

multicomp

EC2-85

Electronic Wire & Cable

Hook-up Wire

—435-107 to 436-458—



HOOK-UP WIRE

Brand-Rex hook-up wires are made to meet the requirements of UL, CSA and Military standards and specifications. To facilitate locating a specific wire type, they have been separated into two groups — non-military (UL listed and/or CSA certified) and military (having qualification approval or complying with performance requirements).

Some Brand-Rex hook-up wires are dual- or even tri-rated — that is, they may be UL and CSA, or UL and MIL. or UL, CSA and MIL acceptable. This catalog identifies such wires by appropriate symbols on each page and from printed information in, or footnotes to, the tables of data.

Brand-Rex hook-up wires usually have tinned copper conductors, but bare copper, copper-covered steel or copper alloy conductors, and silver, nickel or other coatings can also be supplied. The Brand-Rex "standard" conductor for each kind of hook-up wire is shown on the individual product pages.

Many plastics are currently used as insulation. Selection of a particular material is influenced by such factors as cut-through, flame, chemical and radiation resistance, temperature and voltage requirements, electrical properties, low temperature flexibility, finished diameter, and weight. In specific situations, still other characteristics may be considered.

Users may be confused by differences in temperature and voltage ratings assigned to some wires by the separate standards agencies. For example, Style 1061 (page 7), is rated at 80°C, 300 volt operation by UL, and also meets the 105°C, 600 volt requirements of MIL-W-16878. The difference stems in part from variations in test conditions and test methods used by each agency. In actual use, it will be found that the differences are more apparent than real. Users of this catalog are cautioned, therefore, not to accept the higher ratings at face value for all applications, but rather as guides in determining the suitability of the wire for its intended use.

Because Brand-Rex regularly processes a dozen or more insulating materials, there are few requirements that cannot be satisfied. The products shown in this catalog demonstrate the broad range of the Brand-Rex hook-up wire line.

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NOTE: The values and data shown in this catalog represent typical values intended to distinguish one material from another and to serve as a guide in selecting the proper material for specific applications or end uses. The information contained herein is given in good faith, but because of the many variables in subsequent manufacturing and installation operations, no guarantees can be made for the performance of these products in service. Users are requested to make their own tests to determine the suitability of these materials for the applications and to be guided by the results of such tests.
Data and suggestions made in this publication are not to be construed as recommendations to use any product in violation of existing patents covering any material or its use.

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BRAND-REX UL/CSA HOOK-UP WIRE

The hook-up wires in this section are generally used in consumer electronics and in a large variety of electrical and electronic equipment. They are all UL listed and many, in addition, are CSA certified. Such dual recognition is important to manufacturers since it can reduce investment in wire inventories for equipment marketed in both the United States and Canada.

As is evident from the length of Tables 1 and 2 (pages 2-5), Brand-Rex has a very broad hook-up wire line. Yet even these tables are not complete—they include only the more frequently specified wires.

Should you require a UL or CSA recognized wire not shown in these pages, please contact the Brand-Rex product engineering department. Such an item, or its equivalent, will undoubtedly be available.

UL/CSA Hook-Up Wire Listings

Frequently specified UL/CSA wires are summarized in Tables 1 and 2. Brand-Rex has many other hook-up wire listings (more UL listings than any other manufacturer), but the others are either rarely ordered or have limited applications.

To assist you in locating a specific item, the wires are listed in two ways. Table 1 classifies them by UL temperature and voltage rating. Table 2, which shows them in style number sequence, also gives the equivalent CSA type. Where the CSA type is not

included, either no equivalent exists or Brand-Rex has found no economic justification for seeking such certification.

Physical data for the most popular styles follow the charts. As far as possible, they are arranged in order of increasing primary wall thickness.

Should you require a style or CSA type not shown in Tables 1 or 2, check with the Brand-Rex product engineering department for availability or an acceptable substitute.

Table 1—Hook-Up Wires by UL Temperature and Voltage Rating

UL Rating		Size Range AWG ¹	Primary Insulation		Outer Covering ³	Style No.	Catalog Page
°C	Volt		Wall	Material ²			
60	N.S. ⁴	26-20	.008	PVC	None	1440	—
60	300	28-24 ⁵	.015	PVC	None	1211	—
60	10 KV-DC	22-18	.023	PE	PVC	1187	—
60	10 KV-DC	24-10	.045	FR-PE	None	1067	—
60	20 KV-DC	24-10	.060	FR-PE	None	1068	—
80	N.S. ⁴	32-20 ⁶	.008	FEP	None	1226	—
80	N.S. ⁴	30-16	.008	PVC	Nylon or braid	1004	6
80	N.S. ⁴	32-14 ⁷	.010	XL-PVC	None	1534	—
80	N.S. ⁴	32-10 ⁷	.010	XL-PVC	None	1536	—
80	125	32-20	.007	XL-PVC	None	1472	6
80	150	32-16	.010	XL-PVC	None	1429	8
80	300	26-16	.008	PVC	Nylon or braid	1036	—
80	300	30-16	.009	SR-PVC	None	1061	7
80	300	30-16	.009	SR-PVC	Nylon or braid	1001	7
80	300 ⁸	32-16	.010	XL-PVC	None	1429	—
80	300	30-16	.012	PVC	None	1095	9
80	300	30-16	.012	PVC	Nylon or braid	1096	—
80	300	30-16	.012	SR-PVC	None	1208	—
80	300	24-20	.014	FR-PE	Nylon or braid	1097	—
80	300	32-16	.015	PVC	None	1007	12, 15
80	300	28-16	.015	PVC	Nylon or braid	1008	13
80	300	30-16	.015	PVC or FEP	PVC ²	1108	—
80	300	30-14	.015	SR-PVC	None	1195	—
80	300	30-10	.015	PVC	None	1569	12
80	300	28 only	.015	PVC	None	1099	13
80	300	26-16	.015	FR-PE	Nylon	1112	—
80	600 ⁸	28-16	.015	PVC	None	1007	12
80	600 ⁸	28-16	.015	PVC	Nylon or braid	1008	13
80	600	14-10	.015	PVC	Nylon or braid	1101	13
80	600	8-6	.018	PVC	Nylon or braid	1102	—
80	600	28-9	.030	PVC	None	1011	12, 14, 15
80	600	28-9	.030	PVC	Nylon or braid	1012	13
80	600	22-8	.045	PVC	None	1017	15
80	600	8-6	.045	PVC	Nylon or braid	1018	—
80	600	18-10	.060	PVC	None	1054	—
80	600	8-2	.060	PVC	None	1019	15
80	600	1-4/0	.078	PVC	None	1020	15
80	1000	26-10	.030	PVC	None	1030	13
80	1000	26-20	.030	PVC	Nylon or braid	1031	13
80	2500 ⁸	28-9	.030	PVC	None	1011	12
80	2500 ⁸	28-9	.030	PVC	Nylon or braid	1012	13
90	N.S. ⁴	30-16	.008	PVC	Nylon or braid	1005	6
90	300	28-16	.015	PVC	Nylon or braid	1009	13
90	300	30-10	.015	PVC	None	1569	12
90	300	26-10	.015	PVC	None	1706	13
90	600 ⁸	28-16	.015	PVC	Nylon or braid	1009	13
90	600	28-9	.030	PVC	None	1013	12
90	600	28-9	.030	PVC	Nylon or braid	1014	13
90	600	22-8	.045	PVC	None	1024	—
90	600	8-6	.045	PVC	Nylon or braid	1025	—
90	600	8-2	.060	PVC	None	1026	—

Table 1 (cont.)

