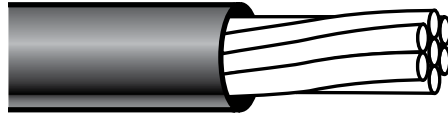


MIL SPECIFICATION HOOK UP WIRE

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MIL-DTL-16878/1



Thermoplastic
Insulation

Tinned Copper
Stranded

For internal wiring of electronic equipment - the most popular military hookup wire. Formerly "Type B."

Electronic Hookup Wire

- Vinyl Primary Insulation
- Nominal .010" Wall
(No Outer Covering)
- -54°C to +105°C
- 600 Volts. R.M.S. (working)

Meets UL Styles 1061 and CSA AWM I A/B
(previously S-R PVC, T2) except where noted.

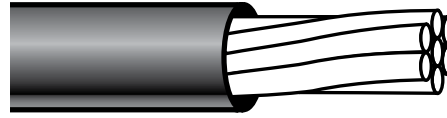
Military Voltage Rating	600 volts.
Factory Spark-Test Voltage	3400 VAC.
Impulse Spark Test Voltage	8000 V pulse-peak, or 5700 V @3 kHz
Insulation Breakdown Voltage	> 5000 volts, peak.
IR: Insulation Resistance, wet	> 1500 megohm/100 meter, metal to water bath at +20°C.
Nominal Dielectric Constant value	4.
Flame Properties	Self extinguishing. Meets UL VW-1
Cold Bending for gauges 26 to 32	Bends over 1 inch mandrel while at -54°C.
Cold Bending for gauges 14 to 24	Bends over 2 inch mandrel while at -54°C.
Fungus	Fungus Resistant

GAUGE (AWG)	PART NO.	MIL-SPEC PART NO.	NUMBER OF STRANDS (AWG)	GAUGE OF STRANDS (AWG)	NOM. DIAM. OF STRANDED CONDUCTOR		NOM. FIN. WIRE DIAM.		MAX. RESISTANCE (dc at 20° C) Ω /per		NOM. WT.	
					IN.	mm	IN.	mm	1000-ft	Km	LBS per 1000-ft	Kg/Km
32	NB132U*†	M16878/1 BAA	1	32	.0080	.203	.028	.711	178.0	584	0.69	1.03
32	NB740U*†	M16878/1 BAB	7	40	.0090	.229	.029	.737	182.0	597	0.70	1.04
30	NB130U	M16878/1 BBA	1	30	.0100	.254	.030	.762	114.0	374	0.72	1.07
30	NB738U	M16878/1 BBB	7	38	.0120	.305	.032	.813	108.0	354	0.75	1.12
28	NB128U	M16878/1 BCA	1	28	.0126	.320	.033	.838	70.8	232	1.00	1.49
28	NB736U	M16878/1 BCB	7	36	.0150	.381	.035	.889	68.2	224	1.00	1.49
26	NB126U	M16878/1 BDA	1	26	.0159	.404	.360	.914	44.5	146	1.35	2.00
26	NB734U	M16878/1 BDB	7	34	.0190	.483	.390	.991	42.6	140	1.50	2.23
26	NB1938U	M16878/1 BDE	19	38	.0190	.483	.390	.991	40.1	132	1.50	2.23
24	NB124U	M16878/1 BEA	1	24	.0201	.511	.040	1.02	27.2	89	1.80	2.67
24	NB732U	M16878/1 BEB	7	32	.0240	.610	.044	1.12	26.2	86	2.00	2.97
24	NB1936U	M16878/1 BEE	19	36	.0240	.610	.044	1.12	25.4	83	2.00	2.97
22	NB122U	M16878/1 BFA	1	22	.0253	.643	.046	1.17	17.2	56	2.60	3.87
22	NB730U	M16878/1 BFB	7	30	.0300	.762	.050	1.27	16.7	55	3.00	4.46
22	NB1934U	M16878/1 BFE	19	34	.0300	.762	.050	1.27	15.9	52	3.00	4.46
20	NB120U	M16878/1 BGA	1	20	.0320	.813	.052	1.32	10.7	35	3.50	5.80
20	NB728U	M16878/1 BGB	7	28	.0380	.965	.058	1.47	10.4	34	4.40	6.55
20	NB1932U	M16878/1 BGE	19	32	.0380	.965	.058	1.47	9.76	32	4.50	6.70
18	NB118U	M16878/1 BHA	1	18	.0430	1.02	.060	1.52	6.78	22	5.70	8.48
18	NB726U	M16878/1 BHB	7	26	.0480	1.22	.068	1.73	6.54	21	6.10	9.08
18	NB1930U	M16878/1 BHE	19	30	.0480	1.22	.068	1.73	6.22	20	6.50	9.67
16	NB116U	M16878/1 BJA	1	16	.0508	1.29	.071	1.80	4.26	14	9.50	14.10
16	NB1929*†	M16878/1 BJE	19	29	.0540	1.37	.077	1.96	4.82	16	9.00	13.40
14	NB114U*†	M16878/1 BKA	1	14	.0641	1.63	.084	2.13	2.68	9	14.80	22.00
14	NB1927U*†	M16878/1 BKE	19	27	.0690	1.75	.091	2.31	3.05	10	14.00	20.80

iStandard basic insulation color numbers are: Black: 0, Brown: 1, Red: 2, Orange: 3, Yellow: 4, Green: 5, Blue: 6, Violet: 7, Gray: 8, White: 9. The insulation color code number, may be 1, 2 or 3 digits depending on the number or absence of stripes. The 1st number is color of Insulation, 2nd number is color of first stripe; 3rd number is color of the second stripe. Example: White wire(9) + Red stripe(2) + Black stripe(0) makes a color code number of "9-2-0". That color number, "9-2-0" is appended to the part number. Sample part number might be "xxxxxx-xxx-9-2-0"

* Not C.S.A. Certified
† Not U.L. Recognized

MIL-DTL-16878/2



Thermoplastic
Insulation

Tinned Copper
Stranded

For internal wiring of meters, panels and electronic equipment. Formerly "Type C."

Electronic Hookup Wire

- Vinyl Primary Insulation
- Nominal .015" Wall
(No Outer Covering)
- -54°C to +105°C
- 1000 Volts. R.M.S. (working)

Meets UL Styles 1007, 1569 and CSA TR-64 except where noted.

Military Voltage Rating	1000 volts.
Sine-wave Spark-Test Voltage	5000 VAC.
Impulse Spark Test Voltage	10000 V pulse-peak, or 7100 V @3 kHz
Insulation Breakdown Voltage	> 7000 volts, peak.
IR: Insulation Resistance, wet	> 2000 megohm/100 meter, metal to water bath at +20°C
Nominal Dielectric Constant value	4.
Flame Properties	Self extinguishing. Meets UL VW-1
Cold Bending for gauges 16 to 26	Bends over 2 inch mandrel while at -54°C.
Cold Bending for gauges 12 to 14	Bends over 3 inch mandrel while at -54°C.
Fungus	Fungus Resistant

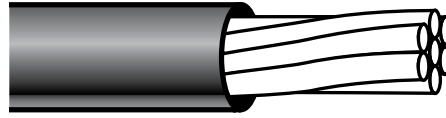
GAUGE (AWG)	PART NO.	MIL-SPEC PART NO.	NUMBER OF STRANDS (AWG)	GAUGE OF STRANDS (AWG)	NOM. DIAM. OF STRANDED CONDUCTOR		NOM. FIN. WIRE DIAM.		MAX. RESISTANCE (dc at 20° C) Ω /per		NOM. WT.	
					IN.	mm	IN.	mm	1000-ft	Km	LBS per 1000-ft	Kg/Km
26	NC126U*	M16878/2 BDA	1	26	.0159	.404	.050	1.27	44.50	146	2.00	3.0
26	NC734U*	M16878/2 BDB	7	34	.0190	.483	.053	1.35	42.60	140	2.10	3.1
26	NC1938U*	M16878/2 BDE	19	38	.0190	.483	.053	1.35	40.10	132	2.20	3.3
24	NC124U	M16878/2 BEA	1	24	.0201	.511	.054	1.97	27.50	89	2.50	3.7
24	NC732U	M16878/2 BEB	7	32	.0240	.610	.058	1.47	26.20	82	2.60	3.9
24	NC1936U	M16878/2 BEE	19	36	.0240	.610	.058	1.47	25.40	73	2.75	4.1
22	NC122U	M16878/2 BFA	1	22	.0253	.643	.059	1.50	17.20	56	3.50	5.2
22	NC730U	M16878/2 BFB	7	30	.0300	.762	.064	1.63	16.70	55	3.65	5.4
22	NC1934U	M16878/2 BFE	19	34	.0300	.762	.064	1.63	15.90	52	3.75	5.6
20	NC120U	M16878/2 BGA	1	20	.0320	.813	.066	1.68	10.70	35	5.30	7.9
20	NC728U	M16878/2 BGB	7	28	.0380	.965	.072	1.83	10.40	34	5.40	8.0
20	NC1030U	M16878/2 BGC	10	30	.0380	.965	.072	1.83	11.80	39	5.45	8.1
20	NC1932U	M16878/2 BGE	19	32	.0380	.965	.072	1.83	9.76	32	5.50	8.2
18	NC118U	M16878/2 BHA	1	18	.0403	1.02	.075	1.91	6.78	22	7.80	11.6
18	NC726U	M16878/2 BHB	7	26	.0480	1.22	.082	2.08	6.54	21	7.90	11.8
18	NC1930U	M16878/2 BHE	19	30	.0480	1.22	.082	2.08	6.22	20	8.00	11.9
16	NC116U	M16878/2 BJA	1	16	.0508	1.29	.085	2.16	4.26	14	8.50	12.7
16	NC1929U*	M16878/2 BJE	19	26	.0540	1.37	.091	2.31	4.82	16	10.00	14.9
16	NC2630U	M16878/2 BJF	26	30	.0550	1.40	.094	2.39	4.59	15	10.50	15.6
14	NC114U†	M16878/2 BKA	1	14	.0641	1.63	.098	2.49	2.68	9	15.50	23.1
14	NC1927U†*	M16878/2 BKE	19	27	.0690	1.75	.105	2.67	3.05	10	15.00	22.3
14	NC4130U†	M16878/2 BKH	41	30	.0710	1.80	.112	2.84	2.94	9.7	14.50	21.5
12	NC1925U†*	M16878/2 BLE	19	25	.0890	2.26	.124	3.15	1.92	6.3	24.00	35.7
12	NC3728U†*	M16878/2 BLG	37	28	.0890	2.26	.124	3.15	2.01	6.6	25.00	37.2

