



CAUSE NO. 93036251

HELEN GAMBRELL, INDIVIDUALLY	\$	IN THE DISTRICT COURT OF
AND AS THE SPECIAL	\$	
ADMINISTRATRIX OF THE ESTATE	\$	
ROBERT GAMBRELL, DECEASED	\$	
	\$	
VS.	\$	DALLAS COUNTY, TEXAS
	\$	
THE ABER COMPANY	\$	162ND JUDICIAL DISTRICT
AMERICAN ELECTRICAL CABLE		
AMERICAN INSULATED WIRE, INC.		
ARMSTRONG WORLD INDUSTRIES, INC		
CAROL WIRE & CABLE (Individually		
and d/b/a Crest Co. & Miller Electric Co.)		
CERRO WIRE & CABLE CO., INC.		
ESSEX GROUP		
FIBREBOARD CORPORATION		
FLEXITALLIC GASKET COMPANY, INC.		
THE FLINTKOTE COMPANY		
GAF CORPORATION		
GARLOCK, INC.		
GENERAL ELECTRIC CO.		
ITT CORPORATION		
NATIONAL GYPSUM COMPANY		
THE OXONITE CO.		
OWENS-CORNING FIBERGLAS CORPORATION		
OWENS-ILLINOIS, INC.		
PITTSBURGH CORNING CORPORATION		
ROCK WOOL MANUFACTURING CO., INC.		
ROCKBESTOS PRODUCTS CO.		
ROME CABLE CORP.		
TURNER & NEWALL PLC		
USX CORPORATION (Individually and f/d/b/a		
U.S. Steel, American Steel and Wire,		
U.S. Steel Electrical Cable, & Tiger Brand)		
UNION CARBIDE CHEMICALS & PLASTIC COMPANY		
UNITED STATES GYPSUM COMPANY		
W.R. GRACE & COMPANY		
WESTINGHOUSE ELECTRIC COMPANY		

DEFENDANT, ESSEX GROUP'S ANSWERS TO INTERROGATORIES

TO: PLAINTIFF, HELEN GAMBRELL, Individually and as the Special Administratrix of the Estate of Robert Gambrell, Deceased by and through her attorney of record, Edward O. Moody, Edward O. Moody, P.A., 801 West Fourth Street, Little Rock, Arkansas 72201.

COMES NOW, Defendant, The Essex Group, and files this its answers to Plaintiff's First Set of Interrogatories.

Respectfully submitted,

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ATTORNEYS FOR DEFENDANT,
ESSEX GROUP

CERTIFICATE OF SERVICE

This is to certify that a true and correct copy of DEFENDANT, ESSEX GROUP'S ANSWERS TO INTERROGATORIES has been forwarded to all known counsel of record by Certified Mail, Return Receipt Requested, or regular mail, on this the 12th day of August, 1993.

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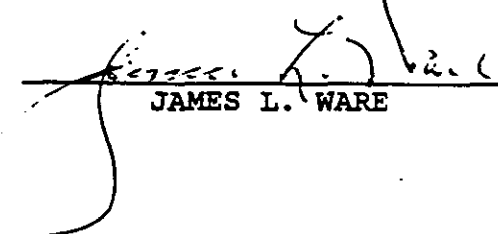
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C:\WP51\GAMBRELL\ANSINTEROG

GENERAL OBJECTIONS

Texas Rule of Civil Procedure 168(5) provides that "The number of questions including subsections in a set of interrogatories shall be limited so as not to require more than thirty answers."

Defendant Essex Group objects to Plaintiff's First Set of Interrogatories in that they expressly violate Texas Rule of Civil Procedure 168(5). Subject to this general objection, Essex Group makes the following answers:

ANSWERS TO INTERROGATORIES

1. State the name, present business address, present residence and capacity or title of the individual signing these Interrogatories on behalf of the answering defendant.

ANSWER:

Jerome T. Chalwick, Assistant Counsel,
Essex Group, Inc.
1601 Wall Street
Ft. Wayne, Indiana 46802

2. Please state whether or not you have ever held a certificate of authority or otherwise registered to do business in the States of Texas and Arkansas and the dates thereof. Please state the address of your principal place of business and whether you have assumed the assets and/or liabilities of any Predecessor corporation or entity (such predecessor corporations being limited to any association whatsoever with the asbestos aspect of defendant's business). Answer these Interrogatories for each such acquired company which manufactured electrical wire products containing asbestos.

ANSWER:

Objection: This interrogatory is overly broad in that it seeks information that is neither relevant, nor reasonably calculated to lead to the discovery of admissible evidence. Subject to and without waiving the objection:

Yes.

Principal place of business, Essex International, Inc., 1601 Wall Street, Fort Wayne, Indiana 46802.

3. Has defendant, at any time, engaged in the manufacture of electrical wire products containing asbestos fibers?

~~ANSWER:~~ ANSWER:

No, provided that an excerpt from a 1953 catalog (Exhibit 1) shows that some products may contain asbestos. A full and complete copy of a 1961 catalog is also attached (Exhibit 2).

4. Has defendant, at any time, engaged in the mining and/or milling of material containing asbestos fibers?

ANSWER:

No.

5. Has defendant, at any time, engaged in the processing, distributing and/or marketing of material containing asbestos fibers?

ANSWER:

See Answer to Interrogatory No. 3.

6. If the answer to one or more of the last three questions is in the affirmative, please state as to each affirmative answer, the following:

- (a) The trade or brand name of each such product mined, manufactured or marketed.
- (b) The dates each such products were placed on the market.
- (c) The dates each of such products were withdrawn from the market.
- (d) A description of the physical (the chemical) composition of each such product, including the type of asbestos contained in each such product (i.e., amosite, chrysotile, tremolite and/or crocidolite) and the quantitative percentage of asbestos in each product.
- (e) A description of the physical appearance of each such product.
- (f) A detailed description of the intended uses of each such product.
- (g) The name of the manufacturer of each such product.
- (h) The mining or milling concern from which the raw asbestos fiber was obtained.

ANSWER:

- (a) See attached exhibits.
- (b) See attached exhibits.
- (c) See attached exhibits.
- (d) See page 17 of the 1961 catalog (Exhibit 2).
- (e) See attached exhibits.
- (f) See Exhibit 2.
- (g) Unknown.
- (h) Unknown.

7. Does defendant claim that any patent would cover any product listed above in Interrogatory No. 6.?

ANSWER:

No.

8. If so, for each such product, please state:

- (a) The number of each patent.
- (b) The date same was issued.
- (c) The number of each patent application that is pending.

ANSWER:

N/A

9. Have any of the products listed in Interrogatory No. 6 above been altered in chemical composition or asbestos type or content since first being marketed?

ANSWER:

Objection: This interrogatory seeks information that is neither relevant, nor reasonably calculated to lead to the discovery of admissible evidence. See Tex. R. Civ. P. 166b and Tex. R. Civ. Evid. 407. Subject to and without waiving the above objection:

No.

10. If so, please state:

- (a) The trade name of each such product.
- (b) The date each such product was altered.
- (c) The nature of the alteration.
- (d) The reason for the alteration.

ANSWER:

Objection: This interrogatory seeks information that is neither relevant, nor reasonably calculated to lead to the discovery of admissible evidence. See Tex. R. Civ. P. 166b and Tex. R. Civ. Evid. 407. Subject to and without waving this objection:

N/A

11. Do any written memoranda, specifications, blueprints or other written materials, of any kind or character, exist relating to the testing of said products?

ANSWER:

Objection: This interrogatory seeks information that is neither relevant, nor reasonably calculated to lead to the discovery of admissible evidence. See Tex. R. Civ. P. 166b and Tex. R. Civ. Evid. 407. Subject to and without waving this objection:

No.

12. If so, please state:

- (a) List each such written material or document.
- (b) Who presently has possession of each such document and where is it located?

ANSWER:

Objection: This interrogatory seeks information that is neither relevant, nor reasonably calculated to lead to the discovery of admissible evidence. See Tex. R. Civ. P. 166b and Tex. R. Civ. Evid. 407. Subject to and without waving this objection:

N/A

13. Did defendant make any design changes as a result of said testing?

ANSWER:

Objection: This interrogatory seeks information that is neither relevant, nor reasonably calculated to lead to the discovery of admissible evidence. See Tex. R. Civ. P. 166b and Tex. R. Civ. Evid. 407. Subject to and without waving this objection:

No.

14. If so, please state:

- (a) The nature of the changes made
- (b) The name, address, and job classification of each person in charge of making a change.

ANSWER:

Objection: This interrogatory seeks information that is neither relevant, nor reasonably calculated to lead to the discovery of admissible evidence. See Tex. R. Civ. P. 166b and Tex. R. Civ. Evid. 407. Subject to and without waving this objection:

N/A

15. Do any written memoranda, specifications, recommendations or other written materials, of any kind or character, relating to the testing of the said products exist?

ANSWER:

Objection: This interrogatory seeks information that is neither relevant, nor reasonably calculated to lead to the discovery of admissible evidence. See Tex. R. Civ. P. 166b and Tex. R. Civ. Evid. 407. Subject to and without waving this objection:

N/A

16. If so, please state:

- (a) List each such written material or document.
- (b) Who presently has possession of each such document, and where is it located?

~~ANSWER:~~ ANSWER:

Objection: This interrogatory seeks information that is neither relevant, nor reasonably calculated to lead to the discovery of admissible evidence. See Tex. R. Civ. P. 166b and Tex. R. Civ. Evid. 407. Subject to and without waving this objection:

N/A

17. Did defendant make any design changes as a result of such tests?

ANSWER:

Objection: This interrogatory seeks information that is neither relevant, nor reasonably calculated to lead to the discovery of admissible evidence. See Tex. R. Civ. P. 166b and Tex. R. Civ. Evid. 407. Subject to and without waving this objection:

N/A

18. If so, please state:

- (a) The nature of the changes made.
- (b) The name, address, and job classification of each person responsible for making such a change.

ANSWER:

Objection: This interrogatory seeks information that is neither relevant, nor reasonably calculated to lead to the discovery of admissible evidence. See Tex. R. Civ. P. 166b and Tex. R. Civ. Evid. 407. Subject to and without waving this objection:

N/A

19. Has defendant, at any time, published and/or distributed any brochures, sales literature, pamphlets, or other written materials (aside from any caution labels on containers), of any kind or character, that contain any warnings, cautions, caveats or directions concerning the possibility of injury resulting from the use of the products listed in response to Interrogatory No. 6 above?

ANSWER:

No.

20. If so, please state:

- (a) The wording of each such warning.
- (b) A description of each such printed material.
- (c) The method used to distribute the warning to persons who are likely to use the products.
- (d) The date each such warning was issued.
- (e) The name, address, and job classification of each person who presently has possession of the above described documents.
- (f) If you will without a motion, please attach a copy of each such warning.
- (g) State whether any industrial psychologists or human factors engineers were consulted prior to utilizing such warnings, cautions, etc.

ANSWER:

N/A

21. From 1930 until the present, did the asbestos products manufactured or distributed by you, contain any warning, caution, caveat or other statement on the product or its packaging?

ANSWER:

Objection: This interrogatory is overly broad and unduly burdensome in that it is not restricted in time frame to periods of relevance to this lawsuit. For further objection, this interrogatory seeks information that is neither relevant, nor reasonably calculated to lead to the discovery of admissible evidence. Subject to and without waiving these objections, we presently know of none.

22. If so, please state:

- (a) When did the first warning appear?
- (b) What was the precise wording of the warning when it first appeared?
- (c) Was the warning altered, amended or changed in any manner? If so, how and when?
- (d) Where was the warning located on the product or packaging?