UL Rating		Size Range AWG ¹	Primary Insulation		Outer Covering ³	Style No.	Catalog Page
°C	Volt		Wall	Material ²			
90	600	20-10	.060	PVC	None	1055	—
90	600	1-4/0	.078	PVC	None	1027	—
90	600	1-4/0	.078	PVC	Nylon or braid	1405	—
90	1000	26-10	.030	PVC	None	1032	13
90	1000	26-10	.030	PVC	Nylon or braid	1033	13
90	2500 ⁸	28-9	.030	PVC	None	1013	12
90	2500 ⁸	28-9	.030	PVC	Nylon or braid	1014	13
105	N.S. ⁴	30-20 ⁶	.006	FEP	Nylon	1292	—
105	N.S. ⁴	30-16	.008	PVC	Nylon or braid	1006	6
105	N.S. ⁴	16-10 ⁷	.015	XL-PVC	None	1557	—
105	N.S. ⁴	32-14 ⁶	Varies ⁹	FEP	None	1227	9
105	125	26 ⁵	.010	PVC	None	1154	—
105	300	30-16	.015	PVC	None	1569	12
105	300	26-18	.010	PVC	Nylon	1544	—
105	300	30-16 ⁷	.015	XL-PVC	None	1430	11
105	300	28-16	.015	PVC	Nylon or braid	1010	13
105	300	15-10	.015	XL-PVC	None	3317	11
105	600 ⁸	30-16 ⁷	.015	XL-PVC	None	1430	11
105	600 ⁸	28-16	.015	PVC	Nylon or braid	1010	13
105	600	26-12	.015	PVC	Nylon	1316	—
105	600	10 only	.020	PVC	Nylon	1317	—
105	600	28-9	.030	PVC	None	1015	12, 14, 15
105	600	28-9	.030	PVC	Nylon or braid	1016	13
105	600	26-9	.030	PVC	None	1230	—
105	600	22-8	.045	PVC	None	1028	15
105	600	18-8	.045	PVC	None	1231	—
105	600	8-6	.045	PVC	Nylon or braid	1029	—
105	600	20-10	.060	PVC	None	1056	—
105	600	18-10	.060	PVC	None	1416	—
105	600	8-2	.060	PVC	None	1283	15
105	600	18-10	.078	PVC	None	1060	—
105	600	14-10	.078	PVC	None	1329	—
105	600	1-4/0	.078	PVC	None	1284	15
105	600	30-4/0	Varies ⁹	XL-PVC	None	1431	11
105	600	8-4/0	Varies ⁹	PVC	None	1232	—
105	2500 ⁸	30-4/0	Varies ⁹	XL-PVC	None	1431	11
105	2500 ⁸	28-9	.030	PVC	None	1015	12
105	2500 ⁸	28-9	.030	PVC	Nylon or braid	1016	13
125	150	32-16 ⁷	.010	XL-PE	None	3265	8
125	300 ⁸	32-16 ⁷	.010	XL-PE	None	3265	8
125	300	32-16 ⁷	.015	XL-PE	None	3266	10
125	600 ⁸	32-16 ⁷	.015	XL-PE	None	3266	10
125	600	30-4/0 ⁷	Varies ⁹	XL-PE	None	3271	14
125	600	26-4	Varies ⁹	XL-PE	None	3272	14
125	2500 ⁸	30-4/0 ⁷	Varies ⁹	XL-PE	None	3271	14
150	300	32-10 ⁶	.013	TZL	None	1643	—
150	300	20-16 ⁶	.030	SIL	None	3099	—
150	600	30-4	Varies ⁹	XL-PE	None	3288	—
150	600	30-4/0 ⁶	Varies ⁹	XL-PE	None	3289	—
150	600	30-4/0 ⁶	Varies ⁹	TZL	None	1644	—

¹Unless otherwise indicated, conductors may be either solid or stranded, tinned or bare copper.

²Insulation Materials:

FEP — Teflon FEP
FR-PE — Flame-retardant polyethylene
PE — Polyethylene
PVC — Polyvinyl chloride (vinyl)
SIL — Silicone rubber
SR-PVC — Semi-rigid polyvinyl chloride
TZL — Tefzel
XL-PE — Cross-linked polyethylene
XL-PVC — Irradiated polyvinyl chloride

³Outer Covering:

Nylon — Extruded nylon jacket
Braid — Lacquered textile braid. For 80°C and 90°C rated wires, braids, may be either cotton, rayon, glass, polyester, nylon, orlon, Celanese or acetate. For 105°C wires, either glass, polyester, nylon or orlon. For wires over 105°C, glass.

⁴N.S. — Not specified (UL)

⁵Special conductor stranding required

⁶Tinned, silver plated or nickel coated, solid or stranded copper or copper alloy.

⁷Bare, tinned or silver plated copper or copper alloy

⁸For electronic use only

⁹Insulation wall thickness is determined by conductor size

Table 2—Hook-Up Wires in Style Number Sequence

Underwriters Laboratories				Canadian Standards Association				Primary Insulation		Outer Covering ³	Catalog Page
Style No.	°C Temp. Rating	Volt. Rating	Size Range (AWG) ¹	Equiv. Type	°C Temp. Rating	Volt. Rating	Size Range (AWG) ¹	Wall (Inches)	Material ²		
1001	80	300	30-16	TTR TTR TR-64	90	N.S. ⁴	36-14	.009	SR-PVC	Nylon or braid	7
1004	80	N.S. ⁴	30-16					.008	PVC	Nylon or braid	6
1005	90	N.S. ⁴	30-16					.008	PVC	Nylon or braid	6
1006	105	N.S. ⁴	30-16					.008	PVC	Nylon or braid	6
1007	80	300 ¹⁶	32-16					.015	PVC	None	12, 15
1008	80	300 ¹⁶	28-16	TRB-64	90	N.S. ⁴	28-14	.015	PVC	Nylon or braid	13
1009	90	300 ¹⁶	28-16	TR-64	90	N.S. ⁴	28-14	.015	PVC	Nylon or braid	13
1010	105	300 ¹⁶	28-16	TR-64	90	N.S. ⁴	28-14	.015	PVC	Nylon or braid	13
1011	80	600 ¹⁷	28-9	Appl. Wire	80	600	26-10	.030	PVC	None	12, 14, 15
1012	80	600 ¹⁷	28-9					.030	PVC	Nylon or braid	13
1013	90	600 ¹⁷	28-9	Appl. Wire ¹⁰	90	600	22-10	.030	PVC	None	12
1014	90	600 ¹⁷	28-9	TRB-32	90	N.S. ⁴	24-10	.030	PVC	Nylon or braid	13
1015	105	600 ¹⁷	28-9	TEW ¹¹	105	600 ¹⁹	24-10	.030	PVC	None	12, 14, 15
1016	105	600 ¹⁷	28-9					.030	PVC	Nylon or braid	13
1017	80	600	22-8	Appl. Wire	80	600	8	.045	PVC	None	15
1018	80	600	8-6	Appl. Wire Appl. Wire Appl. Wire	80	600	6-2 1-4/0 8	.045	PVC	Nylon or braid	—
1019	80	600	8-2					.060	PVC	None	15
1020	80	600	1-4/0					.078	PVC	None	15
1024	90	600	22-8					.045	PVC	None	—
1025	90	600	8-6					.045	PVC	Nylon or braid	—
1026	90	600	8-2	Appl. Wire	90	600	6-2	.060	PVC	None	—
1027	90	600	1-4/0	Appl. Wire	90	600	1-4/0	.078	PVC	None	—
1028	105	600	22-8	TEW	105	600 ¹⁹	8	.045	PVC	None	15
1029	105	600	8-6					.045	PVC	Nylon or braid	8
1030	80	1000	26-10					.030	PVC	None	13
1031	80	1000	26-10					.030	PVC	Nylon or braid	13
1032	90	1000	26-10					.030	PVC	None	13
1033	90	1000	26-10					.030	PVC	Nylon or braid	13
1036	80	300	26-16					.008	PVC	Nylon or braid	—
1054	80	600	18-10					.060	PVC	None	—
1055	90	600	20-10	S-R PVC	80	300	36-16	.060	PVC	None	—
1056	105	600	20-10					.060	PVC	None	—
1060	105	600	18-10					.078	PVC	None	—
1061	80	300	30-16					.009	SR-PVC	None	7
1067	60	10 KV-DC	24-10					.045	FR-PE	None	—
1068	60	20 KV-DC	24-10					.060	FR-PE	None	—
1095	80	300	30-16					.012	SR-PVC	None	9
1096	80	300	26-16					.012	PVC	Nylon or braid	—
1097	80	300	24-20					.014	FR-PE	Nylon or braid	—
1099	80	300	28 only					.015	PVC	None	13
1101	80	600	14-10					.015	PVC	Nylon or braid	13
1102	80	600	8-6					.018	PVC	Nylon or braid	—
1108	80	300	30-16					.015	PVC or FEP	PVC ²	—
1112	80	300	26-16					.015	FR-PE	Nylon	—
1154	105	125	26 ⁵					.010	PVC	None	—
1187	60	10 KV-DC	22-18					.023	PE	PVC	—
1195	80	300	30-14					.015	SR-PVC	None	—
1208	80	300	30-16					.013	SR-PVC	None	—
1211	60	300	28-24 ⁵					.015	PVC	None	—
1226	80	N.S. ⁴	32-20 ⁶					.008	FEP	None	—
1227	105	N.S. ⁴	32-14 ⁴					Varies ⁹	FEP	None	9
1230	105	600	26-9					.030	PVC	None	—
1231	105	600	18-8					.045	PVC	None	—
1232	105	600	8-4/0					Varies ⁹	PVC	None	—
1273	90	600	1-4/0					.078	PVC	None	—

Table 2 (cont.)