Standard basic insulation color numbers are: Black: 0, Brown: 1, Red: 2, Orange: 3, Yellow: 4, Green: 5, Blue: 6, Violet: 7, Gray: 8, White: 9. The insulation color code number, may be 1, 2 or 3 digits depending on the number or absence of stripes. The 1st number is color of Insulation, 2nd number is color of first stripe; 3rd number is color of the second stripe. Example: White wire(9) + Red stripe(2) + Black stripe(0) makes a color code number of "9-2-0". That color number, "9-2-0" is appended to the part number. Sample part number might be "xxxxxx-xxx-9-2-0"

* Not C.S.A. Certified

† Not U.L. Recognized

MIL-DTL-16878/3



Thermoplastic
Insulation

Tinned Copper
Stranded

For internal wiring of meters, panels and electronic equipment. Formerly "Type D."

Electronic Hookup Wire

- Vinyl Primary Insulation
- Nominal .031" WALL (No Outer Covering)
- -54°C to +105°C
- 3000 Volts. R.M.S. (working)

Meets UL Styles 1011, 1013, 1015 and CSA TR-32 or TEW except where noted.

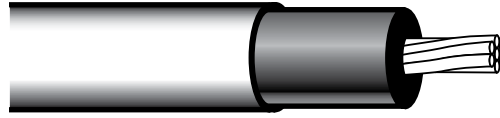
Military Voltage Rating	3000 volts.
Sine-wave Spark-Test Voltage	8000 VAC.
Impulse Spark Test Voltage	12000 V pulse-peak, or 8500 V @3 kHz
Insulation Breakdown Voltage	> 12,000 volts, peak.
IR: Insulation Resistance, wet	> 2900 megohm/100 meter, metal to water bath at +20°C
Nominal Dielectric Constant value	4.
Flame Properties	Self extinguishing. Meets UL VW-1
Cold Bending for gauges 32 to 22	Bends over 2 inch mandrel while at -54°C.
Cold Bending for gauges 20 to -14	Bends over 3 inch mandrel while at -54°C.
Fungus	Fungus Resistant

GAUGE (AWG)	PART NO.	MIL-SPEC PART NO.	NUMBER OF STRANDS (AWG)	GAUGE OF STRANDS (AWG)	NOM. DIAM. OF STRANDED CONDUCTOR		NOM. FIN. WIRE DIAM.		MAX. RESISTANCE (dc at 20° C) Ω /per		NOM. WT.	
					IN.	mm	IN.	mm	1000-ft	Km	LBS per 1000-ft	Kg/Km
24	ND124U	M16878/3 BEA	1	24	.0201	.511	.082	2.08	27.2	89	4.2	6.25
24	ND732U	M16878/3 BEB	7	32	.0240	.610	.086	2.18	26.2	86	4.0	5.95
24	ND1936U	M16878/3 BEE	19	36	.0240	.610	.086	2.18	25.4	83	4.1	6.10
22	ND122U	M16878/3 BFA	1	22	.0253	.643	.088	2.24	17.2	56	5.0	7.44
22	ND730U	M16878/3 BFB	7	30	.0300	.762	.092	2.34	16.7	55	5.2	7.74
22	ND1934U	M16878/3 BFE	19	34	.0300	.762	.092	2.34	15.9	52	5.3	7.88
20	ND120U	M16878/3 BGA	1	20	.0320	.813	.094	2.39	10.7	35	6.8	10.11
20	ND728U	M16878/3 BGB	7	28	.0380	.965	.100	2.54	10.4	34	7.3	10.86
20	ND1932U	M16878/3 BGE	19	32	.0380	.965	.100	2.54	9.76	32	7.3	10.86
18	ND118U	M16878/3 BHA	1	18	.0403	1.02	.102	2.59	6.78	22	9.3	13.84
18	ND726U	M16878/3 BHB	7	26	.0480	1.22	.110	2.79	6.54	21	9.7	14.43
18	ND1930U	M16878/3 BHE	19	30	.0480	1.22	.110	2.79	6.22	20	10.0	14.88
16	ND116U	M16878/3 BJA	1	16	.0508	1.29	.113	2.87	4.26	14	12.6	18.75
16	ND1929U*†	M16878/3 BJE	19	19	.0540	1.37	.116	2.95	4.82	16	12.0	17.86
16	ND2630U	M16878/3 BJF	26	30	.0550	1.40	.117	2.97	4.59	15	12.5	18.60
14	ND114U	M16878/3 BKA	1	14	.0641	1.63	.126	3.20	2.68	9	16.9	25.15
14	ND1927U*†	M16878/3 BKE	19	27	.0690	1.75	.131	3.33	3.05	10	17.1	25.44
14	ND4130U	M16878/3 BKH	41	30	.0710	1.80	.134	3.40	2.94	9.6	17.9	26.64
12	ND1925U*†	M16878/3 BLE	19	25	.0890	2.26	.161	4.09	1.92	6.3	27.4	40.77
12	ND3728U*	M16878/3 BLG	37	28	.0890	2.26	.156	3.96	2.01	6.6	28.9	43.00
12	ND6530U	M16878/3 BLJ	65	30	.0890	2.26	.165	4.19	1.85	6.1	28.5	42.41
10	ND3726U*	M16878/3 BMG	37	26	.1070	2.72	.178	4.52	1.26	4.1	38.6	57.44
8	ND13329U*	M16878/3 BNL	133	29	.1670	4.24	.244	6.20	.701	2.3	70.5	104.90
6	ND13327*	M16878/3 BPL	133	27	.2100	5.33	.290	7.37	.444	1.4	104.0	154.75
4	ND13325U*	M16878/3 BRL	133	25	.2660	6.76	.351	8.92	.280	0.9	154.0	229.15
2	ND66530U*	M16878/3 BSP	665	30	.3420	8.69	.425	10.80	.183	0.6	231.0	343.73
1	ND81730U*	M16878/3 BTR	817	30	.3820	9.70	.475	12.07	.149	0.5	284.0	422.59
1/0	ND104530U*	M16878/3 BUS	1045	30	.4310	10.95	.530	13.46	.116	0.4	361.0	537.17

Standard basic insulation color numbers are: Black: 0, Brown: 1, Red: 2, Orange: 3, Yellow: 4, Green: 5, Blue: 6, Violet: 7, Gray: 8, White: 9. The insulation color code number, may be 1, 2 or 3 digits depending on the number or absence of stripes. The 1st number is color of insulation, 2nd number is color of first stripe; 3rd number is color of the second stripe. Example: White wire(9) + Red stripe(2) + Black stripe(0) makes a color code number of "9-2-0". That color number, "9-2-0" is appended to the part number. Sample part number might be "xxxxxx-xxx-9-2-0"

* Not C.S.A. Certified
† Not U.L. Recognized

MIL-DTL-16878/17



Extruded Nylon Jacket Overall Thermoplastic Insulation Tinned Copper Stranded

For internal wiring of meters, panels and electronic equipment. Formerly "Type BN."

Electronic Hookup Wire

- Vinyl Primary Insulation - Nominal .010" Wall
- Nylon Secondary Jacket - Nominal Wall .003"
- -54°C to +105°C
- 600 Volts. R.M.S. (working)

Military Voltage Rating	600 volts.
Factory Spark-Test Voltage	3400 VAC.
Impulse Spark Test Voltage	8000 V pulse-peak, or 5700 V @3 kHz
Insulation Breakdown Voltage	> 5000 volts, peak.
IIR: Insulation Resistance, wet	> 1500 megohm/100 meter, metal to water bath at +20°C.
Nominal Dielectric Constant value	4.
Flame Properties	Self extinguishing. Meets UL VW-1
Cold Bending for gauges 26 to 32	Bends over 1 inch mandrel while at -54°C.
Cold Bending for gauges 14 to 24	Bends over 2 inch mandrel while at -54°C.
Fungus	Fungus Resistant

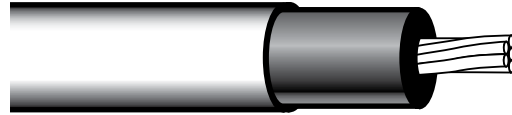
Meets UL Style 1004, 1005, 1006 except where noted.