- (e) When did you become aware that warnings were placed on products distributed by other defendants? State the reason warnings of the other defendants were not placed on your products.
- (f) State the manner in which your product is shipped and the type of container it is shipped in to retailers.
- (g) State whether any industrial psychologists or human factors engineers were consulted prior to utilizing such warnings, cautions, etc.

ANSWER:

Objection: This interrogatory is overly broad and unduly burdensome in that it is not restricted in time frame to periods of relevance to this lawsuit. For further objection, this interrogatory seeks information that is neither relevant, nor reasonably calculated to lead to the discovery of admissible evidence. Subject to and without waiving these objections, N/A.

23. Have you received notice that any other person was claiming injury as a result of using asbestos products manufactured and/or sold by your company (both prior to and subsequent to the filing of this action)?

ANSWER:

Objection: This interrogatory is unduly burdensome, irrelevant to any issue in this case and is not reasonably calculated to lead to the discovery of admissible evidence. Subject to and without waiving this objection.

Yes.

24. If so, please state:

- (a) The name and address of each claimant.
- (b) The date and notice of each claim.
- (c) A description of the claim (i.e., workmen's compensation, products liability, etc.).
- (d) The type of injuries allegedly sustained.
- (e) The name and address of each attorney who represents the individuals making such claims.
- (f) The style and court number of each claim currently pending.

(g) The resolution of each claim that has been settled or taken to judgment.

ANSWER:

Objection: This interrogatory is unduly burdensome, irrelevant to any issue in this case and is not reasonably calculated to lead to the discovery of admissible evidence. Subject to and without waiving this objection.

Guerrera, Anthony M. et al
US District of East Pa.
Court Cause No. 90-2240

Pro, Vera vs. A.S. & S. Inc., et al
US District of East Pa.
Court Cause No. 89-9196

Hartman vs. Keene, et al
Court of Common Pleas - Delaware County, PA
Court Cause No. 90-15074

Kelleher, Virginia vs. AB Electrical Supply, et al
Superior Court of New Jersey - Middlesex County
Court Cause No. L 12020 90

Medearis, Wesley C. and Phyllis Medearis vs.
US Gypsum Co., et al
Circuit Court of Cook County, IL
Court Cause No. 91L00746

Cooper, Joseph F. & Rita Cooper H/W vs.
TNT Liquidating Co., et al
Jurisdiction - Has not been named
Court Cause No. Unknown

Weber, Darrel and Donna J. Weber vs.
Armstrong World Industries, et al
Tenth Judicial Circuit of IL - Peoria County
Court Cause No. 91 L 535

Erickson, Ronald Vs. AB Electric Co., et al
Superior Court of New Jersey - Middlesex County
Court Cause No. L 7905 91

Gagnon, Richard and Marie Gagnon vs. Essex Group, Inc.
Superior Court of New Jersey - Middlesex County
Court Cause No. MID L 196 92

Remick, Ernest Jr., and Lois Remick vs.
Diamond Wire and Cable, et al
US District Court, District of NH
Court Cause No. C 91 482 D

McDermott vs. AB Electrical Supply Co., et al
Superior Court of New Jersey - Middlesex County
Court Cause No. MID L 4652 92

Mitchell, Richard vs AP Green Industries, et al
The Court of Common Pleas - Philadelphia County
Court Cause No. 2728

Mills, Harry and Sondra vs.
EI Dupont de Nemours and Co., et al
Circuit Court of West Virginia
Court Cause No. 92 C 659

25. Do you have any records indicating that any of your products containing asbestos fibers were sold to any of the companies named as codefendants in this suit?

ANSWER:

No.

26. If so, please state:

- (a) The name, address, and job classification of each individual who currently has possession of such records.
- (b) Please list the names of each codefendant to whom your products have been sold.
- (c) Please state the dates of each such sale and the amount and kind of materials sold
- (d) State whether your company manufactured asbestos-containing electrical wire products for a codefendant but placed said codefendants labels, logos or containers on said products and list each such codefendant.

ANSWER:

N/A

27. Does defendant contend that plaintiff improperly used their products?

ANSWER:

See Original Answer of Essex Group.

28. If so, please set out in detail in what respect said products were improperly used.

~~ANSWER:~~ ANSWER:

Objection: This Interrogatory seeks information exempted from discovery as attorney work product. For further objection: This interrogatory is premature in that discovery is still in its infancy.

29. Does defendant have policies of insurance that might cover the claims that have been made by plaintiff?

ANSWER:

Objection: This interrogatory calls for a legal conclusion.

30. If so, please list the name of each insurance carrier who may have coverage, the amount of such coverage, and the dates of each such policy.

ANSWER:

See answer to number 29.

VERIFICATION

STATE OF Indiana §
COUNTY OF Allen §

BEFORE ME, the undersigned authority, on this day appeared Jerome T. Chalwick of The Essex Group in his capacity as Legal Counsel, who being by me duly sworn, upon oath, deposes and says that as such representative, he is duly qualified and authorized in all respects to make this Affidavit; that he has read the statements contained in the foregoing instrument and is fully cognizant of the facts set out therein; and that the same are true and correct to the best of his knowledge and belief.

THE ESSEX GROUP

By: [Signature]
Jerome T. Chalwick

SUBSCRIBED AND SWORN TO BEFORE ME on this, the 29th day of December, 1992, by Sherell A. Jones to certify which witness my hand and official seal.

[Signature]
Notary Public in and for the
State of Indiana
My commission expires: Nov. 19, 1994

Parallel

... Rubber Covered ...

Non-Approved.



Cords of "Paratwin" design are sometimes furnished for applications other than those that require Underwriters' approval. The quality of insulation, their flexibility, and the ease with which they can be prepared for quick connections are advantages offered by these cords.
DESCRIPTION: Extra Flexible Bare Copper Conductor, Separator, (or Tinned—no Separator), Conductors Parallel, Rubber Insulation.

Emex No.	Size AWC	Conductor Stranding	Number of Conductors	Insulation Thickness	Approx. Diameter	Shipping *Package	Net Weight Lbs. Per 10 Feet
S-1113-T	12	65/30	2	.038"	.180 x .340"	2,500'	57
S-1113	14	41/30	2	.047"	.180 x .340"	2,500'	56
**S-2113-B	14	41/30	2	.047"	.180 x .340"	2,500'	56
***S-2113-A	18	41/34	2	.045"	.125 x .245"	3,000'	31
†S-1113-Y	18	41/34 Tinned	3	.047"	.155 x .410"	2,000'	51
†S-1113-Z	18	41/34 Tinned	4	.047"	.155 x .519"	1,500'	65
††S-1113-L	20	26/34	2	.031"	.120 x .220"	3,000'	20
S-1113-S	20	7/28 Tinned	2	.031"	.103 x .190"	3,000'	18
—	22	7/30 Tinned	2	.025"	.080 x .140"	3,000'	14

*Non-returnable reels.
**Mottoprene insulation.
***Neoprene insulation.

U.L. approved for heating pads only.
††Limited approval—For clocks and Christmas tree wire.

Braided

... Heater ...

"H P D"



The most commonly specified braided type Heater Cord for use with toasters, waffle irons, household grills and similar heating appliances—3000 cycle (300 volts).

DESCRIPTION: Extra Flexible Bare Copper Conductor, Separator, Rubber Insulation, Asbestos Covering, Conductors Twisted, Glazed or Soft Cotton, or Rayon Braid Overall.

Size AWC	Conductor Stranding	2 Conductor		
		Approx. Diameter	*Shipping Package	Net Weight Lbs. Per 10 Feet
18	41/34	.290"	250'	27
16	65/34	.315"	250'	35
14	104/34	.345"	250'	48
12	165/34	.380"	250'	63

*Coils—Non-returnable reels if preferred.

Rubber Jacketed

... Heater ...

"H S J"



A flexible Heater Cord with a heat resisting rubber jacket designed for use where the cord may be exposed to moisture—3000 cycle (300 volts).

DESCRIPTION: Extra Flexible Bare Copper Conductor, Separator, Rubber Insulation (Unvulcanized), Asbestos Covering, Conductors Twisted, Cotton Braid, Rubber Jacket Overall.

Size AWC	Conductor Stranding	2 Conductor		
		Approx. Diameter	*Shipping Package	Net Weight Lbs. Per 10 Feet
18	41/34	.340"	250'	58
16	65/34	.362"	250'	67

*Coils—Non-returnable reels if preferred.

Wire and Cable

by

**PARANITE
DIVISION**



**ESSEX WIRE
CORPORATION**

MARION, INDIANA

MANUFACTURING PLANTS

ANAHEIM, CALIFORNIA
MARION, INDIANA

JONESBORO, INDIANA
TIFFIN, OHIO

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PARANITE BUILDING WIRE
SMALL DIAMETER—TYPE TW
 600 Volts—60° C. (140° F.)
 UL File Number E14656

PARANITE—PARASYN

Size AWG or MCM	No. of Strands	Spec. Number	Insu- lation 60ths	Approx. O.D. Ins.	Net Wt. Lbs. Per M Ft.	Length Feet	Pack- ing
14	Sol.	02401-14	2	.13	18	500	Ctn.
12	Sol.	02401-12	2	.15	27	500	Ctn.
10	Sol.	02401-10	2	.17	40	500	Ctn.
8	Sol.	02408-08	3	.23	66	500	Ctn.
14	7	32421-14	2	.14	19	500	Ctn.
12	7	32421-12	2	.16	28	500	Ctn.
10	7	32421-10	2	.18	42	500	Ctn.
8	7	32428-08	3	.24	70	500	Ctn.
6	7	32423-06	4	.31	113	500	Coil
4	7	32423-04	4	.36	168	500	Coil
2	7	32423-02	4	.42	253	500	Coil
1	19	22402-01	5	.49	325	1000	Reel
1/0	19	22402-51	5	.53	399	1000	Reel
2/0	19	22402-52	5	.58	493	1000	Reel
3/0	19	22402-53	5	.63	610	1000	Reel
4/0	19	22402-54	5	.69	755	1000	Reel
250	37	26510-55	6	.77	901	1000	Reel
300	37	26510-57	6	.82	1070	1000	Reel
350	37	26510-59	6	.87	1236	1000	Reel
400	37	26510-61	6	.92	1399	1000	Reel
500	37	26510-64	6	1.01	1725	1000	Reel
600	61	32461-66	7	1.12	2083	500	Reel
750	61	32461-72	7	1.23	2574	500	Reel
1000	61	32461-78	7	1.38	3381	500	Reel

TYPE TW—HEAVY WALL

14	Sol.	02408-14	3	.16	22	500	Coil
12	Sol.	02408-12	3	.18	31	500	Coil
10	Sol.	02408-10	3	.20	45	500	Coil
8	Sol.	02403-08	4	.26	73	500	Coil
14	7	32428-14	3	.17	24	500	Coil
12	7	32428-12	3	.19	33	500	Coil
10	7	32428-10	3	.21	48	500	Coil
8	7	32423-08	4	.27	77	500	Coil

THERMO-PLASTIC INSULATED CONDUCTOR

TYPE THW

600 Volts—75° C. Wet or Dry Operation

UL File Number E14656

14	Sol.	12555-14	3	.16	22	500	Ctn.
12	Sol.	12555-12	3	.18	31	500	Ctn.
10	Sol.	12555-10	3	.20	45	500	Ctn.
8	Sol.	12555-08	4	.26	73	500	Ctn.
14	7	22555-14	3	.17	24	500	Ctn.
12	7	22555-12	3	.19	33	500	Ctn.
10	7	22555-10	3	.21	48	500	Ctn.
8	7	22555-08	4	.27	77	500	Ctn.
6	7	22555-06	4	.31	112	500	Coil
4	7	22555-04	4	.36	167	500	Coil
3	7	22555-03	4	.39	205	500	Coil
2	7	22555-02	4	.42	252	500	Coil
1	19	22555-01	5	.49	324	1000	Reel
1/0	19	22555-51	5	.53	397	1000	Reel
2/0	19	22555-52	5	.58	491	1000	Reel
3/0	19	22555-53	5	.63	608	1000	Reel
4/0	19	22555-54	5	.69	753	1000	Reel
250	37	22555-55	6	.77	899	1000	Reel
300	37	22555-57	6	.82	1068	1000	Reel
350	37	22555-59	6	.87	1233	1000	Reel
400	37	22555-61	6	.92	1396	1000	Reel
500	37	22555-64	6	1.01	1722	1000	Reel

Type TW and THW Furnished in Following

Standard Colors:

- 14 to 10—Black, White, Red, Blue, Green, Yellow,
 Orange, Brown, Purple.
 8—Black, White, Red, Blue.
 6 to 2—Black, White, Red.
 1 and Larger—Black.