Underwriters Laboratories				Canadian Standards Association				Primary Insulation		Outer Covering ³	Catalog Page
Style No.	°C Temp. Rating	Volt. Rating	Size Range (AWG) ¹	Equiv. Type	°C Temp. Rating	Volt. Rating	Size Range (AWG) ¹	Wall (Inches)	Material ²		
1283	105	600	8-2	TEW	105	600 ¹⁹	6-2	.060	PVC	None	15
1284	105	600	1-4/0	TEW	105	600 ¹⁹	1-4/0	.078	PVC	None	15
1292	105	N.S. ⁴	30-20 ⁶					.006	FEP	Nylon	—
1316	105	600	26-12					.015	PVC	Nylon	—
1317	105	600	10 only					.020	PVC	Nylon	—
1329	105	600	14-10					.078	PVC	None	—
1330	200	600	30-4/0					Varies ⁹	FEP	None	—
1331	150	600	30-4/0					Varies ⁹	FEP	None	—
1332	200	300	30-10					.013	FEP	None	—
1333	150	300	30-10					.013	FEP	None	—
1416	105	600	18-10					.060	PVC	None	—
1429	80	150 ¹⁵	32-16	XL-PVC	80	150	32-12	.010	XL-PVC	None	8
1430	105	300 ¹⁶	30-16 ⁷	REW (XL-PVC) ¹²	105	300	26-16	.015	XL-PVC	None	11
1431	105	600 ¹⁷	30-4/0	REW (XL-PVC) ¹³	105	600	24-4/0	Varies ⁹	XL-PVC	None	11
1440	60	N.S. ⁴	26-20					.008	PVC	None	—
1472	80	125	32-20 ⁸	XL-PVC				.007	XL-PVC	None	6
1534	80	N.S. ⁴	32-14 ⁷	XL-PVC	80	150	32-12	.010	XL-PVC	None	—
1536	80	N.S. ⁴	32-10 ⁷	XL-PVC	80	150	32-12	.010	XL-PVC	None	—
1544	105	300	26-18					.010	PVC	Nylon	—
1557	105	N.S. ⁴	16-10 ⁷	RR-64	90	N.S. ⁴	28-10	.015	XL-PVC	None	—
1569	80	300	30-10	TR-64	90	N.S. ⁴		.015	PVC	None	12
1569	90	300	30-10	TR-64	90	N.S. ⁴		.015	PVC	None	12
1569	105	300	30-10					.015	PVC	None	12
1643	150	300	32-10 ⁶					.013	TZL	None	—
1644	150	600	30-4/0 ⁶					Varies ⁹	TZL	None	—
1706	90	300	26-16	TR-64	90	N.S. ⁴		.015	PVC	None	13
3099	150	300	20-16 ⁶					.030	SIL	None	—
3239				High Voltage Wire (5 thru 40 KV-DC) for use in TV receivers ¹⁴							—
3265	125	150 ¹⁵	32-16 ⁷	XLPE	125	150	30-16	.010	XL-PE	None	8
3266	125	300 ¹⁶	32-16 ⁷	CL-1252	125	300	22-16	.015	XL-PE	None	10
3271	125	600 ¹⁷	30-4/0 ⁷	CL-1251	125	600	22-500 MCM	Varies ⁹	XL-PE	None	14
3272	125	600	22-4	CL-1251	125	600	22-500 MCM	Varies ⁹	XL-PE	None	14
3288	150	600	30-4					Varies ⁹	XL-PE	None	—
3289	150	600	30-4/0 ⁷					Varies ⁹	XL-PE	None	—
3317	105	300	15-10	REW (XL-PVC)	105	300	15-10	.015	XL-PVC	None	11

¹Unless otherwise indicated, conductors may be either solid or stranded, tinned or bare copper.

²Insulation Materials:

FEP — Teflon FEP

FR-PE — Flame retardant polyethylene

PE — Polyethylene

PVC — Polyvinyl chloride (vinyl)

SIL — Silicone rubber

SR-PVC — Semi-rigid polyvinyl chloride

TZL — Tefzel

XL-PE — Cross-linked polyethylene

XL-PVC — Irradiated polyvinyl chloride

³Outer Covering:

Nylon — Extruded nylon jacket

Braid — Lacquered textile braid. For 80°C and 90°C rated wires, braids, may be either cotton, rayon, glass, polyester, nylon, orlon, Celanese or acetate. For 105°C wires, either glass, polyester, nylon or orlon. For wires over 105°C, glass.

⁴N.S. — Not specified (UL) or not assigned (CSA)

⁵Special conductor stranding required

⁶Tinned, silver plated or nickel coated, solid or stranded copper or copper alloy.

⁷Bare, tinned or silver plated copper alloy

⁸For electronic use only

⁹Insulation wall thickness is determined by conductor size

¹⁰Also CSA Type TR-32, 24 to 10 AWG

¹¹Also CSA 105°C Appliance Wire, 26 to 10 AWG

¹²Also CSA Type RR-64 (XL-PVC), 28 to 16 AWG

¹³Also CSA Type RR-32 (XL-PVC), 24 to 10 AWG

¹⁴Listed constructions are too varied to summarize. Style number covers multiple temperature and voltage ratings, conductor materials and size ranges, and insulation types and wall thicknesses. Contact Brand-Rex Product Engineering Department for specific information.

¹⁵300 volts for electronic use only

¹⁶600 volts for electronic use only

¹⁷2500 volts for electronic use only

¹⁸32 AWG not CSA recognized

¹⁹Type TEW wires are acceptable for operation at 1,000 volts when used in equipment where the current is limited and/or controlled by means of a ballast, resistor, transformer, or the like.

INTERNAL WIRING

STYLE 1472 — .0065" VYLINK® IRRADIATED PVC **For Internal Wiring of Appliances**

	Brand-Rex Part No.	Conductor		Nom. O.D.	Approx. Lbs./M'
		AWG	Strand.†		
.0065" Wall Style 1472 80°C, 125V* CSA Type (XLPVC) 80°C, 125V	X83207	32	Solid	.022	.4
	X83007	30	Solid	.025	.5
	X82807	28	Solid	.027	.7
	X82607	26	Solid	.031	1.1
	X82407	24	Solid	.034	1.6
	X82207	22	Solid	.040	2.5
	X82007	20	Solid	.047	4.2
	†X8320707	32	7/40	.024	.4
	X8300707	30	7/38	.027	.6
	X8280707	28	7/36	.030	.8
	X8260707	26	7/34	.034	1.2
	X8240707	24	7/32	.039	1.8
	X8220707	22	7/30	.046	2.7
	X8200707	20	7/28	.053	4.1

*300V for electronic use only
†Other strandings can be supplied
‡Not CSA recognized

STYLES 1004, 1005, 1006 — .008" PVC/NYLON **For Internal Wiring of Appliances**

	Brand-Rex Part No.			Conductor		Nom. O.D.	Approx. Lbs./M'
	UL 80°C	UL 90°C	UL 105°C	AWG	Strand†		
Style 1004 80°C, N.S.*	882608N	992608N	552608N	26	Solid	.040	1.4
	882408N	992408N	552408N	24	Solid	.044	2.0
	882208N	992208N	552208N	22	Solid	.048	2.8
Style 1005 90°C, N.S.*	882008N	992008N	552008N	20	Solid	.056	4.0
	881808N	991808N	551808N	18	Solid	.063	6.0
	881608N	991608N	551608N	16	Solid	.074	9.1
CSA Type TTR 90°C, N.S.*							
Style 1006 105°C, N.S.*	88260807N	99260807N	55260807N	26	7/34	.042	1.5
	88240807N	99240807N	55240807N	24	7/32	.048	2.2
	88220807N	99220807N	55220807N	22	7/30	.054	3.1
	88220819N	99220819N	55220819N	22	19/32	.057	3.3
CSA Type TTR 90°C, N.S.*							
Tinned Copper	88200807N	99200807N	55200807N	20	7/28	.062	4.7
	88180807N	99180807N	55180807N	18	7/26	.072	6.8
	88160819N	99160819N	55160819N	16	19/29	.080	9.6

