

Líderes



CENTELSA®

CABLES DE ENERGIA Y DE TELECOMUNICACIONES S.A.

Una empresa Viakable

GLOSSARY



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Cu

Copper conductors.

CuSn

Tinned copper conductor.

ACDSR

Rectangular soft bare copper wire.

ACDSRP

Paper insulated rectangular soft bare copper wire.

ACDD

Bare copper wire, hard temper.

Al, AAC, ASC

Aluminum conductor, 1350 Alloy - Aluminum Stranded Conductor - All Aluminum Conductor.

AAAC

Aluminum alloy 6201 - All aluminum Alloy Conductor.

ACM, AA 8000, Al S 8000

Aluminum alloy 8000 series used in service entrance and building wire cables.
(THHN/THWN-2, XHHW, RHH, ARE, APE, USE, etc.)

ACSR

Aluminum Conductor Steel Reinforced



ACAR

Aluminum Conductor Alloy Reinforced.

ACCC

Aluminum Conductor Composite Core.

CCA

Copper Clad Aluminum conductor.

CCS

Copper Clad Steel, i.e. "DWT CCS 40% PE 2x20 AWG". 40% means the copper thickness over the Steel; 30% can also be found.

DES

Bare conductor. i.e. "CPX XLPE Al 90°C 3x4/0+4/0 AAAC DES 600V".

Du

Hardness, characteristic of the material.

Su

Softness or malleability, characteristic of the material.

HS

High-Strength, high tensile strength conductor.

EHS

Extra-High-Strength, tensile strength value higher than HS.



A

Wire or solid wire, i.e. “A THHN/THWN Cu 10 AWG 600V”.

C

Cable or stranded conductor conformed by several wires i.e. “C THHN/THWN Cu 10 AWG 600V”.

NOR

Normal stranded conductor (not compressed or compacted). i.e. “C THW 75°C 2 AWG (B) NOR 600V”.

CPR

Compressed stranded conductor. Outer diameter reduction of 3%.

UNC

Compressed unilay stranding. In low voltage copper cables sizes 1/0 to 4/0 AWG, 19 wires.

CMP

Compact stranded conductor (generally used in Medium Voltage Cables). Outer diameter reduction of 8%.

(A)

Stranding class A. This is the stranding with less wires, used for overhead lines.

(B)

Stranding class B. This is the most commonly used for cables different from flexible.



(C)

Stranding class C. Indicates the most quantity of wires in the conductor than the B class which makes it more flexible.

(J)

Stranding class employed for our flexible conductors.

(K)

Stranding class employed in flexible conductors (more wires than in class J).

(S)

Solid wire conductors. i.e. "POWER Cu 90°C THHN 2x8 AWG(S) 600V PVC".

(1)

Stranding class on cables in mm². This stranding class is similar to solid wires in AWG.

(2)

Stranding class on cables in mm². This stranding class is similar to class B cables in AWG.

(5)

Stranding class on cables in mm². This stranding class is similar to class J and K cables in AWG.



PC

Copper tape shield (0,064 mm thickness).

PC1

Copper tape shield (0.127mm thickness).

PFAL o PF o OS

Aluminum foil shield. These type of shield have always associated a tinned copper conductor as a drain wire (in general this wire has a smaller size compared to the phase conductor).

IOS

Individual and overall PFAL shield with drain conductor, used in instrumentation cables configured in pairs or triads.

PH

Copper wires shield.

PC + PH

Copper wires and additional copper tape shield.

PT

Braid shield.

N=1/3

Neutral equals 1/3 of the total area of the conductor. Sometimes it is indicated as N=33%, which is equivalent.

N=1

Neutral equals the total area of the conductor. Sometimes it is indicated as N=100%, which is equivalent.

CFV o FV

Glass fiber tape.



GENERAL PROPERTIES OF CABLES



TC o CT

Tray Cable – Cable Tray. Cables suitable for installation in cable trays.

VW-1

Flame retardant cable – vertical flame retardation test.

G&O

Gasoline & Oil. Cable resistant to gasoline and oil.

GR II

Gas and Oil Resistant II. Grade II Cable resistant to gasoline and oil.

SR or “sun res”

Sunlight Resistant. Cable resistant to sunlight and outdoors.

DIR BUR

Direct Buried. Cable suitable to be installed directly buried.

ER

Exposed Runs. Cable suitable for exposed installation between a tray and a piece of equipment.

AWM

Appliance Wiring Material. Cable suitable for connecting electric equipment including household appliances.

BH, BCH

Moisture barrier present in the cable, which can be in the conductor, in the shields or both.

MTW

Machine Tool Wire. Cable suitable for connecting electric tools.



GENERAL PROPERTIES OF CABLES

SUBMERSIBLE PUMP CABLE

Cable for powering electric water submersible pumps.

NH, HF

Halogen Free, non-halogenated cables.

OH or ZH

Zero Halogen, Cables with zero halogens. Equal to NH and HF.