**PARANITE MACHINE TOOL, APPLIANCE,
 CONTROL AND SWITCHBOARD WIRE**
 90° C. PARASYN® THERMO-PLASTIC
 INSULATED CONDUCTOR

Listed by Underwriters' Laboratories, Inc. for
 60° C. in Oil and 90° C. Where Exposed to Air
 UL File Number E12271

PARANITE—PARASYN

Size AWG	No. of Strands	Spec. Number	Insu- lation 60ths	Approx. O.D. Ins.	Net Wt. Lbs. Per M Ft.	Length Feet	Pack- ing
600 Volts							
18	Sol.	02421-18	2	.105	10	1000	Spool
18	7	32491-18	2	.112	10	1000	Spool
18	16	52421-18	2	.112	10	1000	Spool
16	Sol.	02421-16	2	.116	13	1000	Spool
16	7	32491-16	2	.124	14	1000	Spool
16	26	52421-16	2	.127	14	1000	Spool
14	Sol.	02421-14	2	.13	18	500	Spool
14	7	32491-14	2	.14	20	500	Spool
14	19	22421-14	2	.14	20	500	Spool
12	Sol.	02421-12	2	.15	27	500	Spool
12	7	32491-12	2	.16	29	500	Spool
12	19	22421-12	2	.16	28	500	Spool
10	Sol.	02421-10	2	.17	40	500	Spool
10	7	32491-10	2	.18	42	500	Spool
10	19	22421-10	2	.18	42	500	Spool
8	Sol.	02428-08	3	.23	66	500	Coils
8	7	32498-08	3	.24	70	500	Coils
8	19	22428-08	3	.25	70	500	Coils
6	7	32493-06	4	.32	114	500	Coils
6	19	22423-06	4	.31	113	500	Coils
4	7	32493-04	4	.36	168	500	Coils
4	19	22423-04	4	.37	168	500	Coils
2	7	32493-02	4	.42	254	500	Coils
2	19	22423-02	4	.43	254	500	Coils
1	19	22422-01	5	.50	326	1000	Reel
1/0	19	22422-51	5	.54	401	1000	Reel
2/0	19	22422-52	5	.58	495	1000	Reel
3/0	19	22422-53	5	.63	612	1000	Reel
4/0	19	22422-54	5	.69	757	1000	Reel

600 Volt Heavy Insulation

16	Sol.	02428-16	3	.15	17	1000	Spool
16	7	32498-16	3	.15	17	1000	Spool
16	26	52428-16	3	.16	19	1000	Spool
14	Sol.	02428-14	3	.16	23	500	Spool
14	7	32498-14	3	.17	24	500	Spool
14	19	54428-14	3	.17	24	500	Spool
12	Sol.	02428-12	3	.18	32	500	Spool
12	7	32498-12	3	.19	34	500	Spool
12	19	54428-12	3	.19	34	500	Spool
10	Sol.	02428-10	3	.20	45	500	Coil
10	7	32498-10	3	.21	48	500	Coil
10	19	22428-10	3	.22	48	500	Coil
8	Sol.	02423-08	4	.26	74	500	Coil
8	7	32493-08	4	.28	78	500	Coil
8	19	22423-08	4	.28	78	500	Coil

600 Volt Extra Heavy Insulation

14	19	54423-14	4	.21	30	500	Spool
12	19	54423-12	4	.22	42	500	Spool
10	19	22423-10	4	.25	55	500	Coil
8	19	22422-08	5	.31	87	500	Coil
6	19	22422-06	5	.35	123	500	Coil
4	19	22422-04	5	.40	180	500	Coil
2	19	22422-02	5	.46	266	500	Coil

*Meets Requirements of National Machine Tool
 Builders Association.

Standard Colors:

- 18 to 10—Black, White, Red, Blue, Green, Yellow,
 Orange, Brown, Purple.
 8 to 4—Black, White, Red.
 2—Black and White.
 1 and Larger—Black.

IF IT'S PARANITE IT'S RIGHT®



PARANITE ARMORED BUSHED-CABLES TWO CONDUCTOR—TYPE AC—600 VOLTS



1. Tinned copper conductors. 2. Code rubber insulation. 3. Cotton braid saturated with moisture-resisting, flame-retarding compound — color coded. 4. Twisted conductors covered with tough, overlapping, saturated paper armor. 5. Anti-short bushing. 6. Flexible steel armor — interlocked construction. For general lighting and power wiring in non-fireproof homes, either concealed or exposed in dry locations.

Size A.W.G.	Ampere Carrying Capacity	Stranding No. and Mil Dia. of Wires	Rubber Wall 64ths	App. Outside Dia.	Std. Lenth. Ft. 1000 Ft.	App. Shuc. Wt. Lbs.
14	15	1x 64.08	2	.478	250'	216
12	20	1x 80.81	2	.513	250'	240
10	25	1x101.9	3	.605	250'	304
8	35	1x128.5	4	.828	150'	607
8	35	7x 48.6	4	.856	150'	607
6	50	7x 61.2	4	1.016	100'	700
4	70	7x 77.2	4	1.112	100'	850

THREE AND FOUR CONDUCTOR—TYPE AC 600 VOLTS



Paranite three and four-conductor armor bushed cables are constructed same as above. Anti-short bushings are additional protection against short circuits which may be caused by the sharp saw-cut edge of the steel armor. For concealed or exposed wiring in industrial plants and other buildings — dry locations only. Useful for fishwork on remodeling jobs. When exposed to dampness use type ACL.

Three Conductor Cables

Size A.W.G.	Ampere Carrying Capacity	Stranding No. and Mil Dia. of Wires	Rubber Wall 64ths	App. Outside Dia.	Std. Lenth. Ft. 1000 Ft.	App. Shuc. Wt. Lbs.
14	15	1x 64.08	2	.501	250'	236
12	20	1x 80.81	2	.537	250'	280
10	25	1x101.9	3	.642	250'	384
8	35	1x128.5	4	.877	150'	720
8	35	7x 48.6	4	.918	150'	732
6	50	7x 61.2	4	1.082	100'	850
4	70	7x 77.2	4	1.185	100'	1150

Four Conductor Cables

Size A.W.G.	Ampere Carrying Capacity	Stranding No. and Mil Dia. of Wires	Rubber Wall 64ths	App. Outside Dia.	Std. Lenth. Ft. 1000 Ft.	App. Shuc. Wt. Lbs.
14	15	1x 64.08	2	.570	150'	272
12	20	1x 80.81	2	.610	250'	344
10	25	1x101.9	3	.787	150'	560
8	35	7x 48.6	4	1.017	100'	950
6	50	7x 61.2	4	1.210	100'	1050
4	70	7x 77.2	4	1.328	100'	1430

PARANITE SERVICE ENTRANCE CABLE TWO CONDUCTOR—TYPE SE STYLE U UNARMORED



1. Tinned copper conductors. 2. High grade rubber insulation. 3. Cotton braid — saturated. 4. Tinned copper wires wrapped on helically. 5 and 6. Rubber-filled tapes. 7. Cotton braid saturated with moisture-resisting, flame-retarding compound, smoothly finished to take house paint readily and dusted. For service from pole to house, down to meter as both a drop and service entrance cable. Without conduit.

Rated for 75° C. Operation

Size A.W.G.	Con- duc- tor	Amp. Carry- ing Cap.	Stranding Insulated Conductor	Approx. Outside Diam.	Stand- ard Lenth. Ft. 1000	App. Shuc. Wt. Lbs.
12 Sol.	12	20	1x 80.81	.317	250'	88
10 Sol.	10	30	1x101.9	.378	250'	128
8	8	45	7x 48.6	.449	250'	192
6	6	65	7x 61.2	.487	250'	240
6	6	65	7x 61.2	.498	200'	270
4	4	85	7x 77.2	.550	200'	325
4	4	85	7x 77.2	.563	150'	385

THREE CONDUCTOR—TYPE SE STYLE U UNARMORED



Same construction as above except that the two insulated conductors — color coded — are laid parallel. In Paranite service entrance cables the use of the bare neutral conductor over the insulated conductors not only reduces the cost but because of the difficulty of taping the cable, prevents the unauthorized use of current. Continuous cables from pole to meter prevents further losses. Tape acts as an additional moisture seal.

Rated for 75° C. Operation

Size A.W.G.	Con- duc- tor	Amp. Carry- ing Cap.	Stranding Insulated Conductor	Approx. Outside Diam.	Stand- ard Lenth. Ft. 1000	App. Shuc. Wt. Lbs.
12 Sol.	12	20	1x 80.81	.311x .470	250'	136
10 Sol.	10	30	1x101.9	.363x .575	250'	206
8	8	45	7x 48.6	.446x .722	250'	320
6	6	65	7x 61.2	.483x .793	200'	420
6	6	65	7x 61.2	.493x .804	150'	460
4	4	85	7x 77.2	.545x .878	150'	560
4	4	85	7x 77.2	.558x .890	150'	610
3	3	100		.582x .912	150'	637
3	3	100		.586x .942	150'	661
3	3	100		.594x .953	150'	712
2	2	115	7x 97.1	.617x 1.001	100'	806
2	2	115	7x 97.1	.634x 1.016	100'	846
1	1	130		.716x 1.161		1051
1/0	1/0	150		.756x 1.237		1271

*1000' Reels

IF IT'S PARANITE IT'S RIGHT®



SUPER-PARAUSE® "RHW" STYLE RR—TYPE USE CABLE
HEAVY WALL NEOPRENE JACKET—600 VOLTS 75° WET OR DRY LOCATIONS



UNDERGROUND SERVICE ENTRANCE CABLE

Listed by Underwriters as Type USE

POWER AND CONTROL CABLE FOR AERIAL AND DIRECT BURIAL INSTALLATIONS
 600 Volts, Type RHW Heat and Moisture Resistant Insulation, HEAVY WALL Black Neoprene Jacketed