*Voltage rating not specified by UL or CSA
†Other strandings can be supplied

UL SP STYLE 1061 — .009" SEMI-RIGID PVC
For Internal Wiring of Business Machines and Electronic Equipment

	Brand-Rex Part No.	Conductor		Nom. O.D.	Approx. Lbs./M'
		AWG	Strand.†		
Style 1061 80°C, 300V CSA Type S-R PVC 80°C, 300V Tinned Copper	RO2810	28	Solid	.033	.9
	RO2610	26	Solid	.038	1.4
	RO2410	24	Solid	.042	1.9
	RO2210	22	Solid	.047	2.8
	RO2010	20	Solid	.054	3.9
	RO1810	18	Solid	.061	5.8
	RO1610	16	Solid	.072	9.0
	*RH280907	28	7/36	.035	1.0
	*RH260907	26	7/34	.039	1.4
	*RH240907	24	7/32	.044	2.1
	*RH240919	24	19/36	.045	2.2
	*RH220907	22	7/30	.051	3.0
	*RH220919	22	19/34	.052	3.2
	*RH200907	20	7/28	.058	4.5
	*RH200919	20	19/32	.060	4.9
	*RH180907	18	7/26	.068	6.8
	*RH180919	18	19/30	.070	7.2
	*RH160919	16	19/29	.079	9.5
	Note: Sizes 24 AWG and larger are imprinted: BRAND-REX STYLE 1061 300V (UL) AWM CSA TYPE S-R PVC 80C				

*Also meets requirements of MIL-W-16878, Type B (105°C, 600V)
 †Other strandings can be supplied

UL SP STYLE 1001 — .009" SEMI-RIGID PVC/NYLON
For Internal Wiring of Business Machines and Electronic Equipment

	Brand-Rex Part No.	Conductor		Nom. O.D.	Approx. Lbs./M'
		AWG	Strand.†		
Style 1001 80°C, 300V Tinned Copper	*RH260907N	26	7/34	.045	1.6
	*RH240907N	24	7/32	.050	2.3
	*RH240919N	24	19/36	.051	2.4
	*RH220907N	22	7/30	.057	3.3
	*RH220919N	22	19/34	.058	3.4
	*RH200907N	20	7/28	.064	4.8
	*RH200919N	20	19/32	.066	5.1
	*RH180907N	18	7/26	.074	7.2
	*RH180919N	18	19/30	.076	7.5
	*RH160919N	16	19/26	.085	9.3

*Also meets requirements of MIL-W-16878 Type B/N (115°C, 600V)
 †Other strandings can be supplied

INTERNAL WIRING



STYLE 1429 — .010" VYLINK® IRRADIATED PVC For Internal Wiring of Appliances

	Brand-Rex Part No.	Conductor		Nom. O.D.	Approx. Lbs./M'
		AWG	Strand.†		
Style 1429 80°C, 150V* CSA Type (XLPVC) 80°C, 150V Tinned Copper	XM03010	30	Solid	.032	.8
	XM02810	28	Solid	.035	1.0
	XM02610	26	Solid	.039	1.4
	XM02410	24	Solid	.042	1.9
	XM02210	22	Solid	.047	2.8
	XM02010	20	Solid	.054	4.0
	XM01810	18	Solid	.062	6.0
	XM01610	16	Solid	.073	9.2
	†XM301007	30	7/38	.034	.9
	†XM281007	28	7/36	.037	1.0
	†XM261007	26	7/34	.041	1.5
	†XM241007	24	7/32	.046	2.1
	†XM241019	24	19/36	.047	2.2
	†XM221007	22	7/30	.053	3.0
	†XM221019	22	19/34	.054	3.3
	†XM201007	20	7/28	.060	4.6
	†XM201019	20	19/32	.062	4.9
	†XM181007	18	7/26	.070	7.0
	†XM181019	18	19/30	.072	7.3
	†XM161019	16	19/29	.081	9.6
	Note: Sizes 24 AWG and larger are imprinted: BRAND-REX 80C (UL) AWM STYLE 1429 CSA XLPVC AWM 80C 150V				

*300V for electronic use only

†Also meets requirements of MIL-W-16878, Type B (105°C, 600V)

‡Other strandings can be supplied



STYLE 3265 — .010" POLYRAD® CROSS-LINKED POLYETHYLENE For Internal Wiring of Appliances

	Brand-Rex Part No.	Conductor		Nom. O.D.	Approx. Lbs./M'
		AWG	Strand.†		
Style 3265 125°C, 150V* CSA Type (XLPE) 125°C, 150V Tinned Copper	XP261007	26	7/34	.041	1.4
	XP241007	24	7/32	.046	1.9
	XP241019	24	19/36	.047	2.1
	XP221007	22	7/30	.053	2.9
	XP221019	22	19/34	.054	3.1
	XP201007	20	7/28	.060	4.3
	XP201019	20	7/32	.062	4.7
	XP181007	18	7/26	.070	6.6
	XP181019	18	19/30	.072	7.1
	XP161019	16	19/29	.079	9.2
	Note: Sizes 24 AWG and larger are imprinted: BRAND-REX 125C 150V VW-1 (UL) AWM STYLE 3265 CSA XLPE AWM 125C, 150V				

*300V for electronic use only

†Solid conductors and other strandings can be supplied

UL SP **STYLE 1227 — .010" TEFLON FEP**
For Use in Office Appliances

	Brand-Rex Part No.	Conductor		Nom. O.D.	Approx. Lbs./M'
		AWG	Strand. †		
Style 1227 105°C, N.S.* CSA Type FEP 150°C, 150V Silver-Coated Copper	FO2610	26	Solid	.036	1.6
	FO2410	24	Solid	.040	2.2
	FO2210	22	Solid	.045	3.1
	FO2010	20	Solid	.052	4.4
	FO1810	18	Solid	.061	6.5
	FO1610	16	Solid	.071	9.7
	FO1410	14	Solid	.084	14.7
	FF281007	28	7/36	.035	1.3
	FF261007	26	7/34	.039	1.7
	FF241007	24	7/32	.046	2.4
	FF241019	24	19/36	.047	2.6
	FF221007	22	7/30	.050	3.4
	FF221019	22	19/34	.052	3.6
	FF201007	20	7/28	.058	4.9
	FF201019	20	19/32	.060	5.3
	Note: Sizes 24 AWG and larger are imprinted: BRAND-REX STYLE 1227 105C (UL) AWM CSA TYPE FEP 150C, 150V				

*Voltage rating not specified by UL
†Other strandings can be supplied

UL **STYLE 1095 — .012" PVC**
For Internal Wiring of Business Machines and Electronic Equipment

	Brand-Rex Part No.	Conductor		Nom. O.D.	Approx. Lbs./M'
		AWG	Strand.*		
Style 1095 80°C, 300V Tinned Copper	802812	28	Solid	.039	1.1
	802612	26	Solid	.043	1.5
	802412	24	Solid	.046	2.1
	802212	22	Solid	.051	3.0
	802012	20	Solid	.058	4.2
	801812	18	Solid	.066	6.2
	801612	16	Solid		
	88281207	28	7/36	.041	1.3
	88261207	26	7/34	.045	1.7
	88261219	26	19/38	.047	1.8
	88241207	24	7/32	.050	2.3
	88241219	24	19/36	.051	2.4
	88221207	22	7/30	.056	3.3
	88221219	22	19/34	.058	3.4
	88201207	20	7/28	.064	4.9
	88201210	20	10/30	.062	4.4
	88181216	18	16/30	.072	6.6
	88161226	16	26/30	.086	10.1

*Other strandings can be supplied

 STYLE 3266 — .015" POLYRAD[‡] CROSS-LINKED POLYETHYLENE
For Internal Wiring of Appliances

