

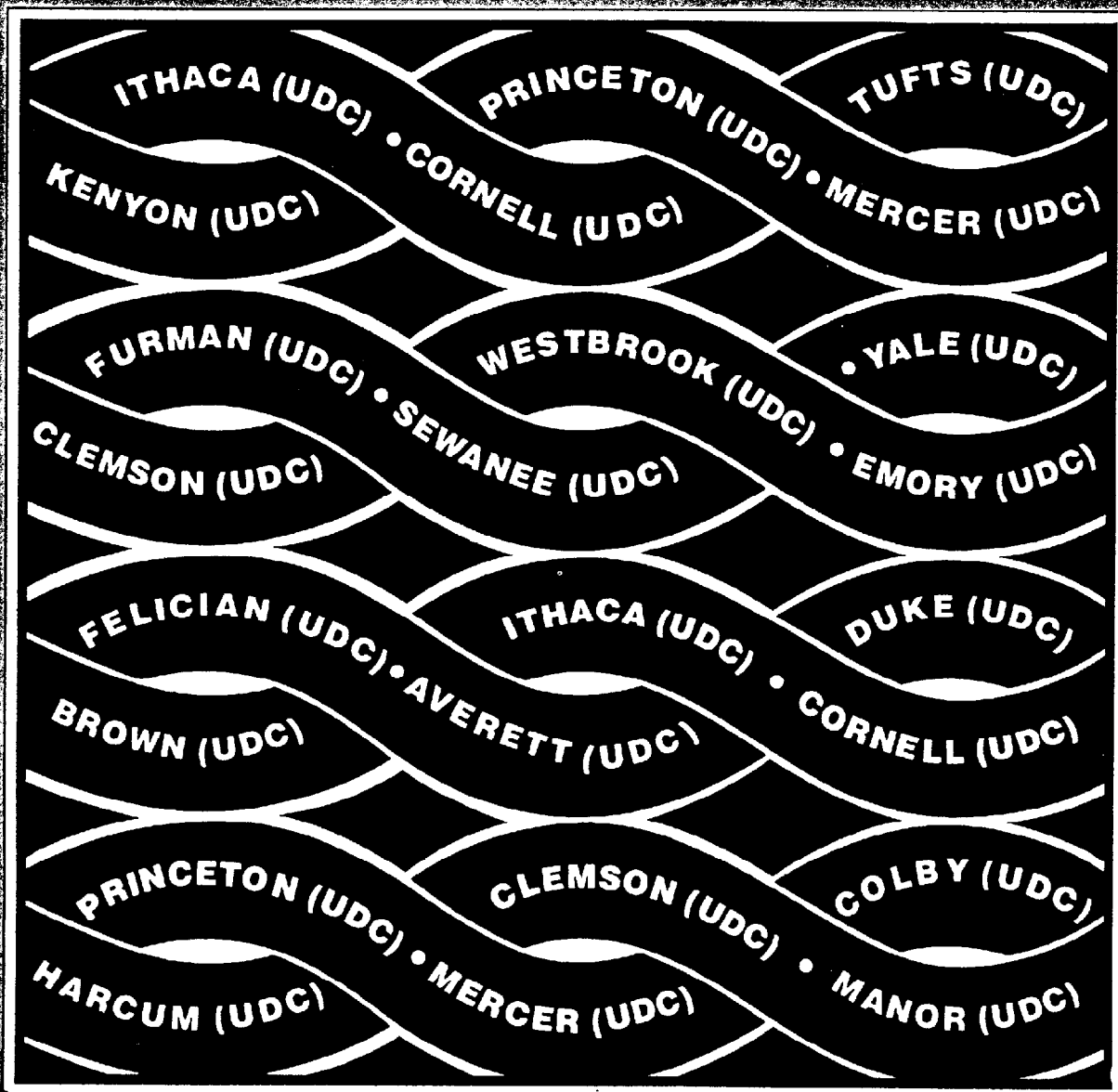
Code words for underground distribution cables

49

the Aluminum Association
Incorporated



Code words for underground
distribution cables



CODE WORDS for UNDERGROUND DISTRIBUTION (UD) CABLES

SECOND EDITION
1984

the Aluminum Association
Incorporated
818 Connecticut Avenue, N.W., Washington, D.C. 20006