GAUGE (AWG)	PART NO.	MIL-SPEC PART NO.	NUMBER OF STRANDS (AWG)	GAUGE OF STRANDS (AWG)	NOM. DIAM. OF STRANDED CONDUCTOR		NOM. FIN. WIRE DIAM.		MAX. RESISTANCE (dc at 20° C) Ω /per		NOM. WT.	
					IN.	mm	IN.	mm	1000-ft	Km	LBS per 1000-ft	Kg/Km
32	NB132N†	M16878/17 BAA	1	32	.0080	.203	.034	.864	178.00	584	.074	1.10
32	NB740N†	M16878/17 BAB	7	40	.0090	.229	.035	.890	182.00	597	0.75	1.12
30	NB130N	M16878/17 BBA	1	30	.0100	.254	.036	.914	114.00	374	0.77	1.15
30	NB738N	M16878/17 BBB	7	38	.0120	.305	.038	.965	108.00	654	1.00	1.49
28	NB128N	M16878/17 BCA	1	28	.0126	.320	.039	.991	70.80	232	1.15	1.71
28	NB736N	M16878/17 BCB	7	36	.0150	.381	.041	1.04	68.20	224	1.22	1.82
26	NB126N	M16878/17 BDA	1	26	.0159	.404	.042	1.07	44.50	146	1.52	2.26
26	NB734N	M16878/17 BDB	7	34	.0190	.483	.045	1.14	42.60	140	1.65	2.46
26	NB1938N	M16878/17 BDE	19	38	.0190	.483	.045	1.14	40.10	132	1.75	2.60
24	NB124N	M16878/17 BEA	1	24	.0201	.511	.046	1.17	27.20	89	2.00	2.98
24	NB732N	M16878/17 BEB	7	32	.0240	.610	.050	1.27	26.20	86	2.15	3.20
24	NB1936N	M16878/17 BEE	19	36	.0240	.610	.050	1.27	25.40	83	2.25	3.35
22	NB122N	M16878/17 BFA	1	22	.0253	.643	.052	1.32	17.20	56	3.00	4.46
22	NB730N	M16878/17 BFB	7	30	.0300	.762	.056	1.42	16.70	55	3.15	4.69
22	NB1934N	M16878/17 BFE	19	34	.0300	.762	.056	1.42	15.90	52	3.25	4.84
20	NB120N	M16878/17 BGA	1	20	.0320	.813	.058	1.47	10.70	35	4.50	6.70
20	NB728N	M16878/17 BGB	7	28	.0380	.965	.064	1.63	10.40	34	4.60	6.85
20	NB1030N	M16878/17 BGC	10	30	.0380	.965	.064	1.63	11.80	39	4.70	7.00
20	NB1932N	M16878/17 BGE	19	32	.0380	.965	.064	1.63	9.76	32	4.75	7.10
18	NB118N	M16878/17 BHA	1	18	.0430	1.02	.066	1.68	6.78	22	6.20	9.23
18	NB726N	M16878/17 BHB	7	26	.0480	1.22	.074	1.88	6.54	21	6.60	9.82
18	NB1930N	M16878/17 BHE	19	30	.0480	1.22	.074	1.88	6.22	20	7.00	10.42
16	NB116N	M16878/17 BJA	1	16	.0508	1.29	.079	2.01	4.26	14	8.40	12.50
16	NB1929N†	M16878/17 BJE	19	29	.0540	1.37	.085	2.16	4.82	16	9.00	13.40
16	NB2630N	M16878/17 BJF	26	30	.0550	1.40	.085	2.16	4.59	15	9.50	14.14
14	NB114N†	M16878/17 BKA	1	14	.0641	1.63	.092	2.34	2.68	9	14.25	21.20
14	NB1927N†	M16878/17 BKE	19	27	.0690	1.75	.099	2.52	3.05	10	14.70	21.87

Standard basic insulation color numbers are: Black: 0, Brown: 1, Red: 2, Orange: 3, Yellow: 4, Green: 5, Blue: 6, Violet: 7, Gray: 8, White: 9. The insulation color code number, may be 1, 2 or 3 digits depending on the number or absence of stripes. The 1st number is color of insulation, 2nd number is color of first stripe; 3rd number is color of the second stripe. Example: White wire(9) + Red stripe(2) + Black stripe(0) makes a color code number of "9-2-0". That color number, "9-2-0" is appended to the part number. Sample part number might be "xxxxxx-xxx-9-2-0"

† Not U.L. Recognized

MIL-DTL-16878/18



Extruded Nylon Jacket Overall Thermoplastic Insulation Tinned Copper Stranded

For internal wiring of meters, panels and electronic equipment. Formerly "Type CN"

Electronic Hookup Wire

- Vinyl Primary Insulation - Nominal .015" Wall
- Nylon Secondary Jacket - Nominal Wall .003"
- -54°C to +105°C
- 1000 Volts. R.M.S. (working)

Military Voltage Rating	1000 volts.
Sine-wave Spark-Test Voltage	5000 VAC.
Impulse Spark Test Voltage	10000 V pulse-peak, or 7100 V @3 kHz
Insulation Breakdown Voltage	> 7000 volts, peak.
IR: Insulation Resistance, wet	> 2000 megohm/100 meter, metal to water bath at +20°C
Nominal Dielectric Constant value	4.
Flame Properties	Self extinguishing. Meets UL VW-1
Cold Bending for gauges 16 to 26	Bends over 2 inch mandrel while at -54°C.
Cold Bending for gauges 12 to 14	Bends over 3 inch mandrel while at -54°C.
Fungus	Fungus Resistant

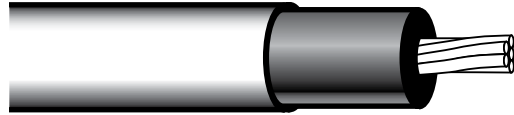
Meets UL Styles 1008, 1009, 1010, CSA TR-64 with nylon except where noted.

GAUGE (AWG)	PART NO.	MIL-SPEC PART NO.	NUMBER OF STRANDS (AWG)	GAUGE OF STRANDS (AWG)	NOM. DIAM. OF STRANDED CONDUCTOR		NOM. FIN. WIRE DIAM.		MAX. RESISTANCE (dc at 20° C) Ω /per		NOM. WT.	
					IN.	mm	IN.	mm	1000-ft	Km	LBS per 1000-ft	Kg/Km
26	NC126N*	M16878/18 BDA	1	26	.0159	.404	.056	1.42	44.50	146	2.50	3.7
26	NC734N*	M16878/18 BDB	7	34	.0190	.483	.059	1.50	42.60	140	2.60	3.9
26	NC1938N*	M16878/18 BDE	19	38	.0190	.483	.059	1.50	40.10	132	2.70	4.0
24	NC124N	M16878/18 BEA	1	24	.0201	.511	.060	1.52	27.20	89	3.15	4.7
24	NC732N	M16878/18 BEB	7	32	.0240	.610	.064	1.63	26.20	86	3.25	4.8
24	NC1936N	M16878/18 BEE	19	36	.0240	.610	.064	1.63	25.40	83	3.35	5.0
22	NC122N	M16878/18 BFA	1	22	.0253	.643	.065	1.65	17.20	56	3.70	5.5
22	NC730N	M16878/18 BFB	7	30	.0300	.762	.070	1.78	16.70	55	3.90	5.8
22	NC1934N	M16878/18 BFE	19	34	.0300	.762	.070	1.78	15.90	52	4.00	6.0
20	NC120N	M16878/18 BGA	1	20	.0320	.813	.072	1.83	10.70	35	5.50	8.2
20	NC728N	M16878/18 BGB	7	28	.0380	.965	.078	1.98	10.40	34	6.00	8.9
20	NC1030N	M16878/18 BGC	10	30	.0380	.965	.078	1.98	11.80	39	5.70	8.5
20	NC1932N	M16878/18 BGE	19	32	.0380	.965	.078	1.98	9.76	32	6.00	8.9
18	NC118N	M16878/18 BHA	1	18	.0403	1.02	.083	2.11	6.78	22	7.90	11.8
18	NC726N	M16878/18 BHB	7	26	.0480	1.22	.090	2.29	6.54	21	8.30	12.4
18	NC1930N	M16878/18 BHE	19	30	.0480	1.22	.090	2.29	6.22	20	8.50	12.6
16	NC116N	M16878/18 BJA	1	16	.0508	1.29	.093	2.36	4.26	14	11.25	16.7
16	NC1929N*†	M16878/18 BJE	19	29	.0540	1.37	.099	2.52	482	16	10.75	16.0
16	NC2630N	M16878/18 BJF	26	30	.0550	1.40	.102	2.60	4.59	15	11.25	16.7
14	NC114N	M16878/18 BKA	1	14	.0641	1.63	.106	2.70	2.68	9	16.50	24.6
14	NC1927N*†	M16878/18 BKE	19	27	.0690	1.75	.113	2.87	3.05	10	15.50	23.1
14	NC4130N	M16878/18 BKH	41	30	.0710	1.80	.120	3.05	2.94	9.7	16.40	24.4
12	NC1925N*†	M16878/18 BLE	19	25	.0890	2.26	.132	3.53	1.92	6.3	25.50	37.9
12	NC3728N*	M16878/18 BLG	37	28	.0890	2.26	.132	3.53	2.01	6.6	26.20	39.0
12	NC6530N*	M16878/18 BLJ	65	30	.0890	2.26	.141	3.58	1.85	6.1	2 6.50	39.4

Standard basic insulation color numbers are: Black: 0, Brown: 1, Red: 2, Orange: 3, Yellow: 4, Green: 5, Blue: 6, Violet: 7, Gray: 8, White: 9. The insulation color code number, may be 1, 2 or 3 digits depending on the number or absence of stripes. The 1st number is color of Insulation, 2nd number is color of first stripe; 3rd number is color of the second stripe. Example: White wire(9) + Red stripe(2) + Black stripe(0) makes a color code number of "9-2-0". That color number, "9-2-0" is appended to the part number. Sample part number might be "xxxxxx-xxx-9-2-0"

* Not C.S.A. Certified
† Not U.L. Recognized

MIL-DTL-16878/19



Extruded Nylon Jacket Overall Thermoplastic Insulation Tinned Copper Stranded

For internal wiring of meters, panels and electronic equipment . Formerly "Type DN."