	Brand-Rex Part No.	Conductor		Nom. O.D.	Approx. Lbs./M'
		AWG	Strand.†		
Style 3266 125°C, 300V* CSA Type CL1252 125°C, 300V Tinned Copper	‡XP261507	26	7/34	.051	2.3
	‡XP241507	24	7/32	.056	2.4
	‡XP241519	24	19/36	.057	2.5
	XP221507	22	7/30	.063	3.4
	XP221519	22	19/34	.064	3.5
	XP201507	20	7/28	.070	4.8
	XP201519	20	19/32	.072	5.2
	XP181507	18	7/26	.080	7.2
	XP181519	18	19/30	.082	7.7
	XP161519	16	19/29	.089	9.9
	Note: Sizes 22 AWG and larger are imprinted: BRAND-REX 125C 300V VW-1 (UL) AWM STYLE 3266 CSA CL1252 125C 300V				

*600V for electronic use only

†Solid conductors and other strandings can be supplied

‡Not CSA recognized

UL SP. STYLES 1430, 1431, 3317 — .015" and .030" VYLINK * IRRADIATED PVC
For Internal Wiring of Appliances

	Brand-Rex Part No.	Conductor		Nom. O.D.	Approx. Lbs./M'
		AWG	Strand:		
.015" Wall Style 1430 105°C, 300V* CSA Type REW (XLPVC) 105°C, 300V Tinned Copper	XTEW2616	26	Solid	.049	1.9
	XTEW2416	24	Solid	.052	2.4
	XTEW2216	22	Solid	.057	3.2
	XTEW2016	20	Solid	.064	4.6
	XTEW1816	18	Solid	.072	6.6
	XTEW1616	16	Solid	.083	10.0
	XTEW261607	26	7/34	.051	2.0
	XTEW241607	24	7/32	.054	2.7
	XTEW221607	22	7/30	.063	3.7
	XTEW201607	20	7/28	.070	5.4
	XTEW201610	20	10/30	.068	4.9
	XTEW201619	20	19/32	.072	5.6
	XTEW181607	18	7/26	.080	7.8
	XTEW181616	18	16/30	.078	7.1
	XTEW161619	16	19/29	.091	10.6
	XTEW161626	16	26/30	.092	10.8
	Sizes 24 AWG and larger are imprinted: BRAND-REX (AWG SIZE) CSA REW (XLPVC) 105C 300V (UL) AWM STYLE 1430 105C 300V VW-1				
Style 3317 105°C, 300V* CSA Type REW (XLPVC) 105°C 300V Tinned Copper	XTEW141641	14	41/30	.102	15.84
	XTEW121665	12	65/30	.123	24.39
	XTEW1016105	10	105/30	.162	37.76
	Imprinted: BRAND-REX (AWG SIZE) CSA REW (XLPVC) 105C 300V (UL) AWM STYLE 3317 105C 300V VW-1				
.030" Wall Style 1431 105°C, 600V† CSA Type REW (XLPVC) 105°C, 600V Tinned Copper	XTEW2431	24	Solid	.082	4.5
	XTEW2231	22	Solid	.087	5.5
	XTEW2031	20	Solid	.094	7.0
	XTEW1831	18	Solid	.103	9.4
	XTEW1631	16	Solid	.113	12.9
	XTEW243107	24	7/32	.086	4.8
	XTEW243119	24	19/36	.087	4.9
	XTEW223107	22	7/30	.093	6.1
	XTEW223119	22	19/34	.094	6.3
	XTEW203107	20	7/28	.100	7.8
	XTEW203110	20	10/30	.100	7.7
	XTEW203119	20	19/32	.102	8.1
	XTEW183107	18	7/26	.110	10.7
	XTEW183116	18	16/30	.108	9.9
	XTEW163126	16	26/30	.122	14.0
	XTEW143141	14	41/30	.132	19.2
	XTEW123165	12	65/30	.153	28.0
	XTEW1031105	10	105/30	.192	44.6
	Sizes 24 and larger are imprinted: BRAND-REX (AWG SIZE) CSA REW (XLPVC) 105C 600V (UL) AWM STYLE 1431 105C 600V VW-1				

*600V for electronic use only
†2500V for electronic use only

  **STYLES 1007, 1011, 1013, 1015, 1569—.015" and .030" PVC***
For Internal Wiring of Appliances

	Part No.			Conductor		Nom. O.D.	Approx. Lbs./M'
	UL 80°C	UL 90°C	UL 105°C	AWG	Strand.		
.015" Wall Style 1007 80°C, 300V ² CSA Type TR-64 90°C, N.S. ⁴ Style 1569 90°C, 300V CSA Type TR-64 90°C, N.S. ⁴ Style 1569 105°C, 300V Tinned Copper	CO2816	CO2816	502816	†28	Solid	.045	1.4
	CO2616	CO2616	502616	†26	Solid	.048	1.8
	CO2416	CO2416	502416	24	Solid	.052	2.4
	CO2216	CO2216	502216	22	Solid	.057	3.3
	CO2016	CO2016	502016	20	Solid	.064	4.5
	CO1816	CO1816	501816	18	Solid	.072	6.6
	CO1616	CO1616	501616	16	Solid	.083	9.9
	CC281607	CC281607	55281607	†28	7/36	.047	1.5
	CC261607	CC261607	55261607	†26	7/34	.051	1.9
	CC241607	CC241607	55241607	24	7/32	.056	2.6
	CC221607	CC221607	55221607	22	7/30	.062	3.7
	CC201610	CC201610	55201610	20	10/30	.068	4.7
	CC181616	CC181616	55181616	18	16/30	.078	7.0
	CC161626	CC161626	55161626	16	26/30	.092	10.6
	Sizes 24 AWG and larger are imprinted BRAND-REX PVC (UL) AWM 300V STYLE 1007 CSA TR-64†						
	CO2631	CO2631	TEW2631	†26	Solid	.078	3.5
	CO2431	CO2431	TEW2431	24	Solid	.084	4.5
	CO2231	CO2231	TEW2231	22	Solid	.089	5.5
	CO2031	CO2031	TEW2031	20	Solid	.096	6.9
	CO1831	CO1831	TEW1831	18	Solid	.102	9.2
	CO1631	CO1631	TEW1631	16	Solid	.113	12.6
	CO1431	CO1431	TEW1431	14	Solid	.126	18.0
	CO1231	CO1231	TEW1231	12	Solid	.143	26.3
	CO1031	CO1031	TEW1031	10	Solid	.164	39.1
	CC263107	CC263107	TEW263107	26	7/34	.081	3.8
	CC243107	CC243107	TEW243107	24	7/32	.086	4.6
	CC223107	CC223107	TEW223107	22	7/30	.094	6.0
	CC203110	CC203110	TEW203110	20	10/30	.098	7.0
	CC183116	CC183116	TEW183116	18	16/30	.108	9.6
	CC163126	CC163126	TEW163126	16	26/30	.122	13.7
	CC143141	CC143141	TEW143141	14	41/30	.131	18.4
	CC123165	CC123165	TEW123165	12	65/30	.155	28.3
	CC1031105	CC1031105	TEW1031105	10	105/30	.192	44.1
	Sizes 24 AWG and larger imprinted: BRAND-REX CSA/TR-32 90C (UL) AWM STYLE 1011 80C 600V†						

*For a complete listing of .015" and .030" hook-up wire style numbers, see page 13.

¹Size range is for UL listed wires. CSA certified wires may have a narrower or broader range (see Table 2).

²600V for electronic use only.

³2500V for electronic use only.

⁴N.S. — Not specified by CSA.

⁵Extruded nylon jacket, or lacquered cotton, rayon, glass, polyester, nylon, orlon.

⁶Celanese or acetate braid.

⁷Extruded nylon jacket, or lacquered glass, polyester, nylon or orlon braid.

⁸Type TEW wires are acceptable for operation at 1,000 volts when used in equipment where the current is limited and/or controlled by means of a ballast, resistor, transformer, or the like.

[†]Not regularly manufactured. Furnished on special order only.

[‡]Imprint shown is for 80°C UL rated wires. Modified imprints applied for 90°C and 105°C wires.