CONTENTSPAGE
NUMBER

Foreword	4 & 5
Code Word System for UD Cable	6
Procedure for Registering Code Words for UD Cables with the Aluminum Association	7
Abbreviations	8
<u>600 Volt UD Cable</u>	
Explanation of Implied and Suffix Notations	9 & 10
Table A - Single Conductor	11
Table B1 - Twin Parallel Black Neutral	12
Table B2 - Twin Parallel Yellow Neutral	12
Table C1 - Duplex Black Neutral	13
Table C2 - Duplex Yellow Neutral	13
Table D - Twin Concentric	14 & 15
Table E1 - Triple Parallel Black Neutral	16
Table E2 - Triple Parallel Yellow Neutral	17
Table F1 - Triplex Black Neutral	18
Table F2 - Triplex Yellow Neutral	19
Table G1 - Quad-Parallel Black Neutral	20
Table G2 - Quad-Parallel Yellow Neutral	21
Table H1 - Quadruplex Black Neutral	22
Table H2 - Quadruplex Yellow Neutral	23

CONTENTSPAGE
NUMBER5 KV, 15 KV and 25 KV UD Cable

Explanation of Implied and Suffix Notations	24 & 25
Table I1 - 5 KV Aluminum UD Cable	26
Table I2 - 5 KV Copper UD Cable	26
Table J1 - 15 KV Aluminum UD Cable	27
Table J2 - 15 KV Copper UD Cable	27
Table K1 - 25 KV Aluminum UD Cable	28
Table K2 - 25 KV Copper UD Cable	28

Alphabetical Index for UD Cables

29 Thru 33

Industry Standards Relating to UD Cable

34

F O R E W O R D

This booklet lists Code Words for primary (5, 15 and 25kV) and secondary (600 volt) underground distribution (UD) cables, and identifies their constructions.

It has been the practice for many years to employ code words for bare, covered (weatherproof), and low voltage secondary and neutral supported service drop insulated cables used in overhead systems. (Refer to The Aluminum Association publication "Code Words for Aluminum Conductors".) With the rapid expansion in the use of UD cables in the last decade and the proliferation in the sizes, types and constructions available, the advantages of establishing code words for these products was apparant. Consequently, manufacturers have assigned code words to UD cables as a convenient means of concisely defining specific cable designs (conductor size, insulation type, voltage rating, neutral configuration and size, number of phase conductors and type of assembly). The use of code words in catalogs, orders, invoices and other production and sales records not only provides a brief identification for UD cables but also minimizes the chance for errors in transcribing the longer, detailed description for each cable.

Learning from the experience gained in standardizing the code word system for overhead products, the same basic principles were employed in the assignment of code words for UD cables accepted by and registered with the Electrical Technical Committee of The Aluminum Association.

This booklet lists UD cable code words and identifies their constructions, includes the details of the code word system and outlines the procedure for registering new code words. Preceding the tables identifying the UD cable constructions is a list of characteristics that are implied by the code word itself without any suffix. This is followed by a list of the suffixes to be used with the code words for designating variations in those characteristics. Selected examples show how the system works.

Following the tables is an alphabetical listing of all UD cable code words with references to the pages where the cable data may be found.

The booklet concludes with a list of standards and specifications relating to UD cables which are endorsed by The Aluminum Association.

All Aluminum Association published standards, data, specifications and other material are reviewed at least every five years and revised, reaffirmed or withdrawn. Users are advised to contact the Aluminum Association to ascertain whether the information in this publication has been superceded in the interim between publication and proposed use.

CODE WORD SYSTEM FOR UD CABLE

The code word system for UD cables is similar to that employed for many years for overhead conductors and cables. Code words have been selected from a common source for each category of UD cables. The code word, with or without suffixes, identifies a distinctive cable design. A basic cable design is designated by a code word without suffixes (implied notations); suffixes are added where needed to delineate deviations from the basic design. Suffix notations used with bare, covered and insulated overhead wires and cables are retained, where applicable, and are supplemented by additional suffixes to identify features of UD cables not found in overhead products.

This system provides not only a logical and consistent basis for assigning code words, but also serves to broadly identify the UD cable category. The following tabulation indicates the code word source for the various categories of UD cables registered with the Aluminum Association.

<u>UD Cable Category</u>	<u>Code Word Source</u>
600 Volt: all designs	Colleges and Universities
5kV: all designs	Poets
15kV: solid aluminum phase conductors	Building structural members
15kV: stranded aluminum or copper phase	Artists (painters)
25kV: all designs	Musical composers

PROCEDURE FOR REGISTERING CODE WORDS
FOR UD CABLES
WITH THE ALUMINUM ASSOCIATION

1. Submit code word to The Aluminum Association with a complete description of the cable design it is intended to designate.
(Words submitted may be chosen by the registrant or assigned by the Association office. Code words should be selected from the source used for the UD cable category involved without duplicating the code word for any other wire or cable product.)
2. If the word submitted does not appear on the Association Master List it will then be referred to the Electrical Technical Committee. (In the case of registration by a member of that Committee, copies of the initial letter requesting registration may be sent to other members of the Committee, thus combining Steps 1 and 2.)
3. Revised listings will be issued from time to time, as required.