AWG Size	Strands	Specification Number	Thickness 64ths Insul.	Thickness 64ths Jacket	Approx. O.D. Inches	Approx. Net Weight Lbs./M Ft.	Standard Package
SINGLE CONDUCTOR							
14	Solid	03355-14	3	3	.260	45	2500 Ft. Reels
12	Solid	03355-12	3	3	.280	56	2500 Ft. Reels
10*	Solid	03355-10	3	3	.300	72	2500 Ft. Reels
8*	Solid	03355-08	4	3	.360	107	2500 Ft. Reels
14†	7	33355-14	3	3	.270	48	2500 Ft. Reels
12†	7	33355-12	3	3	.290	59	2500 Ft. Reels
10†*	7	33355-10	3	3	.315	76	2500 Ft. Reels
8†*	7	33355-08	4	3	.375	114	2500 Ft. Reels
14	19	33305-14	3	3	.270	48	2500 Ft. Reels
12	19	33305-12	3	3	.290	59	2500 Ft. Reels
10	19	33305-10	3	3	.315	76	2500 Ft. Reels
9	19	33305-09	3	3	.330	110	2500 Ft. Reels
6†*	7	33355-06	4	3	.415	153	1000 Ft. Reels
4†*	7	33355-04	4	2	.460	212	1000 Ft. Reels
2*	7	33355-02	4	3	.520	305	1000 Ft. Reels
1*	19	33355-01	5	4	.630	421	1000 Ft. Reels
1/0*	19	33355-51	5	4	.675	483	1000 Ft. Reels
2/0*	19	33355-52	5	4	.720	604	1000 Ft. Reels
3/0*	19	33355-53	5	4	.770	728	1000 Ft. Reels
4/0*	19	33355-54	5	4	.830	884	1000 Ft. Reels
250MCM*	37	33355-55	6	5	.940	1075	1000 Ft. Reels
300MCM*	37	33355-57	6	5	1.000	1252	1000 Ft. Reels
350MCM*	37	33355-59	6	5	1.050	1429	1000 Ft. Reels
400MCM*	37	33355-61	6	5	1.100	1604	1000 Ft. Reels
500MCM*	37	33355-64	6	5	1.185	1946	1000 Ft. Reels
600MCM	61	33355-66	7	6	1.330	2372	1000 Ft. Reels
750MCM	61	33355-72	7	6	1.430	2886	1000 Ft. Reels
1000MCM	61	33355-78	7	6	1.585	3731	1000 Ft. Reels
TWO CONDUCTOR							
14	Solid	03356-14	3	3	.29 x .48	99	1000 Ft. Reels
12	Solid	03356-12	3	3	.31 x .51	120	1000 Ft. Reels
10	Solid	03356-10	3	4	.36 x .59	167	1000 Ft. Reels
8*	Solid	03356-08	4	4	.42 x .71	244	1000 Ft. Reels
6*	7	33356-06	4	4	.47 x .81	350	1000 Ft. Reels
4	7	33356-04	4	5	.55 x .94	550	1000 Ft. Reels
THREE CONDUCTOR							
14	Solid	03357-14	3	3	.525	154	1000 Ft. Reels
12	Solid	03357-12	3	4	.595	210	1000 Ft. Reels
10	Solid	03357-10	3	4	.640	259	1000 Ft. Reels
8	Solid	03357-08	4	4	.765	380	1000 Ft. Reels
6*	7	33357-06	4	5	.885	568	1000 Ft. Reels
6*†	7	21397-06	4	7	.980	633	1000 Ft. Reels
4*	7	33357-04	4	5	1.025	772	1000 Ft. Reels
4*†	7	21397-04	4	7	1.095	844	1000 Ft. Reels
2*	7	33357-02	4	5	1.150	1080	1000 Ft. Reels
1*	19	33357-01	5	6	1.340	1404	1000 Ft. Reels
1/0*	19	33357-51	5	6	1.425	1667	1000 Ft. Reels
2/0*	19	33357-52	5	6	1.530	1999	1000 Ft. Reels
3/0*	19	33357-53	5	6	1.640	2401	1000 Ft. Reels
4/0*	19	33357-54	5	7	1.795	2972	1000 Ft. Reels
250MCM	37	33357-55	6	7	1.970	3700	1000 Ft. Reels
300MCM	37	33357-57	6	7	2.090	4350	1000 Ft. Reels
350MCM	37	33357-59	6	7	2.200	4900	1000 Ft. Reels
400MCM	37	33357-61	6	8	2.330	5250	1000 Ft. Reels
450MCM	37	33357-62	6	8	2.430	5740	1000 Ft. Reels
500MCM	37	33357-64	6	8	2.520	6230	1000 Ft. Reels

*Underwriters' Laboratories listed as Type USE. †CAA approved under Specification L-824 for Type A cables.

Note: When CAA Cable is required, Parantite Specification 21397 will apply for sizes applicable.

IF IT'S PARANTITE IT'S RIGHT®



PARANITE HIGH VOLTAGE CABLE

SUPER-PARANITE® Butyl Insulation
PARAPRENE® Neoprene Sheath

3001-5000 VOLT—SHIELDED
SINGLE CONDUCTOR
GROUNDED OR UNGROUNDED SYSTEM

For Aerial, Direct Burial, Conduit
and Duct Installations



1 2 3 4 5 6

1. Tough, oil-, acid-, alkali-, and sunlight-resistant jacket. 2. Rubber-filled tape. 3. Shielding tape. 4. Semi-conducting tape. 5. Corona-, ozone-, moisture-, and heat-resistant super-aging insulation. 6. Coated copper conductors.

Conductor Size AWG or MCM	No. of Strands	Specification Number	Thickness 64ths Inch Insulation Sheath	Approx. O.D. in Inches	Approx. Net Wt. per 1000 Ft.
8	7	33377-08	10 4	.68	270
8	19	23374-08	10 4	.68	272
6	7	33377-06	10 4	.72	320
6	19	23374-06	10 4	.72	321
4	7	33377-04	10 4	.77	391
4	19	23374-04	10 4	.77	394
2	7	33377-02	10 4	.83	498
2	19	23374-02	10 4	.83	501
1	19	33377-01	10 5	.90	601
1	37	23374-01	10 5	.90	602
1/0	19	33377-51	10 5	.94	691
1/0	37	23374-51	10 5	.94	693
2/0	19	33377-52	10 5	.99	804
2/0	37	23374-52	10 5	.99	805
3/0	19	33377-53	10 5	1.04	939
3/0	37	23374-53	10 5	1.04	939
4/0	19	33377-54	10 5	1.10	1103
4/0	37	23374-54	10 5	1.10	1107
250	37	33377-55	11 5	1.18	1286
250	61	23374-55	11 5	1.18	1286
300	37	33377-57	11 6	1.27	1514
300	61	23374-57	11 6	1.27	1516
350	37	33377-59	11 6	1.32	1700
350	61	23374-59	11 6	1.32	1698
400	37	33377-61	11 6	1.36	1882
400	61	23374-61	11 6	1.36	1883
450	37	33377-62	11 6	1.41	2067
450	61	23374-62	11 6	1.41	2064
500	37	33377-64	11 6	1.45	2240
500	61	23374-64	11 6	1.45	2241
600	61	33377-66	11 6	1.53	2599
600	91	23374-66	11 6	1.53	2598
750	61	33377-72	11 6	1.63	3127
750	91	23374-72	11 6	1.63	3128
1000	61	33377-78	11 7	1.82	4046
1000	91	23374-78	11 7	1.82	4049

Architects or Engineers Specifications:

The following is recommended when a purchasing specification is desired: "The cable shall be Paranite Product number SC-5-S-D Specification Number or approved equal and shall conform to IPCEA and NEMA Specifications."

Identification:— Sizes No. 4 AWG and larger to have center strand stamped with Paranite and year of manufacture as "Paranite 59". If required must be specified.

SUPER-PARANITE® Butyl Insulation
PARAPRENE® Neoprene Sheath

5001-8000 VOLT—SHIELDED
SINGLE CONDUCTOR
GROUNDED SYSTEM

For Aerial, Direct Burial, Conduit
and Duct Installations



1 2 3 4 5 6

1. Tough, oil-, acid-, alkali-, and sunlight-resistant jacket. 2. Rubber-filled tape. 3. Shielding tape. 4. Semi-conducting tape. 5. Corona-, ozone-, moisture-, and heat-resistant super-aging insulation. 6. Coated copper conductors.

Conductor Size AWG or MCM	No. of Strands	Specification Number	Thickness 64ths Inch Insulation Sheath	Approx. O.D. in Inches	Approx. Net Wt. per 1000 Ft.
8	7	23364-08	12 4	.75	314
8	19	23363-08	12 4	.75	316
6	7	23364-06	12 4	.79	366
6	19	23363-06	12 4	.79	367
4	7	23364-04	12 5	.87	468
4	19	23363-04	12 5	.87	471
2	7	23364-02	12 5	.93	579
2	19	23363-02	12 5	.93	583
1	19	23364-01	12 5	.97	659
1	37	23363-01	12 5	.97	660
1/0	19	23364-51	12 5	1.01	750
1/0	37	23363-51	12 5	1.01	752
2/0	19	23364-52	12 5	1.05	865
2/0	37	23363-52	12 5	1.05	866
3/0	19	23364-53	12 5	1.10	1002
3/0	37	23363-53	12 5	1.10	1002
4/0	19	23364-54	12 5	1.16	1170
4/0	37	23363-54	12 5	1.16	1174
250	37	23364-55	12 6	1.24	1363
250	61	23363-55	12 6	1.24	1363
300	37	23364-57	12 6	1.30	1552
300	61	23363-57	12 6	1.30	1553
350	37	23364-59	12 6	1.35	1741
350	61	23363-59	12 6	1.35	1739
400	37	23364-61	12 6	1.40	1925
400	61	23363-61	12 6	1.40	1925
450	37	23364-62	12 6	1.44	2111
450	61	23363-62	12 6	1.44	2108
500	37	23364-64	12 6	1.48	2286
500	61	23363-64	12 6	1.48	2287
600	61	23364-66	12 6	1.56	2648
600	91	23363-66	12 6	1.56	2646
750	61	23364-72	12 7	1.70	3236
750	91	23363-72	12 7	1.70	3236
1000	61	23364-78	12 7	1.85	4105
1000	91	23363-78	12 7	1.85	4108

Architects or Engineers Specifications:

The following is recommended when a purchasing specification is desired: "The cable shall be Paranite Product number SC-7.5-G Specification Number or approved equal and shall conform to IPCEA and NEMA Specifications."

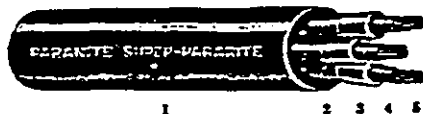
Identification:— Sizes No. 4 AWG and larger to have center strand stamped with Paranite and year of manufacture as "Paranite 59". If required must be specified.

PARANITE HIGH VOLTAGE CABLE

SUPER-PARANITE® Butyl Insulation
PARAPRENE® Neoprene Sheath

2001-3000 VOLT—UNSHIELDED
THREE CONDUCTOR
GROUNDED OR UNGROUNDED SYSTEM

For Aerial, Direct Burial, Conduit
and Duct Installations



1. Tough, oil-, acid-, alkali-, and sunlight-resistant jacket. 2. Rubber-filled tape. 3. Corona-, ozone-, moisture-, and heat-resistant, super-aging insulation. 4. Semi-conducting tape. 5. Coated copper conductors.

NOTE—Sizes 1/0 AWG and larger furnished with a rubber-filled tape between conductor insulation and jacket. Unless otherwise specified sizes No. 10-8 and 6 AWG Solid do not have a semi-conducting tape.

Conductor Size AWG or MCM	No. of Strands	Specifi- cation Number	Thickness 6ths Inch Insu- lation Sheath	Approx. O.D. in Inches	Approx. Net Wt. Per 1000 Ft.
10	1	13312-10	7 5	.96	460
8	1	13312-08	7 5	1.02	550
8	7	23344-08	7 5	1.10	613
8	19	23343-08	7 5	1.10	616
† 8	19	23300-08	7 7	1.29	685
6	7	23344-06	8 5	1.27	835
6	19	23343-06	8 5	1.27	843
† 6	19	23300-06	8 7	1.46	927
4	7	23344-04	8 6	1.38	1093
4	19	23343-04	8 6	1.39	1100
† 4	19	23300-04	8 8	1.58	1192
2	7	23344-02	8 6	1.51	1420
1	19	23344-01	8 6	1.60	1663
1/0	19	23344-51	8 6	1.70	1942
2/0	19	23344-52	8 7	1.83	2347
3/0	19	23344-53	8 7	1.94	2767
4/0	19	23344-54	8 7	2.06	3288
250	37	23344-55	9 7	2.23	3868
300	37	23344-57	9 8	2.38	4530
350	37	23344-59	9 8	2.49	5116
400	37	23344-61	9 8	2.59	5695
450	37	23344-62	9 8	2.69	6277
500	37	23344-64	9 8	2.78	6834

Architects or Engineers Specifications:

The following is recommended when a purchasing specification is desired: "The cable shall be Paranite Product number 3C-3-D Specification Number or approved equal and shall conform to IPCEA and NEMA Specifications."