.015" AND .030" PVC Hook-Up Wire Style Numbers

UL Rating		Wall Thick.	Size Range AWG ¹	Outer Covering	Style No.	Equivalent CSA Type
Temp.	Volt.					
80°C	300	1/64	28	No	1099	TR-64 TR-64 TRB-64 TR-64 TR-64 TR-64 TR-64 TR-64
80°C	300	1/64	28	Yes ⁵	1100	
80°C	300 ²	1/64	32 to 16	No	1007	
80°C	300	1/64	30-10	No	1569	
80°C	300 ²	1/64	28 to 16	Yes ⁵	1008	
90°C	300 ²	1/64	28 to 16	Yes ⁵	1009	
90°C	300	1/64	30-10	No	1569	
90°C	300	1/64	26-16	No	1706	
105°C	300 ²	1/64	28 to 16	Yes ⁶	1010	
105°C	300	1/64	30-10	No	1569	
80°C	600	1/64	14 to 10	Yes ⁵	1101	80° Appliance Wire 90° Appliance Wire TRB-32 TEW or 105° Appliance Wire
80°C	600 ³	1/32	28 to 9	No	1011	
80°C	600 ³	1/32	28 to 9	Yes ⁵	1012	
90°C	600 ³	1/32	28 to 9	No	1013	
90°C	600 ³	1/32	28 to 9	Yes ⁵	1014	
105°C	600	1/32	28 to 9	No	1015	
105°C	600	1/32	28 to 9	Yes ⁶	1016	
80°C	1000	1/32	26 to 10	No	1030	
80°C	1000	1/32	26 to 10	Yes ⁵	1031	
90°C	1000	1/32	26 to 10	No	1032	
90°C	1000	1/32	26 to 10	Yes ⁵	1033	

¹Size range is for UL listed wires. CSA certified wires may have a narrower or broader range (see Table 2).

²600V for electronic use only.

³2500V for electronic use only.

⁴N.S. — Not specified by CSA.

⁵Extruded nylon jacket, or lacquered cotton, rayon, glass, polyester, nylon, orlon.

Celanese or acetate braid.

⁶Extruded nylon jacket.

UL **SP** **STYLES 1011, 1015—BARE COPPER, .030" PVC**
For Internal Wiring of Appliances

	Brand-Rex Part No.	Conductor		Nom. O.D.	Approx. Lbs./M'
		AWG	Strand.*		
Style 1011 80°C, 600V CSA File 9755 80°C, 600V Bare Copper	88203110-BC	20	10/30	.098	7.0
	88183116-BC	18	16/30	.108	9.6
	88163126-BC	16	26/30	.122	13.7
	88143141-BC	14	41/30	.131	18.4
	88123165-BC	12	65/30	.155	28.3
	881031105-BC	10	105/30	.192	44.1
Style 1015 105°C, 600V CSA File 9755 105°C, 600V Bare Copper	55203110-BC	20	10/30	.098	7.0
	55183116-BC	18	16/30	.108	9.6
	55163126-BC	16	26/30	.122	13.7
	55143141-BC	14	41/30	.131	18.4
	55123165-BC	12	65/30	.155	28.3
	551031105-BC	10	105/30	.192	44.1

*Other strandings can be supplied

UL **SP** **STYLES 3271, 3272—.030" TO .060" POLYRAD® CROSS-LINKED POLYETHYLENE**
For Internal Wiring of Appliances

	Brand-Rex Part No.	Conductor		Nom. O.D.	Approx. Lbs./M'
		AWG	Strand.†		
Styles 3271, 3272 125°C, 600V CSA Type CL1251 125°C, 600V Tinned Copper	§XP263007	26	7/34	.081	3.3
	§XP243007	24	7/32	.086	4.1
	§XP243019	24	19/36	.087	4.3
	XP223007	22	7/30	.093	5.3
	XP223019	22	19/34	.095	5.5
	XP203007	20	7/28	.100	6.9
	XP203010	20	10/30	.098	6.5
	XP183007	18	7/26	.110	9.6
	XP183016	18	16/30	.108	8.9
	XP163026	16	26/30	.122	13.1
	XP143041	14	41/30	.139	19.4
	XP123065	12	65/30	.153	28.1
	XP1030105	10	105/30	.192	42.8
	XP0845168	8	168/30	.268	73.9
	*XP0645266	6	266/30	.298	105.4
	†XP0660266	6	266/30	.328	112.7
	*XP0445420	4	420/30	.356	169.6
	†XP0460420	4	420/30	.381	176.9
	Note: Sizes 22 AWG and larger are imprinted: xx AWG BRAND-REX (UL) AWM 125C VW-1 CSA CL1251 X-LINK				

Sizes 26 to 10 AWG (.030" wall) and 8 AWG (.045" wall) meet both Styles 3271 and 3272

*Style 3272—.045" wall

†Style 3271—.060" wall

‡Other strandings can be supplied

§Not CSA recognized

UL **SP** **STYLE 1007 — .015 PVC**
For Use as Internal Ground Wire

	Brand-Rex Part No.	Conductor		Nom. O.D.	Approx. Lbs./M'
		AWG	Strand.		
Style 1007 80°C, 300V	CC181616	18	16/30	.078	7.0
CSA Type TR-64 90°C, 300V	CC161626	16	26/30	.092	10.6
Tinned Copper	Note: Insulation must be green, or green with 30% helical yellow stripe				

UL **SP** **STYLES 1011, 1017, 1019, 1020 (80°C); 1015, 1028, 1283, 1284 (105°C) — .030" to .078" PVC***
For Use as Internal Power Supply Leads and Internal Ground Wires

	Brand-Rex Part Number		Conductor		Nom. O.D.	Approx. Lbs./M'
	UL 80°C	UL 105°C	AWG	Strand.†		
Styles 1011, 1017, 1019, 1020 80°C, 600V	T-996(1/18)-16	TEW183116	18	16/30	.108	9.6
	T-996(1/16)-26	TEW163126	16	26/30	.122	13.7
	T-996(1/14)-41	TEW143141	14	41/30	.131	18.4
	T-996(1/12)-65	TEW123165	12	65/30	.155	28.3
CSA Appliance Wire 80°C, 600V	T-996(1/10)-105	TEW1031105	10	105/30	.192	44.1
	T-996(1/08)-168	TEW0847168	8	168/30	.266	75.1
	T-996(1/06)-266	TEW0663266	6	266/30	.327	117.3
	T-996(1/04)-420	TEW0463420	4	420/30	.393	184.5
Styles 1015, 1028, 1283, 1284 105°C, 600V	T-996(1/02)-665	TEW0263665	2	665/30	.458	268.2
	T-996(1/1/0)-1045	TEW1/0781045	1/0	1045/30	.572	434.3
	T-996(1/2/0)-1330	TEW2/0781330	2/0	1330/30	.650	534.6
	T-996(1/3/0)-1665	TEW3/0781665	3/0	1665/30	.681	672.4
	T-996(1/4/0)-2107	TEW4/0782107	4/0	2107/30	.836	833.8
	105°C Wires are imprinted: BRAND-REX xx AWG CSA TEW 105C (UL) AWM STYLE xxxx 105C 600V FR-1					
CSA Type TEW 105°C, 600V‡						
Tinned Copper						

*Wall thickness varies with AWG size

†Other strandings can be supplied

‡Type TEW wires are acceptable for operation at 1,000 volts when used in equipment where the current is limited and/or controlled by means of a ballast, resistor, transformer, or the like.

SECONDARY POWER DISTRIBUTION

UL STYLES 1482. PVC INSULATED ALUMINUM STRIP For Use as Secondary Power Distribution, Ground Return and Flexible Power Bus

	Brand-Rex Part No.	Constr.	Equiv. AWG Size*	Strip Dimensions†		Cable Dimensions		Approx. Lbs./M'
				Thick.	Width	Thick.	Width	
With Aluminum Alloy #1100, H-12 Temper Conductor PVC Insulation Style 1482 105°C, 100V	PVCA-16	Fig. 1	16	.010	.250	.037	.280	7.6
	PVCA-14	Fig. 1	14	.008	.500	.033	.525	13.7
	PVCA-12	Fig. 1	12	.012	.500	.042	.530	16.4
	PVCA-10	Fig. 1	10	.011	1.000	.041	1.030	31.1
	PVCA-08	Fig. 1	8	.015	1.000	.050	1.040	38.9
	PVCA-06	Fig. 1	6	.022	1.000	.067	1.040	54.7
	PVCA-04	Fig. 1	4	.034	1.000	.079	1.040	69.8
	PVCA-02	Fig. 1	2	.027	2.000	.077	2.050	123.8
	PVCA-01	Fig. 1	1	.045	1.500	.100	1.560	131.7
	PVCA-1/0	Fig. 1	1/0	.041	2.000	.096	2.055	162.8
	PVCA-2/0	Fig. 1	2/0	.054	2.000	.109	2.060	195.8

*Cross-sectional areas of aluminum strips equal cross-sectional areas of round solid conductors of the AWG sizes shown. For aluminum strip increase AWG by two sizes to obtain the same current carrying capacity as copper. Example: .011 x 1.000 strip (10 AWG equivalent) has the same current carrying capacity as 12 AWG solid copper wire.

