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Code Words for 600 Volt
Underground Distribution Cables

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Underground Distribution Cables***

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Foreword

This publication for Code Words for 600 Volt Underground Distribution Cables, P-124-736, was developed by the Insulated Cable Engineers Association, Inc. (ICEA). Code Words for Overhead Aluminum Covered Conductors and 600 Volt Overhead Cables are covered in ANSI/ICEA Publication # P-127-737.

ICEA standards and guides are adopted in the public interest and are designed to eliminate misunderstanding between the manufacturer and user and to assist the user in selecting and obtaining proper products for his or her particular need. Existence of an ICEA standard or guide does not in any respect preclude the manufacture or use of products not conforming to the standard or guide.

The user of this Standard is cautioned to observe any applicable health or safety regulations and rules relative to the manufacture and use of cable made in conformity with this Standard. This Standard hereafter assumes that manufacture, testing, installation and maintenance of cables defined by this publication will be performed only by properly trained personnel using suitable equipment.

Requests for interpretation of this ICEA Standard must be submitted in writing (hard copy, email, or fax) to the Insulated Cable Engineers Association to the ICEA Secretary. The mailing address of Headquarters and a contact link are shown on the ICEA web site – www.icea.net. An official written interpretation will be provided.

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Section 1 GENERAL

1.1 SCOPE

This publication includes a listing of code words for 600 volt underground distribution cables covered by the ANSI/ICEA S-105-692 and S-81-570 standards. Also included is a procedure for registering new code words and the details of the designation system. Code words are a means of identifying different sizes and types of conductors and cables in catalogs, orders, invoices and other production and sales records. A system of suffixes for code words provides designations for variations in construction, temper, and type of insulation. This publication builds upon a previously published Aluminum Association “Code Words For Underground Distribution Cables” document.

Code Words for Overhead Aluminum Covered Conductors and 600 Volt Overhead Cables is covered in ANSI/ICEA Publication # P-127-737.

1.2 CODE WORD SYSTEM

The code word system for 600 volt underground distribution cables is similar to that employed for overhead 600 volt cables, overhead aluminum covered conductors and bare overhead conductors. Code words have been selected from a common source for each category. 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.

This system provides not only a logical and consistent basis for assigning code words, but also serves to broadly identify the underground cable category. For the 600V underground cable category, the code word source was “colleges and universities”.

1.3 PROCEDURE FOR REGISTERING CODE WORDS

Submit code word request form (see Appendix A) to ICEA for the cable design it is intended to designate. The mailing address of Headquarters and a contact link are shown on the ICEA web site – www.icea.net.

Words submitted may be chosen by the registrant or assigned by ICEA. Code words should be selected from the source used for the underground cable category involved without duplicating the code word for any other wire or cable product.

1.4 REFERENCED DOCUMENTS

ANSI/ICEA S-81-570: Standard for 600V Volt Rated Cables of Ruggedized Design for Direct Burial Installation as Single Conductors or Assemblies of Single Conductors.

ANSI/ICEA S-105-692: Standard for 600 Volt Single Layer Thermoset Insulated Utility Underground Distribution Cables.

1.5 TERMINOLOGY

1.5.1 DEFINITIONS

AA8000:	AA8000 Series Electrical Aluminum Alloy Conductor Material
Aluminum 1350:	Electric conductor aluminum
mil:	Thousandth of an inch

1.5.2 ABBREVIATIONS

The following abbreviations are used throughout this publication.

Al:	Aluminum
AR:	Abuse resistant cable
AWG:	American Wire Gauge
CPT:	Compact Round Concentric-Lay-Stranded
Cu:	Copper
EYS:	Extruded yellow stripe(s)
HD:	High density polyethylene
kcmil:	Thousand circular mils
SIW:	Single Input Wire
YS:	Yellow non-extruded stripe(s)
YES:	Yellow extruded stripe(s)
XLP:	Crosslinked polyethylene

1.6 EXPLANATION OF IMPLIED AND SUFFIX NOTATIONS FOR 600 VOLT UD CABLE

A) Implied Notations Omitted from Suffix:

1. Type of construction of completed cable
2. H19 (Extra Hard) temper, aluminum 1350
3. Size and stranding (solid or concentric*) of phase conductors
4. Nominal thickness of phase conductor insulation**
5. Low density high molecular weight polyethylene phase conductor insulation
6. Neutral conductor construction:
 - a. Stranding (solid or concentric*), size 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 used to Designate Other Than Implied:

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. **AA8000** - AA8000 Series Electrical Aluminum Alloy conductor material
3. **CPT** - Compact stranding (phase conductor)
4. **HD** - High density polyethylene
5. **XLP** - Crosslinked polyethylene
6. **YS***** - Black neutral with non-extruded yellow stripe(s)
7. **EYS***** - Black neutral with extruded yellow stripe(s)
8. **AR** - Abuse Resistant cable to ICEA S-81-570
9. **USE** or **USE-2** - to signify UL listing required to UL 854
10. **USE-2/RHH/RHW-2** - to signify UL listing required to UL 854 and UL 44

* Concentric stranding includes compressed, unilay, combination unilay, or compressed round using Single Input Wire type stranding.

** Upon mutual agreement between purchaser and manufacturer, the minimum insulation thickness for conductor sizes 250 kcmil – 500 kcmil may be reduced to those of 1 AWG to 4/0 AWG.

*** YS, and EYS (YES was another historically used abbreviation) notations are only applicable to black neutral code words.

Table 1-1
EXAMPLES OF 600 VOLT UD CABLE

Code Word	Size Stranding	Description
Brown	450 kcmil - 37W 1350	Single, Phase Conductor 95 mils Polyethylene
Brown/XLP	450 kcmil - 37W 1350	Single, Phase Conductor 95 mils Crosslinked Polyethylene
Wells	#2 AWG - 7W 1350 #4 AWG - 7W 1350	Triplex, Phase Conductor 60 mils Polyethylene, Yellow Neutral 60 mils Polyethylene
Stephens	#2 AWG - 7W 1350 #4 AWG - 7W 1350	Triplex, Phase Conductor 60 mils Polyethylene, Black Neutral 60 mils Polyethylene
Stephens/YS	#2 AWG - 7W 1350 #4 AWG - 7W 1350	Triplex, Phase Conductor 60 mils Polyethylene, Black Neutral Non-Extruded Yellow Stripe(s) 60 mils Polyethylene
Stephens/XLP/EYS	#2 AWG - 7W 1350 #4 AWG - 7W 1350	Triplex, Phase Conductor 60 mils Crosslinked Polyethylene, Black Neutral Extruded Yellow Stripe(s) 60 mils Crosslinked Polyethylene
Sweetbriar/XLP/AR/EYS	4/0 AWG - 19W 1350 2/0 AWG - 19W 1350	Triplex, Phase Conductor 80 mils Abuse Resistant Crosslinked Polyethylene, Black Neutral Extruded Yellow Stripe(s) 80 mils Abuse Resistant Crosslinked Polyethylene
Sweetbriar/XLP/EYS	4/0 AWG - 19W 1350 2/0 AWG - 19W 1350	Triplex, Phase Conductor 80 mils Crosslinked Polyethylene, Black Neutral Extruded Yellow Stripe(s) 80 mils Crosslinked Polyethylene, 90C UL Type USE-2