† Approved by Civil Aeronautics Administration as Type A Airport Lighting Cable in accordance with C. A. A. Specification L-824.

SUPER-PARANITE® Butyl Insulation
PARAPRENE® Neoprene Sheath

3001-5000 VOLT—SHIELDED
THREE CONDUCTOR
GROUNDED OR UNGROUNDED SYSTEM

For Aerial, Direct Burial, Conduit
and Duct Installations



1. Tough, oil-, acid-, alkali-, and sunlight-resistant jacket. 2. Rubber-filled tape. 3. Copper shielding tapes. 4. Semi-conducting tapes. 5. Corona-, ozone-, moisture-, and heat-resistant super-aging insulation. 6. Coated copper conductors.

Conductor Size AWG or MCM	No. of Strands	Specifi- cation Number	Thickness 6ths Inch Insu- lation Sheath	Approx. O.D. in Inches	Approx. Net Wt. Per 1000 Ft.
8	1	13379-08	10 6	1.26	853
6	7	33379-06	10 6	1.43	1073
6	19	23379-06	10 6	1.44	1080
4	7	33379-04	10 6	1.54	1313
4	19	23379-04	10 6	1.54	1325
2	7	33379-02	10 6	1.67	1666
2	19	23379-02	10 6	1.67	1677
1	19	33379-01	10 7	1.78	1974
1	37	23379-01	10 7	1.79	1978
1/0	19	33379-51	10 7	1.87	2264
1/0	37	23379-51	10 7	1.87	2269
2/0	19	33379-52	10 7	1.97	2627
2/0	37	23379-52	10 7	1.97	2633
3/0	19	33379-53	10 7	2.08	3062
3/0	37	23379-53	10 7	2.08	3063
4/0	19	33379-54	10 7	2.21	3599
4/0	37	23379-54	10 7	2.21	3613
250	37	33379-55	11 8	2.41	4282
250	61	23379-55	11 8	2.41	4283
300	37	33379-57	11 8	2.53	4891
300	61	23379-57	11 8	2.53	4896
350	37	33379-59	11 8	2.64	5503
350	61	23379-59	11 8	2.64	5496
400	37	33379-61	11 8	2.74	6097
400	61	23379-61	11 8	2.74	6100
450	37	33379-62	11 8	2.83	6700
450	61	23379-62	11 8	2.83	6692
500	37	33379-64	11 8	2.92	7268
500	61	23379-64	11 8	2.93	7273

Architects or Engineers Specifications:

The following is recommended when a purchasing specification is desired: "The cable shall be Paranite Product number 3C-5-S-D Specification Number or approved equal and shall conform to IPCEA and NEMA Specifications."

Identification:— Sizes No. 4 AWG and larger to have center strand stamped with Paranite and year of manufacture as "Paranite 59". If required must be specified.

IF IT'S PARANITE IT'S RIGHT®



DREADNAUGHT® MULTIPLE CONDUCTOR CABLES—600 VOLT



1. Flexible tinned copper wires. 2. Cotton separator. 3. Rubber insulation—color coded for identification. 4. Conductors cabled with jute fillers treated to prevent absorption of moisture. 5. Skeleton braid. 6. Heavy duty Neoprene jacket vulcanized in lead and polished.

THREE CONDUCTOR—TYPE "W" ROUND—WITHOUT GROUND						Approx. Shipping Wt. in Lbs. (Per 1000 Ft.) Type of Price		
Size A.W.G.	Stranding	Specification Number	Number of Con- ductors	Allowable Capacity Amperes	Outside Diameter	250 Ft. Coils	500 Ft. Reels	1000 Ft. Reels
8	49/No. 25	41377-08	3	35	.910	485	650	700
8	133/No. 29	41373-08	3	35	.910	500	670	720
6	49/No. 23	41377-06	3	50	1.010	700	1140	1100
6	133/No. 27	41373-06	3	50	1.010	710	1150	1110
4	49/No. 21	41377-04	3	65	1.170	910	1350	1300
4	133/No. 25	41373-04	3	65	1.170	935	1375	1335
3	133/No. 24	41373-03	3	75	1.240	1120	1680	1520
2	133/No. 23	41373-02	3	90	1.340	1345	1900	1745
1	133/No. 22	41377-01	3	100	1.510	1700	2500	2150
0	259/No. 24	41373-51	3	120	1.650	1990	2790	2440
00	259/No. 23	41373-52	3	135	1.750	2385	3180	2820
000	259/No. 22	41373-53	3	155	1.890	2840	3740	3490
0000	259/No. 21	41373-54	3	180	2.040	3480	4380	4130
THREE CONDUCTOR—TYPE "G" ROUND—WITH GROUND								
8	49/No. 25	61377-08	3	35	.910	485	650	700
8	133/No. 29	61373-08	3	35	.910	500	670	720
6	49/No. 23	61377-06	3	50	1.010	700	1140	1100
6	133/No. 27	61373-06	3	50	1.010	710	1150	1110
4	49/No. 21	61377-04	3	65	1.170	910	1350	1300
4	133/No. 25	61373-04	3	65	1.170	935	1375	1335
3	133/No. 24	61373-03	3	75	1.240	1120	1680	1520
2	133/No. 23	61373-02	3	90	1.340	1345	1900	1745
1	133/No. 22	61377-01	3	100	1.510	1700	2500	2150
0	259/No. 24	61373-51	3	120	1.650	1990	2790	2440
00	259/No. 23	61373-52	3	135	1.750	2385	3185	2820
000	259/No. 22	61373-53	3	155	1.890	2840	3740	3490
0000	259/No. 21	61373-54	3	180	2.040	3480	4380	4130
FOUR CONDUCTOR—TYPE "W" ROUND—WITHOUT GROUND								
8	49/No. 25	41378-08	4	30	.990	610	1050	1000
8	133/No. 29	41374-08	4	30	.990	650	1090	1050
6	49/No. 23	41378-06	4	40	1.100	800	1240	1200
6	133/No. 27	41374-06	4	40	1.100	860	1300	1250
4	49/No. 21	41378-04	4	55	1.270	1100	1540	1500
4	133/No. 25	41374-04	4	55	1.270	1240	1800	1640
3	133/No. 24	41374-03	4	65	1.340	1475	2275	1925
2	133/No. 23	41374-02	4	75	1.480	1740	2540	2190
1	133/No. 22	41378-01	4	85	1.680	2160	2960	2610
0	259/No. 24	41374-51	4	100	1.790	2540	3340	2990
00	259/No. 23	41374-52	4	115	1.930	2985	3885	3630
000	259/No. 22	41374-53	4	130	2.070	3695	4600	4345
0000	259/No. 21	41374-54	4	150	2.260	4510	5460	5160
FOUR CONDUCTOR—TYPE "G" ROUND—WITH GROUND								
8	49/No. 25	61378-08	4	30	.990	610	1050	1000
8	133/No. 29	61374-08	4	30	.990	650	1090	1050
6	49/No. 23	61378-06	4	40	1.100	800	1240	1200
6	133/No. 27	61374-06	4	40	1.100	860	1300	1250
4	49/No. 21	61378-04	4	55	1.270	1100	1540	1500
4	133/No. 25	61374-04	4	55	1.270	1240	1800	1640
3	133/No. 24	61374-03	4	65	1.340	1475	2275	1925
2	133/No. 23	61374-02	4	75	1.480	1740	2540	2190
1	133/No. 22	61378-01	4	85	1.680	2160	2960	2610
0	259/No. 24	61374-51	4	100	1.790	2540	3340	2990
00	259/No. 23	61374-52	4	115	1.930	2985	3885	3630
000	259/No. 22	61374-53	4	130	2.070	3695	4600	4345
0000	259/No. 21	61374-54	4	150	2.260	4510	5460	5160

Type—W and G Round and Flat Cables—600 Volt

Sizes No. 8 AWG through 4/0 in two through six conductors the number P-125 BM embossed in the lead-cured jacket denotes approval by the Pennsylvania Bureau of Mines and acceptance for listing by The Federal Bureau of Mines.

IF IT'S PARANITE IT'S RIGHT®



DREADNAUGHT® WELDING MACHINE CABLE SINGLE CONDUCTOR



1. Flexible bare copper wires. 2. Cotton separator. 3. Rubber insulation (600 volts). 4. Skeleton braid. 5. Heavy duty Neoprene jacket vulcanized in lead and polished. Dreadnaught welding cable is used on stationary or movable welding machines for the supply of current from the machine to the electrode and requires extreme flexibility, light weight, moisture-proof qualities and resistance to abrasion.

1	2	3	4	5	Welding Current Capacity Amps	Voltage Drop Per 100 Ft. Maximum Current	Approx. Shipping Wt. Per 1000 Ft. & Type of Pkg.		
							500 Ft. Coils	500 Ft. Reels	1000 Ft. Reels
Size B. & S. Gauge	Stranding #34 Bare Copper	Cotton Separator	Specification Number	Outside Diameter					
8	420		41570-08	.390	50	3.71	124	200	170
6	665		41570-06	.400	75	3.58	154	230	200
5	840		41570-05	.455	86	3.40	175	260	220
4	1064		41570-04	.500	100	3.18	212	318	292
3	1323		41570-03	.525	150	3.70	250	356	330
2	1666		41570-02	.562	200	3.92	296	398	354
1	2107		41570-01	.700	250	3.88	380	476	432
1/0	2646		41570-51	.766	300	3.72	460	572	558
2/0	3325		41570-52	.815	375	3.68	568	688	668
3/0	4256		41570-53	.859	450	3.51	730	860	950
4/0	5320		41570-54	.922	550	3.41	884	1000	1088
250,000 CM	6384		41570-55	.950	600	3.12	.....	1070	1170
300,000 CM	7581		41570-57	1.030	650	2.80	.....	1420	1560
350,000 CM	8806		41570-59	1.080	700	2.47	.....	1570	1700
400,000 CM	10101		41570-61	1.150	775	2.40	.....	1790	1970
450,000 CM	11396		41570-62	1.200	825	2.28	.....	2060	2260
500,000 CM	12691		41570-64	1.250	900	2.24	.....	2250	2470

WELDING MACHINE CABLE—Vulcan® or Vulcaprene® Sheathed Single Belt

CONSTRUCTION: Super flexible conductor composed of fine soft drawn bare copper wires; aluminum foil backed Kraft paper separator; sheathed with a synthetic rubber compound. To ASTM D-866 or Neoprene sheathed to D-752.