Electronic Hookup Wire

- Vinyl Primary Insulation - Nominal .031" Wall
- Nylon Secondary Jacket - Nominal Wall .003"
- -54°C to +105°C
- 3000 Volts. R.M.S. (working)

Meets UL Styles 1012, 1014, 1016 except where noted.

Military Voltage Rating	3000 volts.
Sine-wave Spark-Test Voltage	8000 VAC.
Impulse Spark Test Voltage	12000 V pulse-peak, or 8500 V @3 kHz
Insulation Breakdown Voltage	> 12,000 volts, peak.
IR: Insulation Resistance, wet	> 2900 megohm/100 meter, metal to water bath at +20°C
Nominal Dielectric Constant value	4.
Flame Properties	Self extinguishing. Meets UL VW-1
Cold Bending for gauges 32 to 22	Bends over 2 inch mandrel while at -54°C.
Cold Bending for gauges 20 to -14	Bends over 3 inch mandrel while at -54°C.
Fungus	Fungus Resistant

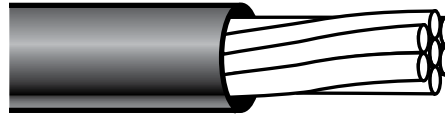
GAUGE (AWG)	PART NO.	MIL-SPEC PART NO.	NUMBER OF STRANDS (AWG)	GAUGE OF STRANDS (AWG)	NOM. DIAM. OF STRANDED CONDUCTOR		NOM. FIN. WIRE DIAM.		MAX. RESISTANCE (dc at 20° C) Ω /per		NOM. WT.	
					IN.	mm	IN.	mm	1000-ft	Km	LBS per 1000-ft	Kg/Km
24	ND124N	M16878/19 BEA	1	24	.0201	.511	.089	2.26	27.200	89	4.5	6.97
24	ND732N	M16878/19 BEB	7	32	.0240	.610	.093	2.36	26.200	86	4.6	6.85
24	ND1936N	M16878/19 BEE	19	36	.0240	.610	.093	2.36	25.400	83	4.7	7.00
22	ND122N	M16878/19 BFA	1	22	.0253	.643	.095	2.41	17.200	56	5.3	7.89
22	ND730N	M16878/19 BFB	7	30	.0300	.762	.099	2.52	16.700	55	5.4	8.04
22	ND1934N	M16878/19 BFE	19	34	.0300	.762	.099	2.52	15.900	52	5.5	8.18
20	ND120N	M16878/19 BGA	1	20	.0320	.813	.101	2.57	10.700	35	7.4	11.011
20	ND728N	M16878/19 BGB	7	28	.0380	.965	.107	2.72	10.400	34	7.8	11.61
20	ND1932N	M16878/19 BGE	19	32	.0380	.965	.107	2.72	9.760	32	7.9	11.76
18	ND118N	M16878/19 BHA	1	18	.0403	1.02	.109	2.77	6.780	22	9.7	14.43
18	ND726N	M16878/19 BHB	7	26	.0480	1.22	.117	2.97	6.540	21	10.1	16.03
18	ND1930N	M16878/19 BHE	19	30	.0480	1.22	.117	2.97	6.220	20	10.5	15.62
16	ND116N	M16878/19 BJA	1	16	.0508	1.29	.122	3.10	4.260	14	13.0	19.34
16	ND1929N†	M16878/19 BJE	19	29	.0540	1.37	.125	3.18	4.820	16	12.7	18.90
16	ND2630N	M16878/19 BJF	26	30	.0550	1.40	.126	3.20	4.590	15	13.2	19.64
14	ND114N	M16878/19 BKA	1	14	.0641	1.63	.135	3.43	2.680	9	19.0	28.27
14	ND1927N†	M16878/19 BKE	19	27	.0690	1.75	.140	3.56	3.050	10	18.0	26.78
14	ND4130N	M16878/19 BKH	41	30	.0710	1.70	.143	3.63	2.940	9.6	19.0	28.27
12	ND1925N†	M16878/19 BLE	19	25	.0890	2.26	.170	4.32	1.920	6.3	28.0	41.66
12	ND3728N	M16878/19 BLG	37	28	.0890	2.26	.165	4.19	2.010	6.6	27.5	40.92
12	ND6530N*	M16878/19 BLJ	65	30	.0890	2.26	.174	4.42	1.850	6.1	30.0	44.64
10	ND3726N	M16878/19 BMG	37	26	.1070	2.72	.190	4.83	1.260	4.1	40.5	60.26

Standard basic insulation color numbers are: Black: 0, Brown: 1, Red: 2, Orange: 3, Yellow: 4, Green: 5, Blue: 6, Violet: 7, Gray: 8, White: 9. The insulation color code number, may be 1, 2 or 3 digits depending on the number or absence of stripes. The 1st number is color of Insulation, 2nd number is color of first stripe; 3rd number is color of the second stripe. Example: White wire(9) + Red stripe(2) + Black stripe(0) makes a color code number of "9-2-0". That color number, "9-2-0" is appended to the part number. Sample part number might be "xxxxxx-xxx-9-2-0"

† Not U.L. Recognized

* Not military due to undersized conductor diameter

MIL-W-76 TYPE LW



Thermoplastic
Insulation

Tinned Copper
Stranded or Solid

For internal wiring of meters, panels and electronic equipment .

Electronic Hookup Wire

- Vinyl Primary Insulation
- Nominal .010" Wall (no outer covering)
- -40°C to +80°C
- 300 Volts. R.M.S. (working)
- Insulation is same as MIL-W-16878/1

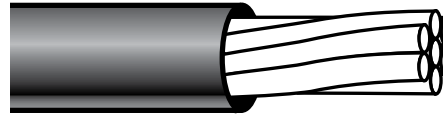
Meets UL Style 1061 and CSA AWM II A/B (previously T2 S-R PVC).,

Military Voltage Rating	600 volts.
Factory Spark-Test Voltage	3400 VAC. 100% of all wire is tested at this voltage.
Insulation Breakdown Voltage	> 5000 volts, peak.
IR: Insulation Resistance, wet	> 1500 megohm/100 meter, metal to water bath at +20°C
Insulation Surface Resistance	> 5 megohm-inch (>1.97 megohm-cm) @ 500 VDC.
Nominal Dielectric Constant value	4.
Flame Properties	Self extinguishing. Meets UL VW-1
Cold Bending for gauges 26 to 32	Bends over 1 inch mandrel while at -54°C.
Cold Bending for gauges 14 to 24	Bends over 2 inch mandrel while at -54°C.
Fungus	Fungus Resistant

GAUGE (AWG)	PART NO.	NUMBER OF STRANDS (AWG)	GAUGE OF STRANDS (AWG)	NOM. DIAM. OF STRANDED CONDUCTOR		NOM. FIN. WIRE DIAM.		MAX. RESISTANCE (dc at 20° C) Ω /per		NOM. WT.	
				IN.	mm	IN.	mm	1000-ft	Km	LBS per 1000-ft	Kg/Km
28	NLW128U	1	28	.0126	.320	.033	.838	70.8	232	1.00	1.49
28	NLW736U	7	36	.0180	.381	.035	.889	58.2	224	1.00	1.49
26	NLW126U	1	26	.0159	.404	.036	.914	44.5	146	1.35	2.00
26	NLW734U	7	34	.0190	.483	.039	.991	42.6	140	1.50	2.23
26	NLW1938U	19	38	.0190	.483	.039	.991	40.1	132	1.50	2.23
24	NLW124U	1	24	.0201	.511	.040	1.02	27.2	89	1.80	2.67
24	NLW732U	7	32	.0240	.610	.044	1.12	26.2	86	2.00	2.97
24	NLW1936U	19	36	.0240	.610	.044	1.12	25.4	83	2.00	2.97
22	NLW122U	1	22	.0253	.643	.046	1.17	17.2	56	2.60	3.87
22	NLW730U	7	30	.0300	.762	.050	1.27	16.7	55	3.00	4.46
22	NLW1934U	19	34	.0300	.762	.050	1.27	15.9	52	3.00	4.46
20	NLW120U	1	20	.0320	.813	.062	1.32	10.7	35	3.50	5.80
20	NLW728U	7	28	.0380	.965	.058	1.47	10.4	34	4.40	6.55
20	NLW1932U	19	32	.0380	.965	.058	1.47	9.76	32	4.50	6.70

Standard basic insulation color numbers are: Black: 0, Brown: 1, Red: 2, Orange: 3, Yellow: 4, Green: 5, Blue: 6, Violet: 7, Gray: 8, White: 9. The insulation color code number, may be 1, 2 or 3 digits depending on the number or absence of stripes. The 1st number is color of Insulation, 2nd number is color of first stripe; 3rd number is color of the second stripe. Example: White wire(9) + Red stripe(2) + Black stripe(0) makes a color code number of "9-2-0". That color number, "9-2-0" is appended to the part number. Sample part number might be "xxxxxx-xxx-9-2-0"

MIL-W-76 TYPE MW



Thermoplastic
Insulation

Tinned Copper
Stranded or Solid

For internal wiring of meters, panels and electronic equipment .

Electronic Hookup Wire

- Vinyl Primary Insulation
- Nominal .015" Wall (no outer covering)
- -40°C to +80°C
- 1000 Volts. R.M.S. (working)
- Insulation is same as MIL-W-16878/2

Meets UL Style 1007, 1569 and CSA TR-64 except where noted.