†Edges modified to prevent insulation puncture or cut-through.

CONDUCTOR
(FLAT STRIP)

Fig. 1

UL STYLES 1649, 2727 TEFLON INSULATED COPPER STRIP For Use as Secondary Power Distribution, Ground Return and Flexible Power Bus

	Brand-Rex Part No.	Constr.	Equiv. AWG Size*	Strip Dimensions†		Cable Dimensions		Approx. Lbs./M'
				Thick.	Width	Thick.	Width	
With Annealed ETP Copper Tefzel Insulation Style 1649 (1 strip) Style 2727 (2 strips) 105°C, 90V	T-108	Fig. 1	10	.010	.985	.020	1.006	47.2
	T-110	Fig. 1	8	.016	.985	.028	1.006	70.3
	T-111	Fig. 1	7	.020	.985	.030	1.006	85.8
	T-112	Fig. 2	13†	.010	.447	.020	1.006	44.4
	T-113	Fig. 2	11†	.016	.447	.026	1.006	65.8
	T-117	Fig. 2	10†	.020	.447	.030	1.010	80.1

*Cross-sectional areas of copper strips equal cross-sectional areas of round solid conductors of the AWG shown.

†Edges modified to prevent insulation puncture or cut-through.
†Each conductor.

CONDUCTOR
(FLAT STRIP)

Fig. 2

BRAND-REX MILITARY HOOK-UP WIRE

Although many military hook-up wire specifications exist, a number of these are infrequently used and some are in the process of being obsoleted. This section lists only a few possible constructions—Type B, C, D, KT, K and KK of MIL-W-16878 and /16, /17, /18 and /19 of MIL-W-22759. These use PVC, Teflon FEP and Tefzel insulations respectively, and are the most frequently ordered. Brand-Rex can supply other types when required.

Military Specifications

The more frequently used MIL spec wires are listed below. Brand-Rex supplies only those shown in **bold face**. The other specifications are included as an aid to users in identifying specific products.

MIL-W-76B	General purpose hook-up wire for internal wiring of electronic equipment. Temperature range -40 to 80°C. Vinyl types LW, MW, HW for service up to 2500 volts, polyethylene type HF, 1000 volts.
MIL-W-583B	Magnet wire for fabricating coils.
MIL-W-3093	Telephone distributing frame wire. (Can supply vinyl types only—WD-15/U, WD-16/U, WF-9/U, WT-3/U).
MIL-W-3861	Copper conductors (uninsulated). Solid, bunched, concentric and rope constructions.
MIL-W-5086A	600 volt aircraft wire using copper conductors.
MIL-W-5088B	Installation of wiring and wiring devices in aircraft.
MIL-W-5845A	Iron and Constantan thermocouple wire.
MIL-W-5846A	Chrome and Alumel thermocouple wire.
MIL-W-5908B	Copper and Constantan thermocouple wire.
MIL-W-7139B	600 volt Teflon TFE tape insulated wire for aircraft and missile use.
MIL-W-7500	Antenna wire, WS-31/U
MIL-W-8160B	Installation of wiring in guided missiles.
MIL-W-8777A	600 volt aircraft wire with silicone rubber insulation.
MIL-W-12349	Kel-F insulated hook-up wire.
MIL-W-13241	Copper conductors (uninsulated).
MIL-W-16072	High temperature magnet wire.
MIL-W-16400B	General specification for electronic equipment, Naval ship and shore.
MIL-W-16878D	High temperature hook-up wire for internal wiring of electronic equipment. Includes vinyl types B, C, D rated at 105°C; Teflon TFE types E, EE, ET rated up to 260°C; silicone rubber types F, FF, FFW rated at 200°C; polyethylene type J rated at 75°C; Teflon FEP types K, KK, KT rated at 200°C.
MIL-W-19150	Polyethylene insulated, nylon jacketed hard drawn copper wire.

MIL-W-22759	Tefzel insulated copper and copper alloy wire.
MIL-W-25038A	600 volt aircraft wire with asbestos insulation.
MIL-W-81822	Wire-Wrap insulated wire.
MIL-W-81044	Cross-linked polyalkane, etc. insulated wire.
MIL-W-81381	Kapton insulated copper or copper alloy wire.
NAS-702	General purpose vinyl insulated hook-up wire for 105°C operation.

It is important to note that military specifications generally give higher temperature and voltage ratings to vinyl insulated wires than do UL and CSA for equivalent items.

In the case of temperature rating of vinyl compounds, the chief reason lies in the way in which each agency evaluates "heat resistance." The term is commonly used as though it were a single, constant characteristic. Actually it is a general term which can mean any one, or a combination of, four distinct thermal effects—heat shock or stress release, heat aging, heat deformation and heat resistance. Each is completely different from the other, and every major specification includes tests for at least three of them. In consequence, there is no set rule for establishing the maximum operating temperature of a vinyl compound, and to some degree, any assigned rating is arbitrary.

In the case of voltage rating, the reason is probably a philosophic one. Underwriters is an extremely conservative body, and includes a very large safety margin when assigning the rating. The military is more practical, and has proved by years of experience that their higher ratings are realistic.

In summary, it can be generally assumed that for a particular application, similar wires, whether military or non-military, will perform very much the same regardless of the assigned temperature and voltage ratings.

Table 3 gives general information about the MIL spec wires Brand-Rex supplies.

Table 3—Selected Military Hook-up Wire Data

MIL Rating		Size Range AWG	Primary Insulation		Outer Covering	Military Specification		Catalog Page
°C	Volt		Wall	Material		Document No.	Type	
105	600	32-14 ¹	.010	PVC	None	MIL-W-16878	B	19
105	1000	26-12 ¹	.017	PVC	None	MIL-W-16878	C	19
105	3000	24-4/0 ¹	Varies ⁴	PVC	None	MIL-W-16878	D	19
115	600	32-14 ¹	.010	PVC	Nylon	MIL-W-16878	BN	—
115	1000	26-12 ¹	.017	PVC	Nylon	MIL-W-16878	CN	—
115	3000	24-4/0 ¹	Varies ⁴	PVC	Nylon	MIL-W-16878	DN	—
150	600	26-1/0 ¹	Varies ⁴	Tefzel	None	MIL-W-22759	/18 ⁵	20
150	600	26-20 ²	.006	Tefzel	None	MIL-W-22759	/19 ⁵	20
150	600	24-2/0 ¹	Varies ⁴	Tefzel	None	MIL-W-22759	/16 ⁶	20
150	600	24-20 ²	.010	Tefzel	None	MIL-W-22759	/17 ⁶	20
200	250	32-20 ³	.006	Teflon FEP	None	MIL-W-16878	KT	21
200	600	32-10 ³	.010	Teflon FEP	None	MIL-W-16878	K	21
200	1000	32-4/0 ³	Varies ⁴	Teflon FEP	None	MIL-W-16878	KK	21

¹Stranded tinned copper

²Stranded silver-coated copper alloy

³Stranded silver-coated copper

⁴Wall thickness varies with size

⁵Lightweight wire (spec. designation)

⁶Medium weight wire (spec. designation)


MIL-W-16878, TYPES B, C, AND D—PVC INSULATION*
General Purpose Military Hook-up Wire