Size A.W.G.	Specification Number Type D-866	Specification Number Type D-752	Number of No. 24 Wires	Approx. Outside Diameter	Carrying Capacity Amperes	Approximate Shipping Weight Per 1000 Feet			
						Type D-866 Coil	Type D-866 Reel	Type D-752 Coil	Type D-752 Reel
6	41420-06	41425-06	665	.385"	75	137	159	153	168
4	41420-04	41425-04	1050	.445"	100	190	214	206	224
3	41420-03	41425-03	1323	.475"	150	236	263	255	274
2	41420-02	41425-02	1666	.540"	200	303	318	330	345
1	41420-01	41425-01	2107	.590"	250	368	394	398	424
1/0	41420-51	41425-51	2646	.650"	300	460	486	485	511
2/0	41420-52	41425-52	3332	.715"	375	559	591	599	631
3/0	41420-53	41425-53	4214	.785"	450	706	751	754	799
4/0	41420-54	41425-54	5320	.855"	550	881	934	940	993

Standard Packages—Can Furnish All Sizes in 250 Foot Coils

Sizes 6 through 1—1,000 Ft. Reels—Sizes 1/0 through 4/0—500 or 1,000 Ft. Reels. 250 foot coils—one length, plus or minus variation of 15%. 500 and 1,000 foot reels—one length plus or minus variation of 20%.

The above values for carrying capacity are based on a copper temperature of 68° C. and an ambient temperature of 40° C. and yield load factors of from approximately 32 per cent for the No. 2 A.W.G. cable to approximately 23 percent for the No. 3/0 A.W.G. cable and higher for the smaller sizes. The sizes of cables generally used range from No. 2 A.W.G. to No. 3/0 A.W.G. In actual service the load factor may be much higher than indicated without over-heating the cable as the ambient temperature will generally be substantially lower than 40° C.

VULCAN® WELDER POWER SUPPLY CABLE

CONSTRUCTION: Extra flexible tinned copper conductor; paper separator; Performance Synthetic Rubber Compound; conductors cabled together with jute fillers; separator and covered with Synthetic Rubber sheath Compound overall. All cables supplied with color coded insulated conductors as follows:

Two conductor cable: one conductor black and one conductor white.

Three conductor cable: one conductor black, one conductor white and one conductor green.

Four conductor cable: one conductor black, one conductor white, one conductor green and one conductor red.

Size A.W.G.	Specification Number	Number of Conductors	Conductor Stranding	I.P.C.E.A. Amperage Rating	Insulation Thickness	Sheath Thickness	Approximate O.D.	Approximate Shipping Wt. M. Ft.
8	41395-08	2	133x29	40	4/64	6/64	.782	338
8	41396-08	3	133x29	35	4/64	6/64	.828	426
8	41397-08	4	133x29	30	4/64	6/64	.915	540
6	41395-06	2	133x27	50	4/64	6/64	.850	417
6	41396-06	3	133x27	50	4/64	6/64	.900	562
6	41397-06	4	133x27	40	4/64	6/64	1.010	699

250 foot coils—one length, plus or minus variation of 15%. 500 and 1,000 foot reels—one length, plus or minus variation of 20%.

IF IT'S PARANITE IT'S RIGHT®

PARANITE FLEXIBLE CORDS PARALLEL ALL-RUBBER—TYPE POSJ-SP



1. Extra flexible copper conductors. 2. Separator. 3. Rubber insulation, applied over conductors to make a one-piece cord — by splitting ends in the center of the groove conductors can be tipped back very easily. Parante Paratwin cord is easier to attach and has better appearance.

Furnished on 250-ft. spools. 10 spools to a carton, except size 16 Awg., 6 spools to carton.

Size A.W.G.	Underwriters Type Letter	No. and Size of Wires	Rubber Wall Gths	Approx. O.D. Inches	Shpg. Wt. Lbs. M Feet
18	POSJ-64SP1	41x#34	2	.125x.245	31
18	POSJ-32SP2	41x#34	3	.145x.295	35
16	POSJ-32SP2	65x#34	3	.170x.315	52

PARALLEL PLASTIC—TYPE POT-SPT



Soft annealed 34 copper, one tinned and one plain conductor, plastic integral insulation and jacket to permit easy separation into two separately insulated conductors. Furnished in black, white, and brown color. SPT-1 for $\frac{1}{2}$ " insulation. SPT-2 for $\frac{3}{4}$ " insulation.

Size A.W.G.	Underwriters Type Letter	No. and Size of Wires	Rubber Wall Gths	Approx. O.D. Inches	Shpg. Wt. Lbs. M Feet
18	SPT1	41x#34	2	.117x.230	23
18	SPT2	41x#34	3	.148x.285	32
16	SPT2	65x#34	3	.162x.300	40

THERMOSTAT CONTROL CABLE (LOW VOLTAGE)

Thermoplastic insulated thermostat cable that strips and fishes easily. Insulation resists combustion and shorting to ground and between conductors. Available in either thermoplastic jacket, waxed fiberglass and cotton braid, or in flat parallel construction with no overall cover.

Thermoplastic Insulation—Thermoplastic Jacket



A.W.G. Size and Cond.	Specification Number	Approx. Diam. In.	Wt. Lbs. 1000 Ft.	Standard Spool
18/2	02574-18	.170	16	500 Ft.
18/3	02575-18	.185	25	500 Ft.
18/4	02576-18	.200	32	500 Ft.
18/5	02577-18	.240	39	500 Ft.

White Thermoplastic Insulated Flat Parallel Construction—No Overall Cover



A.W.G. Size and Cond.	Specification Number	Approx. Diam. In.	Wt. Lbs. 1000 Ft.	Standard Spool
18/2	02572-18	.073x.150	15	500 Ft.
18/3	02573-18	.073x.220	24	500 Ft.

PARANITE FLEXIBLE CORDS BREWERY CORDS—TYPE CBN



Neoprene Insulated

Size	Specification Number	Stranding	Approx. O.D. Inches	Approx. Net Wt. M Ft.
18/2	51432-18	16 x#30	.250	25
16/2	51432-16	26 x#30	.270	35
14/2	51432-14	41 x#30	.360	60
12/2	51432-12	65 x#30	.400	80
10/2	51432-10	105 x#30	.450	110

PARANITE HEATER CORDS 90° C. NEOPRENE—TYPE HPN



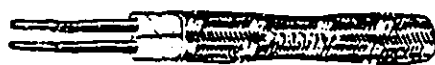
3000 Cycles, 300 Volts

90° Neoprene integral insulation; cotton separator, braid stranded copper conductor.

Type HPN all neoprene heater cord is a non-fraying, specialized heating appliance cord. For use on appliances rated at more than 50 watts and with surface heats no greater than 90° C (194° F.) likely to contact the cord. Flexibility is assured, with 3,000 cycle flex test. In addition, the neoprene coverings, available in colors, allows for utmost in cleanliness and sanitation. The covering is absolutely impervious to oil, grease, liquids and may be quickly wiped clean and dry.

Size A.W.G.	No. and Size of Wires	Ins. Jacket Gths	Approx. O.D. Inches	Approx. Net Wt. M Ft.	Std. Pkg. Coils
18	41x#34	3	.17x.32	42	2
16	65x#34	3	.18x.33	52	2

BRAIDED—TYPE HPD



1. Flexible copper conductors. 2. Separator. 3. Unvulcanized rubber insulation. 4. Asbestos coverings. 5. Conductors are twisted and braided together with a soft or glazed cotton or rayon braid overall. 250-ft. coils.

Extra Flexible—3000 Cycles

Size A.W.G.	No. and Size of Wires	Rubber Wall Gths	Approx. O.D. Inches	Approx. Net Wt. M Feet	Std. Pkg. Coils
18	41x#34	1	.290	32	5
16	65x#34	1	.315	42	5
14	104x#34	1	.345	55	3

Special Flexible—10,000 Cycles

Size	No. and Size of Wires	Rubber Wall Gths	Approx. O.D. Inches	Approx. Net Wt. M Feet	Std. Pkg. Coils
18	65x#36	1	.310	32	5
16	104x#36	1	.335	42	5

IF IT'S PARANITE IT'S RIGHT®



PARANITE ALUMINUM ELECTRICAL CONDUCTORS

ACSR (BARE)



Alum. Size A.W.G.	Copper Eqvt.*	Standard Shpg., Reels		Alternate Shpg., Coils	
		Stranded Alum. Steel	Each Piece Lb. on Reel	Each Piece Lb. on Coil	Each Coil
6	8	1	17240	1246	5750
5	7	1	13700	1246	4565
4	6	1	10870	1246	3625
4	6	7	7120	955	3560
3	5	1	8620	1246	2875
2	4	1	6825	1246	2275
2	4	7	8950	955	2240
1	3	1	5405	1246	1800
1/0	2	1	8585	1246	1430
2/0	1	1	6800	1246	.....
3/0	1/0	1	5400	1246	.....
4/0	2/0	1	4285	1246	.....

Larger sizes available.

*Based upon equal dc resistance—Cu 97%, Al 61%. (2) Standard lengths are approximate. The allowable tolerances shall be plus 10 per cent or minus 5 per cent for sizes larger than No. 1, and plus or minus 10 per cent for No. 1 and smaller.

ALUMINUM-COVERED LINE WIRE



Polyethylene Type

Cond. Size A.W.G.	Cover Thick. 64ths in.	Str.	Copper Eqvt.*	Solid Aluminum Conductor		Stranded Aluminum Conductor	
				Wt. Lbs. Per 1000 Ft.	Length, ft. on Reel	Wt. Lbs. Per 1000 Ft.	Length, ft. on Coil
6	2	1	8	31.7	8000	254	3100
4	2	1	6	48.0	5500	264	2900
2	3	1	4	79.2	3000	238	1800
6	2	7	8	35.0	6500	228	2800
4	2	7	6	53.3	4500	240	2000
2	3	7	4	87.4	2500	219	1500
1	3	7	3	107	1400	471	1000
1/0	4	7	2	140	4800	672	750
2/0	4	7	1	172	3700	636	.....
3/0	4	7	1/0	211	2900	612	.....
4/0	4	7	2/0	260	2300	598	.....
4/0	4	19	2/0	255	2400	612	.....

Neoprene Type

Cond. Size A.W.G.	Cover Thick. 64ths in.	Str.	Copper Eqvt.*	Solid Aluminum Conductor		Stranded Aluminum Conductor	
				Wt. Lbs. Per 1000 Ft.	Length, ft. on Reel	Wt. Lbs. Per 1000 Ft.	Length, ft. on Coil
6	3	1	8	45.7	8000	366	3100
4	3	1	6	64.0	5500	352	2900
2	3	1	4	92.2	3000	277	1800
6	3	7	8	51.5	6500	335	2800
4	3	7	6	73.3	4500	330	2000
2	3	7	4	105	2500	263	1500
1	4	7	3	143	1400	629	1000
1/0	4	7	2	171	4800	821	750
2/0	4	7	1	208	3700	770	.....
3/0	4	7	1/0	251	2900	728	.....
4/0	4	7	2/0	306	2300	704	.....

*Based on equal dc resistance—Cu 97%, Al 61%.

(Covered conductor total weight).

PARANITE ALUMINUM ELECTRICAL CONDUCTORS

SELF-SUPPORTING SECONDARY AND SERVICE DROP CABLE



Polyethylene Triplex Type

Phase Cond. Size A.W.G.	Insul. Thick. 64ths in.	Str.	Wt. Lbs. Per 1000 Ft.	All-Aluminum Neutral Messenger		ACSR Neutral Messenger	
				Wt. Lbs. Per 1000 Ft.	Length, ft. on Reel	Wt. Lbs. Per 1000 Ft.	Length, ft. on Coil
6	1	3	7	100	2000	200	500
4	1	3	7	151	1500	227	500
4	7	3	7	161	1500	242	500
2	7	3	7	240	1000	240	500
1/0	7	4	7	395	1000	395	.....
1/0	19	4	7	390	1000	390	.....
2/0	7	4	7	486	1000	486	.....
2/0	19	4	7	478	1000	478	.....
3/0	19	4	19	583	1000	583	.....
4/0	19	4	19	722	1000	722	.....