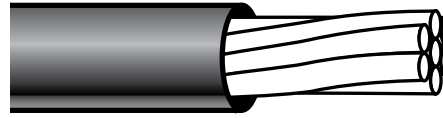
Military Voltage Rating	1000 volts.
Sine-wave Spark-Test Voltage	5000 VAC.
Impulse Spark Test Voltage	10000 V pulse-peak, or 7100 V @3 kHz
Insulation Breakdown Voltage	> 7000 volts, peak.
IR: Insulation Resistance, wet	> 2000 megohm/100 meter, metal to water bath at +20°C
Nominal Dielectric Constant value	4.
Flame Properties	Self extinguishing. Meets UL VW-1
Cold Bending for gauges 16 to 26	Bends over 2 inch mandrel while at -54°C.
Cold Bending for gauges 12 to 14	Bends over 3 inch mandrel while at -54°C.
Fungus	Fungus Resistant

GAUGE (AWG)	PART NO.	NUMBER OF STRANDS (AWG)	GAUGE OF STRANDS (AWG)	NOM. DIAM. OF STRANDED CONDUCTOR		NOM. FIN. WIRE DIAM.		MAX. RESISTANCE (dc at 20° C) Ω /per		NOM. WT.	
				IN.	mm	IN.	mm	1000-ft	Km	LBS per 1000-ft	Kg/Km
24	NMW124U	1	24	.0201	.511	.054	1.37	27.20	89	2.50	3.7
24	NMW732U	7	32	.0240	.610	.058	1.47	26.20	86	2.60	3.9
24	NMW1936U	19	36	.0240	.610	.058	1.47	25.40	83	2.75	4.1
22	NMW122U	1	22	.0253	.643	.059	1.50	17.20	56	3.50	5.2
22	NMW730U	7	30	.0300	.762	.064	1.63	16.70	55	3.65	5.4
22	NMW1934U	19	34	.0380	.762	.064	1.63	15.90	52	3.75	5.6
20	NMW120U	1	20	.0320	.813	.066	1.68	10.70	35	5.30	7.9
20	NMW728U	7	28	.0380	.965	.072	1.83	10.40	34	5.40	8.0
20	NMW1030U	10	30	.0380	.965	.072	1.83	11.80	39	5.45	8.1
20	NMW1932U	19	32	.0380	.965	.072	1.83	9.76	32	5.50	8.2
18	NMW118U	1	18	.0403	1.02	.075	1.91	6.78	22	7.80	11.6
18	NMW1630U	16	30	.0408	1.22	.082	2.08	6.54	21	7.90	11.8
18	NMW1930U	19	30	.0480	1.22	.082	2.08	6.22	20	8.00	11.9
16	NMW116U	1	16	.0602	1.29	.085	1.16	4.26	14	8.50	12.7
16	NMW1929U*	19	29	.0540	1.37	.091	2.31	4.82	16	10.00	14.9
16	NMW2630U	26	30	.0550	1.40	.094	2.39	4.59	15	10.50	15.6
14	NMW114U	1	14	.0641	1.53	.098	2.49	2.68	9.0	15.50	23.1
14	NMW1927U*	19	27	.0690	1.75	.105	2.67	3.05	10	15.00	22.3
14	NMW4130U	41	30	.0710	1.80	.112	2.84	2.94	9.7	14.50	21.5
12	NMW1925U*	19	25	.0890	2.26	.124	3.15	1.92	6.3	24.00	35.7
12	NMW6530U	65	30	.0890	2.26	.132	3.35	1.85	6.1	25.30	37.7

Standard basic insulation color numbers are: Black: 0, Brown: 1, Red: 2, Orange: 3, Yellow: 4, Green: 5, Blue: 6, Violet: 7, Gray: 8, White: 9. The insulation color code number, may be 1, 2 or 3 digits depending on the number or absence of stripes. The 1st number is color of Insulation, 2nd number is color of first stripe; 3rd number is color of the second stripe. Example: White wire(9) + Red stripe(2) + Black stripe(0) makes a color code number of "9-2-0". That color number, "9-2-0" is appended to the part number. Sample part number might be "xxxxxx-xxx-9-2-0"

* Not C.S.A. Certified

MIL-W-76 TYPE HW



Thermoplastic
Insulation

Tinned Copper
Stranded or Solid

For internal wiring of meters, panels and electronic equipment.

Electronic Hookup Wire

- Vinyl Primary Insulation
- Nominal .031" Wall (no outer covering)
- -40°C to +80°C
- 2500 Volts. R.M.S. (working)
- Insulation is same as MIL-W-16878/3

Meets UL Style 1011, 1013, 1015 and CSA TR-32 or TEW except where noted.

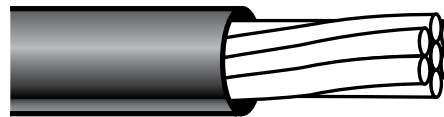
Military Voltage Rating	3000 volts.
Sine-wave Spark-Test Voltage	8000 VAC.
Impulse Spark Test Voltage	12000 V pulse-peak, or 8500 V @3 kHz
Insulation Breakdown Voltage	> 12,000 volts, peak.
IR: Insulation Resistance, wet	> 2900 megohm/100 meter, metal to water bath at +20°C
Nominal Dielectric Constant value	4.
Flame Properties	Self extinguishing. Meets UL VW-1
Cold Bending for gauges 32 to 22	Bends over 2 inch mandrel while at -54°C.
Cold Bending for gauges 20 to -14	Bends over 3 inch mandrel while at -54°C.
Fungus	Fungus Resistant

GAUGE (AWG)	PART NO.	NUMBER OF STRANDS (AWG)	GAUGE OF STRANDS (AWG)	NOM. DIAM. OF STRANDED CONDUCTOR		NOM. FIN. WIRE DIAM.		MAX. RESISTANCE (dc at 20° C) Ω /per		NOM. WT.	
				IN.	mm	IN.	mm	1000-ft	Km	LBS per 1000-ft	Kg/Km
22	NHW122U	1	22	.0253	.643	.088	2.24	17.20	55	5.0	7.44
22	NHW730U	7	30	.0300	.762	.092	2.34	16.70	55	5.2	7.74
22	NHW1934U	19	34	.0300	.762	.092	2.34	15.90	52	5.3	7.88
20	NHW120U	1	20	.0320	.813	.094	2.39	10.70	35	6.8	10.11
20	NHW728U	7	28	.0380	.985	.100	2.54	10.40	34	7.3	10.86
20	NHW1932U	19	32	.0380	.955	.100	2.54	9.76	32	7.3	10.86
18	NHW118U	1	18	.0403	1.02	.102	2.59	6.78	22	8.3	13.84
18	NHW1630U	16	30	.0470	1.22	.110	2.79	6.51	21	9.7	14.43
18	NHW1930U	19	30	.4800	1.22	.110	2.79	6.22	20	10.0	14.85
16	NWH116U	1	16	.0508	1.29	.113	2.87	4.86	14	12.6	18.75
16	NWH1929U*	19	29	.0540	1.37	.116	2.95	4.82	15	12.0	17.85
16	NHW2630U	26	30	.0550	1.40	.117	2.97	4.59	15	12.5	18.80

Standard basic insulation color numbers are: Black: 0, Brown: 1, Red: 2, Orange: 3, Yellow: 4, Green: 5, Blue: 6, Violet: 7, Gray: 8, White: 9. The insulation color code number, may be 1, 2 or 3 digits depending on the number or absence of stripes. The 1st number is color of Insulation, 2nd number is color of first stripe; 3rd number is color of the second stripe. Example: White wire(9) + Red stripe(2) + Black stripe(0) makes a color code number of "9-2-0". That color number, "9-2-0" is appended to the part number. Sample part number might be "xxxxxx-xxx-9-2-0"

* Not C.S.A. Certified

NEMA HP-3 Type E



Extruded PTFE
Insulation

Silver Plated
Copper Stranded

For internal wiring of meters, panels and electronic equipment. Formerly "Mil-W-16878/4"

Electronic Hookup Wire

- Extruded Polytetrafluoroethylene (PTFE) Insulation
- Nominal .010" Wall
- -65°C to +200°C
- 600 Volts. R.M.S. (working)

Meets UL Style 1213 except where noted.

Military Voltage Rating	600 volts.
Dielectric Voltage Withstand	2000 Volts, Wet
Sine-wave Spark-Test Voltage	3400 VAC.
Impulse Spark Test Voltage	6500 V pulse-peak
Insulation Breakdown Voltage	> 6800 volts, peak.
IR: Insulation Resistance, wet	> 10000 megohm/100 mtr, metal to water bath at +20°C
Nominal Dielectric Constant value	2.04
Flame Properties	Self extinguishing
Cold Bending for gauges 32 to 16	Bends over a 1 inch mandrel while at -54°C
Cold Bending for gauges 14 to 10	Bends over a 2 inch mandrel while at -54°C
Fungus	Fungus resistant