ABBREVIATIONS

The following abbreviations are used throughout this publication.

Al	-	Aluminum
AWG	-	American Wire Gauge
cmil	-	Circular mils
Cu	-	Copper
Aluminum 1350	-	Electric conductor aluminum
Aluminum 1350 Eq	-	Equivalent size aluminum 1350

600 VOLT UD CABLE
EXPLANATION OF
IMPLIED AND SUFFIX NOTATIONS

A) Code word without suffixes (Implied Notations). Construction details of basic cable design:

1. Type of construction of completed cable
2. H19 temper, aluminum 1350, solid or concentric stranded phase conductor/s
3. Standard thickness of phase conductor insulation
4. Type of phase conductor insulation - low density high molecular weight polyethylene
5. Type of neutral - stranded conductor or served wires
6. Neutral construction:
 - a. Stranded conductor - size, stranding and metal
 - b. Served wire - number and size of wires, metal, and approximate equivalent size
7. Bare or insulated (black or yellow) neutral

B) Suffix notations (other than implied) used to designate special features:

1. Aluminum 1350 phase conductor:
 - a. 0 - Annealed
 - b. H12 or H22 - One Quarter Hard
 - c. H14 or H24 - Half Hard
 - d. H16 or H26 - Three Quarter Hard
 - e. H142 or H242 - Half to Three Quarter Hard
2. Cpt - Compact stranding (phase conductor)
3. HD - High density polyethylene
4. XLP - Crosslinked polyethylene
5. YS* - Black neutral with yellow stripe/s
6. EYS* - Black neutral with extruded yellow stripe/s

*Note: YS and EYS notations are only applicable to black neutral code words.

EXAMPLES

<u>Code Word</u>	<u>Description</u>
Brown	Single conductor 600 volt UD cable, 450 kcmil 37/W aluminum 1350-H19 95 mils black low density high molecular weight polyethylene insulation.
Brown/XLP	Single conductor 600 volt UD cable, 450 kcmil 37/W aluminum 1350-H19, 95 mils black crosslinked polyethylene insulation.
Wells	Triplex 600 volt UD cable consisting of two-phase conductors, 2 AWG 7/W aluminum 1350-H19, 60 mils black low density high molecular weight polyethylene insulation and one neutral conductor, 4AWG 7/W aluminum 1350-H19, 60 mils yellow low density high molecular weight polyethylene insulation.
Stephens	Triplex 600 volt UD cable consisting of two-phase conductors, 2 AWG 7/W aluminum 1350-H19, 60 mils black low density high molecular weight polyethylene insulation and one neutral conductor, 4 AWG 7/W aluminum 1350-H19, 60 mils black low density high molecular weight polyethylene insulation.
Stephens/YS	Triplex 600 volt UD cable consisting of two-phase conductors, 2 AWG 7/W aluminum 1350-H19, 60 mils black low density high molecular weight polyethylene insulation and one neutral conductor, 4 AWG 7/W aluminum 1350-H19, 60 mils black with yellow stripe/s low density high molecular weight polyethylene insulation.
Stephens/XLP/YS	Triplex 600 volt UD cable consisting of two-phase conductors, 2 AWG 7/W aluminum 1350-H19, 60 mils black crosslinked polyethylene insulation and one neutral conductor, 4 AWG 7/W aluminum 1350-H19, 60 mils black with yellow stripe/s crosslinked polyethylene insulation.

TABLE A - SINGLE CONDUCTOR
600 VOLT UD CABLE

<u>CODE WORD</u>	<u>SIZE AWG/kcmil</u>	<u>NO. OF STRANDS</u>	<u>INSULATION THICKNESS, MILS</u>
Creighton	10	Solid	60
Ithaca	8	Solid	60
Cornell	8	7	60
Princeton	6	7	60
Mercer	4	7	60
Clemson	2	7	60
Kenyon	1	19	80
Harvard	1/0	19	80
Yale	2/0	19	80
Tufts	3/0	19	80
Beloit	4/0	19	80
Hofstra	250	37	95
Gonzaga	300	37	95
Rutgers	350	37	95
Dartmouth	400	37	95
Brown	450	37	95
Emory	500	37	95
Duke	600	61	110
Furman	700	61	110
Sewanee	750	61	110
Fordham	1000	61	110