ACSR Neutral Messenger

Cond. Size A.W.G.	Insul. Thick. 64ths in.	Str.	Wt. Lbs. Per 1000 Ft.	Length, ft. on Reel	Wt. Lbs. Per 1000 Ft.	Length, ft. on Coil
6	1	3	6/1	112	1700	190
6	7	3	6/1	120	1700	204
4	1	3	6/1	170	1500	255
4	7	3	6/1	180	1500	270
2	7	3	6/1	270	1000	270
1/0	7	4	6/1	431	1000	431
1/0	19	4	6/1	426	1000	426
2/0	7	4	6/1	544	1000	544
2/0	19	4	6/1	536	1000	536
3/0	19	4	6/1	657	1000	657
4/0	19	4	6/1	814	1000	814

Neoprene Triplex Type

Phase Cond. Size A.W.G.	Insul. Thick. 64ths in.	Str.	Wt. Lbs. Per 1000 Ft.	All-Aluminum Neutral Messenger		ACSR Neutral Messenger	
				Wt. Lbs. Per 1000 Ft.	Length, ft. on Reel	Wt. Lbs. Per 1000 Ft.	Length, ft. on Coil
6	1	1	7	137	2000	274	500
4	1	1	7	191	1500	290	500
4	7	1	7	215	1500	323	500
2	7	1	7	308	1000	308	500
1/0	7	5	7	489	1000	489	.....
1/0	19	5	7	480	1000	489	.....
2/0	7	5	7	592	1000	592	.....
2/0	19	5	7	580	1000	580	.....
3/0	19	5	19	682	1000	682	.....
4/0	19	5	19	832	1000	832	.....

ACSR Neutral Messenger

Cond. Size A.W.G.	Insul. Thick. 64ths in.	Str.	Wt. Lbs. Per 1000 Ft.	Length, ft. on Reel	Wt. Lbs. Per 1000 Ft.	Length, ft. on Coil
6	1	4	6/1	150	1700	255
6	7	4	6/1	164	1700	279
4	1	4	6/1	212	1500	318
4	7	4	6/1	233	1500	350
2	7	4	6/1	337	1000	337
1/0	7	5	6/1	535	1000	535
1/0	19	5	6/1	526	1000	526
2/0	7	5	6/1	650	1000	650
2/0	19	5	6/1	638	1000	638
3/0	19	5	6/1	756	1000	756
4/0	19	5	6/1	925	1000	925

*Messenger bare neutral.

(Complete cable, covered weight).

IF IT'S PARANITE IT'S RIGHT®



TYPES OF INSULATION—TEMP. RATING—USE OF WIRES AND CABLES

Trade Name	Type Letter	Max. Oper. Temp.	Insulation	Outer Cover	Special Provisions and Use
Rubber-Covered Fixture Wire Solid or 1-Strand	RF-1	60° C. 140° F.	Code Rubber	Non-metallic Covering	Fixture wiring limited to 300 volts
	RF-2	60° C. 140° F.	Code Rubber	Non-metallic Covering	Fixture wiring and as permitted in Section 3103
Rubber-Covered Fixture Wire Flexible Stranding	FF-1	60° C. 140° F.	Code Rubber	Non-metallic Covering	Fixture wiring limited to 300 volts
	FF-2	60° C. 140° F.	Code Rubber	Non-metallic Covering	Fixture wiring and as permitted in Section 3103
Heat Resistant Silicone Solid or 1-Strand	SF-1	200° C. 392° F.	Silicone Rubber	Lacquered Glass	High Temperature Fixture wiring limited to 300 volts.
	SF-2	200° C. 392° F.	Rubber	Lacquered Glass	High Temperature Fixture wiring, 600 volts.
Heat-Resistant Rubber-Covered Fixture Wire—Solid or 1-Strand	RFH-1	75° C. 167° F.	Heat Resistant Rubber	Non-metallic Covering	Fixture wiring limited to 300 volts
	RFH-2	75° C. 167° F.	Heat Resistant Rubber	Non-metallic Covering	Fixture wiring and as permitted in Section 3103
Heat-Resistant Rubber-Covered Fixture Wire—Flexible Stranding	FFH-1	75° C. 167° F.	Heat Resistant Rubber	Non-metallic Covering	Fixture wiring limited to 300 volts
	FFH-2	75° C. 167° F.	Heat Resistant Rubber	Non-metallic Covering	Fixture wiring and as permitted in Section 3103
Thermoplastic Covered Fixture Wire Solid or Stranded	TF	60° C. 140° F.	Thermoplastic	None	Fixture wiring and as permitted in Section 3103
Thermoplastic Covered Fixture Wire Flexible Stranding	TFF	60° C. 140° F.	Thermoplastic	None	Fixture wiring
Cotton Covered Heat Resistant Fixture Wire	CF	90° C. 194° F.	Impregnated Cotton	None	Fixture wiring limited to 300 volts
Asbestos Covered Heat Resistant Fixture Wire	AF	150° C. 302° F.	Impregnated Asbestos	None	Fixture wiring limited to 300 volts
Code Rubber	R	60° C. 140° F.	Code Rubber	Moisture Resistant Flame Retardant Non-metallic Covering	Dry Locations
Heat Resistant Rubber	RH	75° C. 167° F.	Heat Resistant Rubber	Moisture Resistant Flame Retardant Non-metallic Covering	Dry Locations
Heat Resistant Rubber	RHH	90° C. 194° F.	Heat Resistant Rubber	Moisture Resistant Flame Retardant Fibrous Covering	Dry Locations
Moisture Resistant Rubber	RW	60° C. 140° F.	Moisture Resistant Rubber	Moisture Resistant Flame Retardant Non-metallic Covering	Dry and Wet Locations
Moisture and Heat Resistant Rubber	RHW	60° C. 140° F.	Moisture and Heat Resistant Rubber	Moisture Resistant, Flame-retardant, Non-metallic Covering	Dry and Wet Locations
		75° C. 167° F.	Moisture and Heat Resistant Rubber		General Use
Heat and Moisture Resistant Rubber	RHW	75° C. 167° F.	Heat and Moisture Resistant Rubber	Moisture Resistant Flame Retardant Non-metallic Covering	Dry and Wet Locations
Latex Rubber	RU	60° C. 140° F.	90% Unmilled Grainless Rubber	Moisture Resistant Flame Retardant Non-metallic Covering	Dry Locations
Heat Resistant Latex Rubber	RUL	75° C. 167° F.	90% Unmilled Grainless Rubber	Moisture Resistant Flame Retardant Non-metallic Covering	Dry Locations
Moisture Resistant Latex Rubber	RULW	60° C. 140° F.	90% Unmilled Grainless Rubber	Moisture Resistant Flame Retardant Non-metallic Covering	Dry and Wet Locations
Thermoplastic	T	60° C. 140° F.	Flame-resistant Thermoplastic compound	None	Dry Locations
Moisture Resistant Thermoplastic	TW	60° C. 140° F.	Flame-resistant Moisture-resistant Thermoplastic	None	Dry and Wet Locations
Mineral Insulation (metal Sheathed)	MI	85° C. 185° F.	Magnesium Oxide	Copper	Dry-Wet Locations with Type O termination fittings. Max. oper. temp. for special appl. 250° C.
Thermoplastic and Asbestos	TA	90° C. 194° F.	Thermoplastic and Asbestos	Flame Retardant, Cotton Braid	Switchboard wiring only
Varnished Cambric	V	85° C. 185° F.	Varnished Cambric	Non-metallic Covering or Lead Sheath	Dry Locations Only
Asbestos and Varnished Cambric	AVA	110° C. 230° F.	Impregnated Asbestos and Varnished Cambric	Asbestos Braid	Dry Locations only
Asbestos and Varnished Cambric	AVL	110° C. 230° F.	Impregnated Asbestos and Varnished Cambric	Lead Sheath	General Use and Wet Locations
Asbestos and Varnished Cambric	AVB	90° C. 194° F.	Impregnated Asbestos and Varnished Cambric	Flame Retardant Cotton Braid	Dry locations only
Asbestos	A	200° C. 392° F.	Asbestos	Without Asbestos Braid	Dry locations only. In raceways only for leads to or within apparatus limited to 300 volts.
Asbestos	AA	200° C. 392° F.	Asbestos	With Asbestos Braid	Dry locations. Open wiring. In raceways for leads to or within apparatus limited to 300 volts.
Asbestos	AI	125° C. 257° F.	Impregnated Asbestos	Without Asbestos Braid	Dry locations only. In raceways only for leads to or within apparatus limited to 300 volts.
Asbestos	AIA	125° C. 257° F.	Impregnated Asbestos	With Asbestos Braid	Dry locations. Open wiring. Race- ways for leads to or within apparatus.
Slow burning	SB	90° C. 194° F.	3 Braids of Impregnated Fire Retardant Cotton Thread	Outer Cover finished smooth and hard	Dry locations. Open wiring. Race- ways where temp. will exceed that of rubber or VC covered conductors.
Weatherproof	WP	50° C. 118° F.	At least 3 Impregnated Cotton Braids or Equivalent		Open wiring by special permission or when other insulations not suit- able for existing conditions



WIRE GAUGES—DIAMETER—AREA—WEIGHT...