GAUGE (AWG)	PART NO.	NEMA SPEC HP3 WIRE PART NO.	NUMBER OF STRANDS (AWG)	GAUGE OF STRANDS (AWG)	NOM. DIAM. OF STRANDED CONDUCTOR		NOM. FIN. WIRE DIAM.		MAX. RESISTANCE (dc at 20° C) Ω /per		NOM. WT.	
					IN.	mm	IN.	mm	1000-ft	Km	LBS per 1000-ft	Kg/Km
32	NE132U	HP3-EXBAAx	1	32	.0089	.226	.029	.737	169.00	555	.92	1.37
32	NE740U	HP3-EXBABx	7	40	.0100	.254	.030	.762	173.00	568	.96	1.43
30	NE130U	HP3-EXBBAx	1	30	.0100	.254	.030	.762	108.00	354	1.10	1.64
30	NE738U	HP3-EXBBBx	7	38	.0120	.305	.032	.813	100.70	330	1.20	1.79
28	NE128U	HP3-EXBCAx	1	28	.0126	.320	.033	.838	68.00	223	1.40	2.08
28	NE736U	HP3-EXBCBx	7	36	.0150	.381	.035	.889	63.80	209	1.50	2.23
26	NE126U	HP3-EXBDAx	1	26	.0159	.404	.036	.914	42.70	140	1.80	2.68
26	NE734U	HP3-EXBDBx	7	34	.0190	.483	.039	.991	40.50	133	2.00	2.98
26	NE1938U	HP3-EXBDEx	19	38	.0200	.508	.039	.991	38.40	126	2.10	3.13
24	NE124U	HP3-EXBEAx	1	24	.0201	.511	.040	1.02	26.80	88	2.50	3.72
24	NE732U	HP3-EXBEBx	7	32	.0240	.610	.044	1.12	25.20	83	2.70	4.02
24	NE1936U	HP3-EXBEEEx	19	36	.0250	.635	.044	1.12	24.30	80	2.80	4.17
22	NE122U	HP3-EXBFAx	1	22	.0254	.645	.045	1.14	17.00	56	3.40	5.06
22	NE730U	HP3-EXBFBx	7	30	.0300	.762	.050	1.27	15.90	52	3.70	5.51
22	NE1934U	HP3-EXBFEx	19	34	.0320	.813	.050	1.27	15.10	50	3.80	5.65
20	NE120U	HP3-EXBGAx	1	20	.0320	.813	.052	1.32	10.50	35	4.80	7.14
20	NE728U	HP3-EXBGBx	7	28	.0380	.965	.058	1.47	10.00	33	5.30	7.89
20	NE1932U	HP3-EXBGEEx	19	32	.0400	1.02	.058	1.47	9.19	30	5.60	8.33
18	NE118U†	HP3-EXBHAx	1	18	.0403	1.02	.061	1.55	6.60	22	7.00	10.4
18	NE726U†	HP3-EXBHBx	7	26	.0480	1.22	.069	1.75	6.28	21	7.90	11.8
18	NE1930U†	HP3-EXBHEEx	19	30	.0500	1.27	.069	1.75	5.879	19	8.30	12.4
16	NE116U†	HP3-EXBJAx	1	16	.0508	1.29	.074	1.88	4.20	14	10.50	15.6
16	NE1929U†	HP3-EXBJEx	19	29	.0570	1.45	.080	2.03	4.52	15	11.00	16.4
14	NE1927U†	HP3-EXBKEx	19	27	.0720	1.83	.095	2.41	2.88	9	16.00	23.8
12	NE1925U†	HP3-EXBLEEx	19	25	.0910	2.31	.114	2.90	1.81	6	24.10	35.9
12	NE3728U†	HP3-EXBLGx	37	28	.0890	2.26	.112	2.84	1.90	6	25.00	37.2
10	NE3726U†	HP3-EXBMGx	37	26	.1110	2.82	.134	3.40	1.19	4	35.20	52.4

Standard basic insulation color numbers are: Black: 0, Brown: 1, Red: 2, Orange: 3, Yellow: 4, Green: 5, Blue: 6, Violet: 7, Gray: 8, White: 9. The insulation color code number, may be 1, 2 or 3 digits depending on the number or absence of stripes. The 1st number is color of Insulation, 2nd number is color of first stripe; 3rd number is color of the second stripe. Example: White wire(9) + Red stripe(2) + Black stripe(0) makes a color code number of "9-2-0". That color number, "9-2-0" is appended to the part number. Sample part number might be "xxxxxx-xxx-9-2-0"

† Not U.L. Recognized

NEMA HP-3 Type E



RoHS COMPLIANT PRODUCTS:

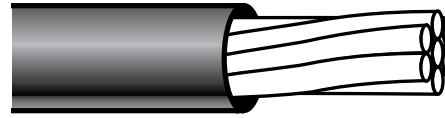
all RoHS products have the letter "R" written into the second position of the Part No.

GAUGE (AWG)	PART NO.	NEMA SPEC HP3 WIRE PART NO.	NUMBER OF STRANDS (AWG)	GAUGE OF STRANDS (AWG)	NOM. DIAM. OF STRANDED CONDUCTOR		NOM. FIN. WIRE DIAM.		MAX. RESISTANCE (dc at 20° C) Ω /per		NOM. WT.	
					IN.	mm	IN.	mm	1000-ft	Km	LBS per 1000-ft	Kg/Km
32	NRE132U	HP3-EXBAAx	1	32	.0089	.226	.029	.737	169.00	555	.92	1.37
32	NRE740U	HP3-EXBABx	7	40	.0100	.254	.030	.762	173.00	568	.96	1.43
30	NRE130U	HP3-EXBBAx	1	30	.0100	.254	.030	.762	108.00	354	1.10	1.64
30	NRE738U	HP3-EXBBBx	7	38	.0120	.305	.032	.813	100.70	330	1.20	1.79
28	NRE128U	HP3-EXBCAx	1	28	.0126	.320	.033	.838	68.00	223	1.40	2.08
28	NRE736U	HP3-EXBCBx	7	36	.0150	.381	.035	.889	63.80	209	1.50	2.23
26	NRE126U	HP3-EXBDAx	1	26	.0159	.404	.036	.914	42.70	140	1.80	2.68
26	NRE734U	HP3-EXBDBx	7	34	.0190	.483	.039	.991	40.50	133	2.00	2.98
26	NRE1938U	HP3-EXBDEx	19	38	.0200	.508	.039	.991	38.40	126	2.10	3.13
24	NRE124U	HP3-EXBEAx	1	24	.0201	.511	.040	1.02	26.80	88	2.50	3.72
24	NRE732U	HP3-EXBEBx	7	32	.0240	.610	.044	1.12	25.20	83	2.70	4.02
24	NRE1936U	HP3-EXBEEx	19	36	.0250	.635	.044	1.12	24.30	80	2.80	4.17
22	NRE122U	HP3-EXBFAx	1	22	.0254	.645	.045	1.14	17.00	56	3.40	5.06
22	NRE730U	HP3-EXBFBx	7	30	.0300	.762	.050	1.27	15.90	52	3.70	5.51
22	NRE1934U	HP3-EXBFEEx	19	34	.0320	.813	.050	1.27	15.10	50	3.80	5.65
20	NRE120U	HP3-EXBGAx	1	20	.0320	.813	.052	1.32	10.50	35	4.80	7.14
20	NRE728U	HP3-EXBGBx	7	28	.0380	.965	.058	1.47	10.00	33	5.30	7.89
20	NRE1932U	HP3-EXBGEEx	19	32	.0400	1.02	.058	1.47	9.19	30	5.60	8.33
18	NRE118U†	HP3-EXBHAx	1	18	.0403	1.02	.061	1.55	6.60	22	7.00	10.4
18	NRE726U†	HP3-EXBHBx	7	26	.0480	1.22	.069	1.75	6.28	21	7.90	11.8
18	NRE1930U†	HP3-EXBHEEx	19	30	.0500	1.27	.069	1.75	5.879	19	8.30	12.4
16	NRE116U†	HP3-EXBJAx	1	16	.0508	1.29	.074	1.88	4.20	14	10.50	15.6
16	NRE1929U†	HP3-EXBJEx	19	29	.0570	1.45	.080	2.03	4.52	15	11.00	16.4
14	NRE1927U†	HP3-EXBKEEx	19	27	.0720	1.83	.095	2.41	2.88	9	16.00	23.8
12	NRE1925U†	HP3-EXBLEEx	19	25	.0910	2.31	.114	2.90	1.81	6	24.10	35.9
12	NRE3728U†	HP3-EXBLGx	37	28	.0890	2.26	.112	2.84	1.90	6	25.00	37.2
10	NRE3726U†	HP3-EXBMGx	37	26	.1110	2.82	.134	3.40	1.19	4	35.20	52.4

Standard basic insulation color numbers are: Black: 0, Brown: 1, Red: 2, Orange: 3, Yellow: 4, Green: 5, Blue: 6, Violet: 7, Gray: 8, White: 9. The insulation color code number, may be 1, 2 or 3 digits depending on the number or absence of stripes. The 1st number is color of Insulation, 2nd number is color of first stripe; 3rd number is color of the second stripe. Example: White wire(9) + Red stripe(2) + Black stripe(0) makes a color code number of "9-2-0". That color number, "9-2-0" is appended to the part number. Sample part number might be "xxxxxx-xxx-9-2-0"

† Not U.L. Recognized

NEMA HP-3 Type EE



Extruded PTFE
Insulation

Silver Plated
Copper Stranded

For internal wiring of meters, panels and electronic equipment. Formerly "Mil-W-16878/5."

Electronic Hookup Wire

- Extruded Polytetrafluoroethylene (PTFE) Insulation
- Nominal .015" Wall
- -65°C to +200°C
- 1000 Volts. R.M.S. (working)

Meets UL Style 1180 except where noted.

