connection that is also easily removed to correct or modify a wiring layout. Wire wrapping subjects the wire to tremendous tension and compression forces, causing the oxide layer on both wire and terminal to be crushed or sheared, resulting in a clean, oxide-free metal-to-metal contact. A standard wrap is generally used for 18 AWG and larger diameter wires; a modified wrap is typically used for 26 AWG and smaller wires, and is used almost exclusively for 28 to 30 AWG wires. In either case, the wrap style affects only the connection's mechanical stability; both styles provide suitable electrical connections.



Metal-to-Metal Contact

By bending the wire around the sharp corner of the terminal, the oxide layer on both wire and terminal is crushed or sheared, and a clean, oxide-free metal-to-metal contact is obtained.

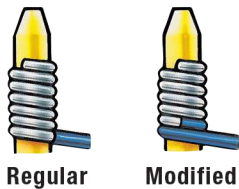
Strip Force Chart*

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

Types of Wrap

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.



How to Make Wire Wrapped Connections

- Step 1: Bit, Sleeve and Pre-Stripped Wire
- Step 2: Wire Insertion
- Step 3: Wire Anchoring
- Step 4: Terminal Insertion
- Step 5: Finished Connection

Some Hints on Making Wrapped Connections

- OVERWRAP**
Do not press too hard. Let the OK tools do the work. Excessive pressure can lead to overwrapping. Backforce "BF" to prevent overwrapping is available on most power tools and is recommended for use with 26 through 30 AWG wire.
- INSUFFICIENT TURNS**
It's easy to feed wire into the slot in the OK bit correctly. Be sure the stripped end of the wire is "pushed-in" all the way.
- OPEN WRAP & SPIRAL WRAP**
Just keep the OK tool on the terminal until the wrap is complete. Early removal can result in spiral and open wraps.
- PIGTAIL**
Wire wrapping is a precision technique and the wrong bit and sleeve just cannot do the job. Improper selection can cause problems ranging from "Pigtails" to loose wraps.

Terminal Diagonal Chart

Dimension B

Dimension A	Dimension B																			
	In.	.010	.015	.020	.025	.030	.035	.040	.045	.050	.055	.060	.065	.070	.075	.080	.085	.090	.095	.100
mm	0.25	0.38	0.51	0.64	0.76	0.89	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	
0.25	0.36	0.46	0.56	0.69	0.81	0.91	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	
0.38	0.46	0.53	0.64	0.74	0.84	0.97	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	
0.51	0.56	0.64	0.71	0.81	0.91	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	
0.64	0.69	0.74	0.81	0.89	0.99	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	
0.76	0.81	0.84	0.91	0.99	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	
0.89	0.91	0.97	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	

Example: If "A"=.020", "B"=.060". The Terminal diagonal is .063" as shown on chart.