Wire Gauge Numbers				Diameter			Cross Sectional Area				Weight	
American A.W.G. (U.S.)	Swedish (Svebe)	British Standard	Metric	Inches	Mm.	Milli- meters	Square Inches	Square Mm.	Circular Mm.	Square Milli- meters	Pounds Per M Foot	Kilograms Per Kilometer
10			25	.1019	101.9	2.588	.008155	8155.	10380.	5.261	31.4	46.8
	13			.09842	98.42	2.500	.007609	7609.	9687.	4.909	29.3	43.6
		13		.095	95.	2.413	.007088	7088.	9025.	4.573	27.3	40.6
				.092	92.	2.337	.006648	6648.	8464.	4.289	25.6	38.1
				.0915	91.5	2.324	.006576	6576.	8372.	4.242	25.3	37.7
11				.09074	90.74	2.305	.006467	6467.	8234.	4.172	24.9	37.1
	14			.087	87.	2.108	.005411	5411.	6889.	3.491	20.8	31.0
12				.08081	80.81	2.053	.005129	5129.	6530.	3.309	19.8	29.4
		13	20	.080	80.	2.032	.005027	5027.	6400.	3.243	19.4	28.8
				.07874	78.74	2.000	.004869	4869.	6200.	3.142	18.8	27.9
	15	15		.072	72.	1.829	.004072	4072.	5184.	2.627	16.1	23.4
13				.07196	71.96	1.828	.004067	4067.	5178.	2.624	15.7	23.3
		18		.07087	70.87	1.800	.003944	3944.	5022.	2.545	15.2	22.6
	16			.065	65.	1.651	.003318	3318.	4225.	2.141	12.8	19.0
14				.06408	64.08	1.628	.003225	3225.	4107.	2.081	12.4	18.5
		16	16	.064	64.	1.626	.003217	3217.	4096.	2.075	12.3	18.4
				.06299	62.99	1.600	.003116	3116.	3968.	2.011	12.0	17.8
				.0625	62.5	1.588	.003068	3068.	3906.	1.979	11.8	17.6
	17			.058	58.	1.473	.002642	2642.	3364.	1.705	10.2	15.1
15				.05707	57.07	1.450	.002558	2558.	3257.	1.650	9.86	14.7
		17	14	.056	56.	1.422	.002463	2463.	3136.	1.589	9.52	14.1
				.05512	55.12	1.400	.002386	2386.	3038.	1.539	9.71	13.7
				.054	54.	1.372	.002290	2290.	2916.	1.478	8.83	13.1
16				.05082	50.82	1.291	.002028	2028.	2583.	1.309	7.82	11.6
	18			.049	49.	1.245	.001886	1886.	2401.	1.217	7.27	10.8
		18		.048	48.	1.219	.001810	1810.	2304.	1.167	6.98	10.4
				.0475	47.5	1.207	.001772	1772.	2256.	1.143	6.84	10.2
		12		.04724	47.24	1.200	.001753	1753.	2232.	1.131	6.76	10.0
17				.04526	45.26	1.150	.001609	1609.	2048.	1.038	6.20	9.23
	19			.042	42.	1.067	.001385	1385.	1764.	.8938	5.34	7.94
				.041	41.	1.041	.001320	1320.	1681.	.8518	5.09	7.57
18				.0403	40.3	1.024	.001276	1276.	1624.	.8231	4.92	7.37
		19		.040	40.	1.016	.001257	1257.	1600.	.8107	4.84	7.21
			10	.03937	39.37	1.000	.001217	1217.	1550.	.7854	4.70	6.98
	20			.036	36.	.9144	.001018	1018.	1296.	.6567	3.93	5.84
19				.03589	35.89	.9116	.001012	101.2	1288.	.6527	3.90	5.80
				.03543	35.43	.9000	.0009861	986.1	1255.	.6262	3.82	5.77
	20			.035	35.	.8890	.0009621	962.1	1225.	.6207	3.71	5.52
		21	21	.0348	34.8	.8839	.0009511	951.1	1211.	.6136	3.67	5.46
				.032	32.	.8128	.0008042	804.2	1024.	.5189	3.11	4.62
20				.03196	31.96	.8118	.0008023	802.3	1022.	.5176	3.09	4.60
			8	.0317	31.7	.8052	.0007892	789.2	1005.	.5092	3.04	4.53
				.0315	31.5	.8000	.0007791	779.1	992.	.5027	3.01	4.47
21				.0286	28.6	.7264	.0006494	642.4	818.0	.4145	2.47	3.68
				.02846	28.46	.7229	.0006363	636.3	810.1	.4105	2.45	3.65
	22	22		.028	28.	.7112	.0006158	615.8	784.0	.3973	2.31	3.53
			7	.02756	27.56	.7000	.0005965	596.5	759.5	.3848	2.29	3.42
				.0258	25.8	.6553	.0005228	522.8	665.6	.3373	2.13	3.00
22				.02535	25.35	.6438	.0005046	504.6	642.4	.3255	1.94	2.89
	23			.025	25.	.6350	.0004909	490.9	625.0	.3167	1.89	2.82
		23	6	.024	24.	.6096	.0004594	452.4	576.0	.2919	1.74	2.59
				.02362	23.62	.6000	.0004383	438.3	558.0	.2828	1.69	2.52
				.023	23.	.5842	.0004155	415.5	529.0	.2675	1.60	2.38
23				.02257	22.57	.5733	.0004001	400.1	509.5	.2582	1.54	2.30
	24	24		.022	22.	.5588	.0003801	380.1	484.0	.2452	1.46	2.18
				.0204	20.4	.5182	.0003269	326.9	416.2	.2109	1.26	1.88
24				.0201	20.1	.5166	.0003173	317.3	404.0	.2047	1.22	1.82
	25	25	5	.020	20.	.5080	.0003142	314.2	400.0	.2027	1.21	1.80
				.01968	19.68	.5000	.0003043	304.3	387.5	.1965	1.17	1.75
				.0181	18.1	.4597	.0002573	257.3	327.6	.1660	.992	1.48
25		26		.018	18.	.4572	.0002545	254.5	324.0	.1642	.982	1.46
			4.5	.0179	17.9	.4547	.0002517	251.7	320.4	.1624	.970	1.44
				.01772	17.72	.4500	.0002465	246.5	313.9	.1590	.951	1.42
				.0173	17.3	.4394	.0002351	235.1	299.3	.1517	.906	1.35
	27			.0164	16.4	.4166	.0002112	211.2	269.0	.1363	.814	1.21
				.0162	16.2	.4115	.0002061	206.1	262.4	.1330	.796	1.18
26		27		.016	16.	.4064	.0002011	201.1	256.0	.1297	.775	1.15
			4	.01594	15.94	.4049	.0001996	199.6	254.1	.1288	.769	1.14
				.01575	15.75	.4000	.0001948	194.8	248.0	.1257	.751	1.12
				.015	15.	.3810	.0001767	176.7	225.0	.1140	.682	1.01
	28			.0148	14.8	.3759	.0001720	172.0	219.0	.1110	.663	.987



WIRE GAUGES—DIAMETER—AREA—WEIGHT...

Wire Gauge Numbers				Diameter			Cross Section Area				Weight	
American A.W.G. (B.S.S.)	Birmingham (Gauge)	British Standard	Metric	Inches	Mils	Metric	Square Inches	Square Mils	Circular Mils	Square Metric	Pounds Per Foot	Kilograms Per Kilometer
27	28	29	3.5	.0142	14.2	.3606	.0001583	158.3	201.5	.1021	.610	.908
				.014	14.	.3556	.0001539	153.9	196.0	.09932	.593	.883
				.01378	13.78	.3500	.0001491	149.1	189.9	.09621	.575	.855
				.0136	13.6	.3454	.0001453	145.3	185.0	.09373	.560	.834
				.0132	13.2	.3353	.0001368	136.8	174.2	.08829	.527	.785
	29			.013	13.	.3302	.0001327	132.7	169.0	.08563	.511	.762
				.0128	12.8	.3251	.0001287	128.7	163.8	.08302	.496	.738
28		30		.01264	12.64	.3211	.0001255	125.5	159.8	.08098	.484	.720
				.0124	12.4	.3150	.0001208	120.8	153.8	.07791	.465	.693
	30			.012	12.	.3048	.0001131	113.1	144.0	.07297	.437	.649
		3		.01181	11.81	.3000	.0001096	109.6	139.5	.07069	.423	.628
				.0118	11.8	.2997	.0001094	109.4	139.2	.07055	.422	.627
		31		.0116	11.6	.2946	.0001057	105.7	134.6	.06818	.406	.606
29		32		.01126	11.26	.2859	.00009954	99.54	126.7	.06422	.384	.571
				.0108	10.8	.2743	.00009161	91.61	116.6	.05910	.353	.525
				.0104	10.4	.2642	.00008495	84.95	108.2	.05481	.327	.488
30		33		.01003	10.3	.2546	.00007894	78.94	100.5	.05093	.304	.453
	31			.010	10.	.2540	.00007854	78.54	100.0	.05067	.302	.451
		2.5		.009842	9.842	.2500	.00007609	76.09	96.87	.04909	.293	.436
				.0095	9.5	.2413	.00007088	70.88	90.25	.04573	.273	.407
		34		.0092	9.2	.2337	.00006648	66.48	84.64	.04289	.256	.382
				.009	9.	.2286	.00006362	63.62	81.00	.04104	.245	.365
31				.008928	8.928	.2268	.00006360	62.60	79.70	.04039	.241	.359
				.0085	8.5	.2159	.00005675	56.75	72.25	.03661	.219	.326
		35		.0084	8.4	.2134	.00005542	55.42	70.56	.03575	.213	.318
	33			.008	8.	.2032	.00005027	50.27	64.00	.03243	.194	.288
32				.00795	7.95	.2019	.00004964	49.64	63.21	.03203	.191	.285
		2		.007874	7.874	.2000	.00004869	48.69	62.00	.03142	.188	.280
		36		.0076	7.6	.1930	.00004536	45.36	57.76	.02927	.175	.260
				.0075	7.5	.1905	.00004418	44.18	56.25	.02850	.170	.253
33		1.8		.007087	7.087	.1800	.00003944	39.44	50.22	.02545	.153	.227
				.00708	7.08	.1798	.00003937	39.37	50.13	.02540	.152	.226
	34			.007	7.	.1778	.00003848	38.48	49.00	.02483	.148	.221
		37		.0068	6.8	.1727	.00003632	36.32	46.74	.02347	.139	.208
				.0066	6.6	.1676	.00003421	34.21	43.56	.02207	.131	.196
34				.006305	6.305	.1601	.00003122	31.22	39.75	.02014	.120	.179
		1.6		.006299	6.299	.1600	.00003116	31.16	39.68	.02011	.119	.178
				.0062	6.2	.1575	.00003019	30.19	38.44	.01948	.116	.173
		38		.006	6.	.1524	.00002827	28.27	36.00	.01824	.108	.162
		1.5		.005906	5.906	.1500	.00002739	27.39	34.87	.01767	.105	.157
35				.0058	5.8	.1473	.00002642	26.42	33.64	.01705	.102	.151
				.005615	5.615	.1426	.00002476	24.76	31.57	.01597	.0954	.142
		1.4		.005512	5.512	.1400	.00002386	23.86	30.38	.01539	.0920	.136
				.0055	5.5	.1397	.00002376	23.76	30.25	.01533	.0916	.136
		39		.0052	5.2	.1321	.00002124	21.24	27.04	.01370	.0818	.121
36		35		.005	5.	.1270	.00001963	19.63	25.00	.01267	.0757	.113
				.0048	4.8	.1219	.00001810	18.10	23.04	.01167	.0698	.104
		1.2		.004724	4.724	.1200	.00001753	17.53	22.32	.01131	.0676	.101
				.0046	4.6	.1168	.00001662	16.62	21.16	.01077	.0641	.0954
37				.004453	4.453	.1131	.00001557	15.57	19.83	.01005	.0600	.0893
		41		.0044	4.4	.1118	.00001521	15.21	19.36	.009810	.0587	.0873
		42		.004	4.	.1016	.00001257	12.57	16.00	.008107	.0484	.0721
38				.003965	3.965	.1007	.00001235	12.35	15.72	.007967	.0476	.0708
				.003937	3.937	.1000	.00001217	12.17	15.50	.007854	.0468	.0698
		43		.0036	3.6	.09144	.00001018	10.18	12.96	.006567	.0393	.0584
39				.003531	3.531	.08969	.000009793	9.793	12.47	.006318	.0377	.0562
		44		.0032	3.2	.08128	.000008042	8.042	10.74	.005189	.0310	.0462
40				.003145	3.145	.07987	.000007766	7.766	9.888	.005010	.0299	.0445
41				.0028	2.8	.07113	.000006159	6.159	7.842	.003973	.0237	.0354
		45		.0028	2.8	.07112	.000006158	6.158	7.840	.003973	.0237	.0354
42				.002494	2.494	.06334	.000004884	4.884	6.219	.003151	.0188	.0280
		46		.0024	2.4	.06096	.000004574	4.574	5.760	.002919	.0174	.0260
43				.00221	2.221	.05641	.000003873	3.873	4.932	.002499	.0149	.0222
		47		.002	2.	.05080	.000003142	3.142	4.000	.002027	.0121	.0180
44				.001978	1.978	.05023	.000003072	3.072	3.911	.001982	.0118	.0176
				.001969	1.969	.05000	.000003044	3.044	3.875	.001963	.0117	.0175
45				.001761	1.761	.04473	.000002436	2.436	3.107	.001572	.0094	.0140
		48		.0016	1.6	.04064	.000002011	2.011	2.560	.001297	.0077	.0115
46				.001568	1.568	.03984	.000001972	1.972	2.460	.001246	.0074	.0111
47				.001397	1.397	.03547	.000001577	1.577	1.971	.0009884	.0059	.0088
48				.001243	1.243	.03159	.000001215	1.215	1.547	.0007838	.0047	.0070
		49		.0012	1.2	.03048	.000001131	1.131	1.440	.0007297	.0044	.0065
49				.001107	1.107	.02813	.0000009635	.9635	1.227	.0006216	.0037	.0055
		50		.001	1.	.02540	.0000007854	.7854	1.000	.0005067	.0030	.0045
50				.0009863	.9863	.02505	.0000007641	.7641	.9128	.0004929	.0029	.0044