Military Voltage Rating	1000 volts.
Dielectric Voltage Withstand	3000 Volts, Wet
Sine-wave Spark-Test Voltage	5000 VAC.
Impulse Spark Test Voltage	8000 V pulse-peak
Insulation Breakdown Voltage	> 8500 volts, peak.
IR: Insulation Resistance, wet	> 15000 megohm/100 mtr, metal to water bath at +20°C
Nominal Dielectric Constant value	2.04
Flame Properties	Self extinguishing
Cold Bending for gauges 32 to 16	Bends over a 1 inch mandrel while at -54°C
Cold Bending for gauges 14 to 12	Bends over a 2 inch mandrel while at -54°C
Fungus	Fungus resistant

GAUGE (AWG)	PART NO.	NEMA SPEC HP-3 WIRE PART NO.	NUMBER OF STRANDS (AWG)	GAUGE OF STRANDS (AWG)	NOM. DIAM. OF STRANDED CONDUCTOR		NOM. FIN. WIRE DIAM.		MAX. RESISTANCE (dc at 20° C) Ω /per		NOM. WT.	
					IN.	mm	IN.	mm	1000-ft	Km	LBS per 1000-ft	Kg/Km
32	NEE132U†	HP3-EEXBAAx	1	32	.0089	.226	.038	.965	169.000	555	1.2	1.79
32	NEE740U†	HP3-EEXBABx	7	40	.0100	.254	.040	1.02	173.000	568	1.3	1.93
30	NEE130U†	HP3-EEXBBAx	1	30	.0100	.254	.040	1.02	108.000	354	1.4	2.08
30	NEE738U†	HP3-EEXBBBx	7	38	.0120	.305	.042	1.07	100.700	330	1.6	2.38
28	NEE128U	HP3-EEXBCAx	1	28	.0126	.320	.043	1.09	68.000	223	1.8	2.68
28	NEE736U	HP3-EEXBCBx	7	36	.0150	.381	.045	1.14	63.800	209	1.9	2.83
26	NEE126U	HP3-EEXBDAx	1	26	.0159	.404	.046	1.17	42.700	140	2.2	3.27
26	NEE734U	HP3-EEXBDBx	7	34	.0190	.483	.049	1.25	40.500	133	2.2	3.27
26	NEE1938U	HP3-EEXBDEx	19	38	.0200	.508	.049	1.25	38.400	126	2.4	3.57
24	NEE124U	HP3-EEXBEAx	1	24	.0201	.511	.050	1.27	26.800	88	3.3	4.91
24	NEE732U	HP3-EEXBEBx	7	32	.0240	.610	.054	1.37	25.200	83	3.5	5.21
24	NEE1936U	HP3-EEXBEEEx	19	36	.0250	.635	.054	1.37	24.300	80	3.6	5.36
22	NEE122U	HP3-EEXBFAx	1	22	.0254	.645	.056	1.42	17.000	56	4.2	6.25
22	NEE730U	HP3-EEXBFBx	7	30	.0300	.762	.060	1.52	15.900	52	4.6	6.85
22	NEE1934U	HP3-EEXBFEx	19	34	.0320	.813	.060	1.52	15.100	50	4.7	7.00
20	NEE120U	HP3-EEXBGAx	1	20	.0320	.813	.062	1.58	10.500	35	5.8	8.63
20	NEE728U	HP3-EEXBGBx	7	28	.0380	.965	.068	1.73	10.000	33	6.3	9.37
20	NEE1932U	HP3-EEXBGEEx	19	32	.0400	1.02	.068	1.73	9.190	30	6.6	9.82
18	NEE118U	HP3-EEXBHAx	1	18	.0403	1.02	.071	1.80	60.600	22	8.0	11.9
18	NEE726U	HP3-EEXBHBx	7	26	.0480	1.22	.079	2.01	6.280	21	9.1	13.5
18	NEE1930U	HP3-EEXBHEEx	19	30	.0500	1.27	.079	2.01	5.790	19	9.5	14.1
16	NEE1929U†	HP3-EEXBJEx	19	29	.0570	1.45	.089	2.26	4.520	156	12.1	18.0
14	NEE1927U†	HP3-EEXBKEx	19	27	.0720	1.83	.106	2.69	2.880	9	17.9	26.6
12	NEE1925U†	HP3-EEXBLEEx	19	25	.0910	2.31	.125	3.18	1.810	6	26.3	39.1
10	NEE3726U†	HP3-EEXBMGx	37	26	.1110	2.82	.145	3.68	1.190	4	37.8	56.3
8	NEE13329U†	HP3-EEXBNLx	133	29	.1690	4.29	.209	5.31	0.658	2	70.2	104.5
6	NEE13327U†	HP3-EEXBPLx	133	27	.2130	5.41	.263	6.68	0.418	1	122.0	181.5

Standard basic insulation color numbers are: Black: 0, Brown: 1, Red: 2, Orange: 3, Yellow: 4, Green: 5, Blue: 6, Violet: 7, Gray: 8, White: 9. The insulation color code number, may be 1, 2 or 3 digits depending on the number or absence of stripes. The 1st number is color of Insulation, 2nd number is color of first stripe; 3rd number is color of the second stripe. Example: White wire(9) + Red stripe(2) + Black stripe(0) makes a color code number of "9-2-0". That color number, "9-2-0" is appended to the part number. Sample part number might be "xxxxxx-xxx-9-2-0"

† Not U.L. Recognized

NEMA HP-3 Type EE



RoHS COMPLIANT PRODUCTS:

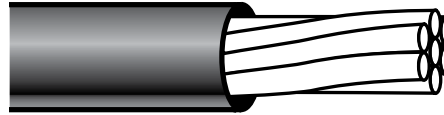
all RoHS products have the letter "R" written into the second position of the Part No.

GAUGE (AWG)	PART NO.	NEMA SPEC HP-3 WIRE PART NO.	NUMBER OF STRANDS (AWG)	GAUGE OF STRANDS (AWG)	NOM. DIAM. OF STRANDED CONDUCTOR		NOM. FIN. WIRE DIAM.		MAX. RESISTANCE (dc at 20° C) Ω /per		NOM. WT.	
					IN.	mm	IN.	mm	1000-ft	Km	LBS per 1000-ft	Kg/Km
32	NREE132U†	HP3-EEXBAAx	1	32	.0089	.226	.038	.965	169.000	555	1.2	1.79
32	NREE740U†	HP3-EEXBABx	7	40	.0100	.254	.040	1.02	173.000	568	1.3	1.93
30	NREE130U†	HP3-EEXBBAx	1	30	.0100	.254	.040	1.02	108.000	354	1.4	2.08
30	NREE738U†	HP3-EEXBBBx	7	38	.0120	.305	.042	1.07	100.700	330	1.6	2.38
28	NREE128U	HP3-EEXBCAx	1	28	.0126	.320	.043	1.09	68.000	223	1.8	2.68
28	NREE736U	HP3-EEXBCBx	7	36	.0150	.381	.045	1.14	63.800	209	1.9	2.83
26	NREE126U	HP3-EEXBDAx	1	26	.0159	.404	.046	1.17	42.700	140	2.2	3.27
26	NREE734U	HP3-EEXBDBx	7	34	.0190	.483	.049	1.25	40.500	133	2.2	3.27
26	NREE1938U	HP3-EEXBDEx	19	38	.0200	.508	.049	1.25	38.400	126	2.4	3.57
24	NREE124U	HP3-EEXBEAx	1	24	.0201	.511	.050	1.27	26.800	88	3.3	4.91
24	NREE732U	HP3-EEXBEBx	7	32	.0240	.610	.054	1.37	25.200	83	3.5	5.21
24	NREE1936U	HP3-EEXBEEEx	19	36	.0250	.635	.054	1.37	24.300	80	3.6	5.36
22	NREE122U	HP3-EEXBFAx	1	22	.0254	.645	.056	1.42	17.000	56	4.2	6.25
22	NREE730U	HP3-EEXBFBx	7	30	.0300	.762	.060	1.52	15.900	52	4.6	6.85
22	NREE1934U	HP3-EEXBFEx	19	34	.0320	.813	.060	1.52	15.100	50	4.7	7.00
20	NREE120U	HP3-EEXBGAx	1	20	.0320	.813	.062	1.58	10.500	35	5.8	8.63
20	NREE728U	HP3-EEXBGBx	7	28	.0380	.965	.068	1.73	10.000	33	6.3	9.37
20	NREE1932U	HP3-EEXBGEEx	19	32	.0400	1.02	.068	1.73	9.190	30	6.6	9.82
18	NREE118U	HP3-EEXBHAx	1	18	.0403	1.02	.071	1.80	60.600	22	8.0	11.9
18	NREE726U	HP3-EEXBHBx	7	26	.0480	1.22	.079	2.01	6.280	21	9.1	13.5
18	NREE1930U	HP3-EEXBHEEx	19	30	.0500	1.27	.079	2.01	5.790	19	9.5	14.1
16	NREE1929U†	HP3-EEXBJEx	19	29	.0570	1.45	.089	2.26	4.520	156	12.1	18.0
14	NREE1927U†	HP3-EEXBKEx	19	27	.0720	1.83	.106	2.69	2.880	9	17.9	26.6
12	NREE1925U†	HP3-EEXBLEx	19	25	.0910	2.31	.125	3.18	1.810	6	26.3	39.1
10	NREE3726U†	HP3-EEXBMGx	37	26	.1110	2.82	.145	3.68	1.190	4	37.8	56.3
8	NREE13329U†	HP3-EEXBNLx	133	29	.1690	4.29	.209	5.31	0.658	2	70.2	104.5
6	NREE13327U†	HP3-EEXBPLx	133	27	.2130	5.41	.263	6.68	0.418	1	122.0	181.5

Standard basic insulation color numbers are: Black: 0, Brown: 1, Red: 2, Orange: 3, Yellow: 4, Green: 5, Blue: 6, Violet: 7, Gray: 8, White: 9. The insulation color code number, may be 1, 2 or 3 digits depending on the number or absence of stripes. The 1st number is color of Insulation, 2nd number is color of first stripe; 3rd number is color of the second stripe. Example: White wire(9) + Red stripe(2) + Black stripe(0) makes a color code number of "9-2-0". That color number, "9-2-0" is appended to the part number. Sample part number might be "xxxxxx-xxx-9-2-0"

† Not U.L. Recognized

NEMA HP-3 Type ET



Extruded PTFE
Insulation

Silver Plated
Copper Stranded

For internal wiring of meters, panels and electronic equipment. Formerly "Mil-W-16878/6."