	Brand-Rex Part No.	Conductor		Nom. Wall	Nom. O.D.	Approx. Lbs./M'	MIL Part No.
		AWG	Strand.				
Type B† Unjacketed .009/.010" PVC‡ 105°C, 600V Tinned Copper	HH320907	32	7/40	.009	.029	.6	B-32
	HH300907	30	7/38	.009	.032	.8	B-30
	HH280907	28	7/36	.009	.034	1.0	B-28
	HH280919	28	19/40	.009	.034	1.0	B-28
	HH260907	26	7/34	.009	.038	1.4	B-26
	HH260919	26	19/38	.009	.038	1.5	B-26
	HH241007	24	7/32	.010	.044	2.0	B-24
	HH241019	24	19/36	.010	.044	2.1	B-24
	HH221007	22	7/30	.010	.049	2.8	B-22
	HH221019	22	19/34	.010	.049	3.0	B-22
	HH201007	20	7/28	.010	.058	4.4	B-20
	HH201019	20	19/32	.010	.058	4.6	B-20
	HH181007	18	7/26	.010	.068	6.6	B-18
	HH181016	18	16/30	.010	.068	6.2	B-18
	HH181019	18	19/30	.010	.068	6.9	B-18
	HH161019	16	19/29	.010	.077	8.8	B-16
	HH161026	16	26/30	.010	.077	9.5	B-16
	HH141019	14	19/27	.010	.091	13.8	B-14
	HH141041	14	41/30	.010	.091	13.8	B-14
Type C Unjacketed .017" PVC 105°C, 1000V Tinned Copper	HH261707	26	7/34	.017	.053	2.0	C-26
	HH261719	26	19/38	.017	.053	2.1	C-26
	HH241707	24	7/32	.017	.058	2.7	C-24
	HH241719	24	19/36	.017	.058	2.8	C-24
	HH221707	22	7/30	.017	.065	3.7	C-22
	HH221719	22	19/34	.017	.065	3.9	C-22
	HH201707	20	7/28	.017	.072	5.2	C-20
	HH201719	20	19/32	.017	.072	5.7	C-20
	HH181707	18	7/26	.017	.082	7.6	C-18
	HH181716	18	16/30	.017	.082	7.2	C-18
	HH181719	18	19/30	.017	.082	7.9	C-18
	HH161719	16	19/29	.017	.092	10.0	C-16
	HH161726	16	26/30	.017	.092	10.5	C-16
	HH141719	14	19/27	.017	.105	14.9	C-14
Type D Unjacketed .026/.052" PVC‡ 105°C, 3000V Tinned Copper	HH243107	24	7/32	.026	.077	3.9	D-24
	HH243119	24	19/36	.026	.077	4.0	D-24
	HH223107	22	7/30	.026	.083	5.0	D-24
	HH223119	22	19/34	.026	.083	5.1	D-24
	HH203107	20	7/28	.027	.092	6.8	D-20
	HH203119	20	19/32	.027	.092	7.1	D-20
	HH183107	18	7/26	.027	.102	9.6	D-18
	HH183116	18	16/30	.027	.102	8.9	D-18
	HH183119	18	19/30	.027	.102	9.8	D-18
	HH163119	16	19/29	.027	.111	12.0	D-16
	HH163126	16	26/30	.027	.111	12.3	D-16
	HH143119	14	19/27	.027	.126	17.4	D-14
	HH143141	14	41/30	.027	.126	17.7	D-14
	HH123719	12	19/25	.035	.159	28.0	D-12
	HH123765	12	65/30	.035	.159	28.9	D-12
	HH103737	10	37/26	.035	.178	43.8	D-10
	HH1037105	10	105/30	.035	.178	42.4	D-10
	HH0840133	8	133/29	.039	.244	70.4	D-8
	HH0640133	6	133/27	.039	.288	104.6	D-6
	HH0445133	4	133/25	.045	.356	168.0	D-4
	HH0245133	2	133/23	.045	.425	238.2	D-2
	HH0150259	1	259/25	.050	.478	311.8	D-1
	HH1/052259	1/0	259/24	.052	.525	376.8	D-1/0

*Also available with nylon jacket. With jacket, temperature rating is 115°C.
†Tri-rated Type B (MIL accepted, UL listed, CSA certified) available with semi-rigid or
irradiated PVC insulation in sizes 28 to 16 AWG. See pages 8, 9.
‡Wall thickness varies with size.

 MIL-W-16878, TYPES KT, K AND KK—TEFLON FEP INSULATION
High Temperature Military Hook-up Wire

	Brand-Rex Part No.	Conductor		Nom. Wall	Nom. O.D.	Approx. Lbs./M'	MIL Part No.
		AWG	Strand.				
Type KT .006" Teflon FEP 200°C, 250V Silver-Coated Copper*	KK320607	32	7/40	.006	.021	.5	KT-32
	KK300607	30	7/38	.006	.024	.7	KT-30
	KK280607	28	7/36	.006	.027	.9	KT-28
	KK280619	28	19/40	.006	.027	.9	KT-28
	KK260607	26	7/34	.006	.031	1.3	KT-26
	KK260619	26	19/38	.006	.031	1.4	KT-26
	KK240607	24	7/32	.006	.036	1.9	KT-24
	KK240619	24	19/36	.006	.036	2.0	KT-24
	KK220607	22	7/30	.006	.042	2.8	KT-22
	KK220619	22	19/34	.006	.042	3.0	KT-22
	KK200607	20	7/28	.006	.050	4.3	KT-20
	KK200619	20	19/32	.006	.050	4.6	KT-20
Type K .010/.011" Teflon FEP 200°C, 600V Silver-Coated Copper*	KK321007	32	7/40	.010	.029	.8	K-32
	KK301007	30	7/38	.010	.032	1.0	K-30
	KK281007	28	7/36	.010	.035	1.3	K-28
	KK281019	28	19/40	.010	.035	1.3	K-28
	KK261007	26	7/34	.010	.039	1.7	K-26
	KK261019	26	19/38	.010	.040	1.8	K-26
	KK241007	24	7/32	.010	.044	2.4	K-24
	KK241019	24	19/36	.010	.045	2.6	K-24
	KK221007	22	7/30	.010	.050	3.4	K-22
	KK221019	22	19/34	.010	.052	3.6	K-22
	KK201007	20	7/28	.010	.058	4.9	K-20
	KK201019	20	19/32	.010	.060	5.3	K-20
	KK181007	18	7/28	.010	.068	7.3	K-18
	KK181016	18	16/30	.010	.068	6.9	K-18
	KK181019	18	19/30	.010	.070	7.7	K-18
	KK161019	16	19/29	.010	.077	9.6	K-16
	KK161026	16	26/30	.010	.080	10.3	K-16
	KK141019	14	19/27	.011	.089	14.3	K-14
	KK141041	14	41/30	.011	.089	14.4	K-14
	KK121019	12	19/25	.011	.113	23.6	K-12
	KK121065	12	65/30	.011	.113	24.2	K-12
	KK101037	10	37/26	.011	.135	34.0	K-10
Type KK .015/.050" Teflon FEP 200°C, 1000V Silver-Coated Copper*	KK321507	32	7/40	.015	.039	1.3	KK-32
	KK301507	30	7/38	.015	.042	1.6	KK-30
	KK281507	28	7/36	.015	.045	1.9	KK-28
	KK281519	28	19/40	.015	.045	1.9	KK-28
	KK261507	26	7/34	.015	.049	2.4	KK-26
	KK261519	26	19/38	.015	.050	2.5	KK-26
	KK241507	24	7/32	.015	.054	3.1	KK-24
	KK241519	24	19/36	.015	.055	3.3	KK-24
	KK221507	22	7/30	.015	.060	4.2	KK-22
	KK221519	22	19/34	.015	.062	4.4	KK-22
	KK201507	20	7/28	.015	.068	6.1	KK-20
	KK201519	20	19/32	.015	.070	6.2	KK-20
	KK181507	18	7/26	.015	.079	8.5	KK-18
	KK181516	18	16/30	.015	.079	8.1	KK-18
	KK181519	18	19/30	.015	.080	8.9	KK-18
	KK161519	16	19/29	.015	.089	11.0	KK-16
	KK161526	16	26/30	.015			KK-16
	KK141519	14	19/27	.017	.105	16.5	KK-14
	KK141541	14	41/30	.017	.105	16.7	KK-14
	KK121519	12	19/25	.017	.124	24.4	KK-12
	KK121565	12	65/30	.017	.124	26.1	KK-12
	KK101537	10	37/26	.017	.145	35.4	KK-10
	KK0820133	8	133/29	.020	.207	61.1	KK-8
	KK0640133	6	133/27	.040	.287	116.6	KK-6
	KK0445133	4	133/25	.045	.352	185.5	KK-4
	KK0250665	2	665/30	.050	.425	280.1	KK-2
	KK0150836	1	836/30	.050	.478	332.5	KK-1

*Can also be supplied with tinned copper conductors on request. With tinned copper, Brand-Rex recommends 150°C max. operation.



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