FR

Flame Retardant.

LS

Low Smoke, low emission of toxic dense and corrosive fumes.

ARMORING

MC o IL

Metal Clad, type of armor in aluminum or steel.

MC-HL

Metal Clad Hazard Locations. Welded and continuous armor for class 1 division 1 zones.

IL AI

Aluminum interlocked armour.

IL Ac

Steel interlocked armour.

SWA o HAc

Steel Wire Armored. Steel wires armour.



ARMORING

Pb

Lead armour or sheath.

UNITS

V

Volts.

kV

Kilo Volts (1000 volts).

°C

Maximum operation temperature in degrees C.

%

Percentage that can be a reference of the covering in concentric cables or braided shields, indicates the contents of copper in CCS cables or the insulation levels in medium voltage cables.

AWG

American Wire Gage. Size of the conductor from 40 AWG up to 1 AWG.

Kcmil, MCM

Conductor size from 250 Kcmil to 4000 Kcmil. Also named MCM.

mm²

Conductor size in mm² (area). Employed by IEC standards.



STANDARDS



RETIE

Technical regulations for electrical installations.

NTC

Colombian Technical Standards.

UL

Underwriters Laboratories.

ICEA

Insulated Cable Engineers Association.

IEC

International Electro-technical Commission.

ASTM

American Society for Testing Materials.

NEMA

National Electrical Manufacturers Association.

DENOMINATION OF CABLE FAMILIES



POT

Power cables up to 2000V.

CTL

Control cables.

INS

Instrumentation cables.

MT, MV

Medium voltage cables between 5 y 46kV.

BW

Building Wire. Cables for construction where families THHN/THWN-2, RHH/RHW/USE-2, XHHW-2 and Sintox are found.

TEL

Outside plant telephone cable.

TEL INT

Inside plant telephone cable.

MONOPOLAR

Single conductor wire or cable, insulated in PVC, PE or XLPE.

CABLE

Single conductor electric cable insulated in PVC, PE or XLPE.

EXTRAFLEXIBLE

Single conductor extra-flexible insulated in PVC, PE or XLPE.



FLEXIBLE + PAPER

Round extra-flexible stranded copper conductor insulated with several paper layers.

RG

Denomination for the coaxial cable family.

AIRPORT RUNWAY

Special cable for luminaires of airport runways. XLPE insulated cables for 5 kV.

FLAT CABLE

Cable for connecting household appliances, they have a flat form that includes three flexible copper cables. i.e. "FLAT CABLE 2x18 AWG (J) + 18 AWG(Ais) 300V".

HD

Magnet wire, also known as enameled wire.

VFD, VDF

Special cables for starting motors using frequency drives.

ESP

Electrical submersible pump cables.

ARE

Round concentric neutral drop cable.

APE

Flat concentric neutral drop cable.



DENOMINATION OF CABLE FAMILIES

DPX

Duplex cable: These cables have two individual phases which are stranded, without an overall jacket. They do not have to be confused with SPT cables which are also named Duplex in Colombia.

TPX

Triplex cable: These cables have three individual phases which are stranded, without an overall jacket.

CPX

Quadruplex Cable: These cables have four individual phases which are stranded, without an overall jacket.

QPX

Quintuplex Cable: These cables have five individual phases which are stranded, without an overall jacket.

INSULATIONS AND JACKETS

AIS

Insulated conductor. i.e. "CPX XLPE AL 90°C 3x4/0 + 4/0 AAAC AIS 600V".

PVC

Insulation or jacket in polyvinyl chloride.

PVC Ny

PVC insulation Nylon covered.



PE

Polyethylene insulation or jacket.

PE HD

High density Polyethylene High Density (this material is harder than both PVC and PE).

PE LD

Low Density Polyethylene.

FR

Flame Retardant, insulation with characteristics of flame retardation.

PE FR NH

Flame retardant polyethylene and halogen free (non-halogenated).

PE FS

Foam skin polyethylene (just for telephone cables).

2PE

Double jacket, used in PE insulated telephone drop wires including reinforced thickness.

3C

Triple layer, semi-insulated or covered cables also called “Ecologic” with 1st semiconductor, insulation and jacket XLPE TK.

XLPE

Crosslinked polyethylene used for insulation or jackets.



XLPE FR NH

Flame retardant – halogen free Crosslinked polyethylene (Non- halogenated).

XLPE TR

Tree retardant Crosslinked polyethylene (branch shaped paths) generated in medium voltage cables.

XLPE TK

Insulation used in the “Ecologic” cables, also named semi- insulated cables, now called covered cables.

EPR

Ethylene Propylene Rubber, elastomeric rubber insulation highly used in low and medium voltage cables.

TP

Thermoplastic insulation or jacket (can be in PVC or PE).

TPR

Thermoplastic Elastomer Rubber insulation.

EPT

Thermoplastic Polyurethane Elastomer used in mining cable jackets.

CPE

Chlorinated Polyethylene, used in mining cable jackets.