Electronic Hookup Wire

- Extruded Polytetrafluoroethylene (PTFE) Insulation
- Nominal .005" Wall
- -65°C to +200°C
- 250 Volts. R.M.S. (working)

Meets UL Styles 1371 and 1531 for 105°C only.

Military Voltage Rating	250 volts.
Dielectric Voltage Withstand	1500 Volts, Wet
Sine-wave Spark-Test Voltage	2900 VAC.
Impulse Spark Test Voltage	4000 V pulse-peak
Insulation Breakdown Voltage	> 4500 volts, peak.
IR: Insulation Resistance, wet	> 10000 megohm/100 mtr, metal to water bath at +20°C
Nominal Dielectric Constant value	2.04
Flame Properties	Self extinguishing
Cold Bending for gauges 32 to 16	Bends over a 1 inch mandrel while at -54°C
Cold Bending for gauges 14 to 12	Bends over a 2 inch mandrel while at -54°C
Fungus	Fungus resistant

GAUGE (AWG)	PART NO.	NEMA SPEC HP3 WIRE PART NO.	NUMBER OF STRANDS (AWG)	GAUGE OF STRANDS (AWG)	NOM. DIAM. OF STRANDED CONDUCTOR		NOM. FIN. WIRE DIAM.		MAX. RESISTANCE (dc at 20° C) Ω /per		NOM. WT.	
					IN.	mm	IN.	mm	1000-ft	Km	LBS per 1000-ft	Kg/Km
32	NET 740U	HP3-ETXBABx	7	40	.0100	.254	.022	.559	173.00	568	.54	.80
30	NET 130U	HP3-ETXBBAx	1	30	.0100	.254	.022	.559	108.00	354	.68	1.01
30	NET 738U	HP3-ETXBBBx	7	38	.0120	.305	.024	.610	100.70	330	.75	1.12
28	NET 128U	HP3-ETXBCAx	1	28	.0126	.320	.025	.635	68.00	223	.95	1.41
28	NET 736U	HP3-ETXBCBx	7	36	.0150	.381	.027	.686	63.80	209	1.01	1.50
26	NET 126U	HP3-ETXBDAx	1	26	.0159	.404	.028	.711	42.70	140	1.30	1.93
26	NET 734U	HP3-ETXBDBx	7	34	.0190	.483	.031	.787	40.50	133	1.40	2.08
26	NET 1938U	HP3-ETXBDEx	19	38	.0200	.508	.031	.787	38.40	126	1.50	2.23
24	NET 124U	HP3-ETXBEAx	1	24	.0201	.511	.032	.813	26.80	88	1.90	2.83
24	NET 732U	HP3-ETXBEBx	7	32	.0240	.610	.036	.914	25.20	83	2.70	4.02
24	NET 1936U	HP3-ETXBEEEx	19	36	.0250	.635	.036	.914	24.30	80	2.10	3.13
22	NET 122U	HP3-ETXBFAx	1	22	.0254	.645	.038	.965	17.00	56	2.70	4.02
22	NET 730U	HP3-ETXBFBx	7	30	.0300	.762	.042	1.07	15.90	52	3.70	5.51
22	NET 1934U	HP3-ETXBFEEx	19	34	.0320	.813	.042	1.07	15.10	50	3.10	4.61
20	NET 120U	HP3-ETXBGAx	1	20	.0320	.813	.044	1.12	10.50	35	4.10	6.10
20	NET 728U	HP3-ETXBGBx	7	28	.0380	.965	.050	1.27	10.00	33	4.40	6.55
20	NET 1932U	HP3-ETXBGEEx	19	32	.0400	1.02	.050	1.27	9.19	30	4.70	7.00

Standard basic insulation color numbers are: Black: 0, Brown: 1, Red: 2, Orange: 3, Yellow: 4, Green: 5, Blue: 6, Violet: 7, Gray: 8, White: 9. The insulation color code number, may be 1, 2 or 3 digits depending on the number or absence of stripes. The 1st number is color of Insulation, 2nd number is color of first stripe; 3rd number is color of the second stripe. Example: White wire(9) + Red stripe(2) + Black stripe(0) makes a color code number of "9-2-0". That color number, "9-2-0" is appended to the part number. Sample part number might be "xxxxx-xxx-9-2-0"

NEMA HP-3 Type ET



RoHS COMPLIANT PRODUCTS:

all RoHS products have the letter "R" written into the second position of the Part No.

GAUGE (AWG)	PART NO.	NEMA SPEC HP3 WIRE PART NO.	NUMBER OF STRANDS (AWG)	GAUGE OF STRANDS (AWG)	NOM. DIAM. OF STRANDED CONDUCTOR		NOM. FIN. WIRE DIAM.		MAX. RESISTANCE (dc at 20° C) Ω /per		NOM. WT.	
					IN.	mm	IN.	mm	1000-ft	Km	LBS per 1000-ft	Kg/Km
32	NRET 740U	HP3-ETXBABx	7	40	.0100	.254	.022	.559	173.00	568	.54	.80
30	NRET 130U	HP3-ETXBBAx	1	30	.0100	.254	.022	.559	108.00	354	.68	1.01
30	NET 738U	HP3-ETXBBBx	7	38	.0120	.305	.024	.610	100.70	330	.75	1.12
28	NRET 128U	HP3-ETXBCAx	1	28	.0126	.320	.025	.635	68.00	223	.95	1.41
28	NRET 736U	HP3-ETXBCBx	7	36	.0150	.381	.027	.686	63.80	209	1.01	1.50
26	NRET 126U	HP3-ETXBDAx	1	26	.0159	.404	.028	.711	42.70	140	1.30	1.93
26	NRET 734U	HP3-ETXBDBx	7	34	.0190	.483	.031	.787	40.50	133	1.40	2.08
26	NRET 1938U	HP3-ETXBDEx	19	38	.0200	.508	.031	.787	38.40	126	1.50	2.23
24	NRET 124U	HP3-ETXBEAx	1	24	.0201	.511	.032	.813	26.80	88	1.90	2.83
24	NRET 732U	HP3-ETXBEBx	7	32	.0240	.610	.036	.914	25.20	83	2.70	4.02
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22	NRET 730U	HP3-ETXBFBx	7	30	.0300	.762	.042	1.07	15.90	52	3.70	5.51
22	NRET 1934U	HP3-ETXBFEEx	19	34	.0320	.813	.042	1.07	15.10	50	3.10	4.61
20	NRET 120U	HP3-ETXBGAx	1	20	.0320	.813	.044	1.12	10.50	35	4.10	6.10
20	NRET 728U	HP3-ETXBGBx	7	28	.0380	.965	.050	1.27	10.00	33	4.40	6.55
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Standard basic insulation color numbers are: Black: 0, Brown: 1, Red: 2, Orange: 3, Yellow: 4, Green: 5, Blue: 6, Violet: 7, Gray: 8, White: 9. The insulation color code number, may be 1, 2 or 3 digits depending on the number or absence of stripes. The 1st number is color of Insulation, 2nd number is color of first stripe; 3rd number is color of the second stripe. Example: White wire(9) + Red stripe(2) + Black stripe(0) makes a color code number of "9-2-0". That color number, "9-2-0" is appended to the part number. Sample part number might be "xxxxxx-xxx-9-2-0"

HOW TO SPECIFY PAIRS

WE RECOMMEND THE FOLLOWING FORMAT WHEN SPECIFYING TWISTED PAIRS AND TRIOS:

EXAMPLE

NB1934U-(2 A)-(0/2)-(0/4)

Base color/stripe color
Base color/stripe color
Twisting code (see key below)
No. of wires to be twisted (2 for pairs, etc.)
Part No. for type of insulated wire

Part No. (see "How to Specify Wire", Page 22)

KEY TO TWISTING CODE

- A = SHORT TWINNER LAY
- B = STANDARD TWINNER LAY
- C = SHORT PLANETARY LAY
- D = STANDARD PLANETARY LAY

THE "SHORT" LAY IS DEFINED AS EQUAL TO $5 \times D \times N$ AND THE "STANDARD" LAY IS DEFINED AS $10 \times D \times N$ WHERE D = CONDUCTOR DIAMETER, N = NO. OF CONDUCTORS

DIFFERENCES IN PAIR TWISTING

THE MOST COMMON COMMERCIAL PAIR-FORMING MACHINES ARE CALLED "TWINNERS." THIS TYPE OF PAIR-FORMING IS THE LEAST EXPENSIVE WAY TO FORM TWISTED PAIRS. HOWEVER, PAIRS FORMED ON THIS TYPE OF EQUIPMENT HAVE BEEN KNOWN TO EXPERIENCE DEFORMATION OF THE STRANDED COPPER, STRAIN IN THE INSULATION AND POOR ELECTRICAL BALANCE.

THE SUPERIOR METHOD OF PAIR-FORMING IS BY USE OF A PLANETARY OR TUBULAR CABLING MACHINE IN SUCH A MANNER THAT NO RESIDUAL TWIST IS IMPARTED TO THE INDIVIDUAL WIRES FORMING THE TWISTED GROUP. THIS RESULTS IN BETTER ELECTRICAL BALANCE AND IMPROVES FLEXIBILITY.

NATIONAL IS EQUIPPED FOR ALL OF THE ABOVE DESCRIBED TECHNIQUES. CHOOSE THE METHOD BEST SUITED FOR YOUR PARTICULAR APPLICATION.