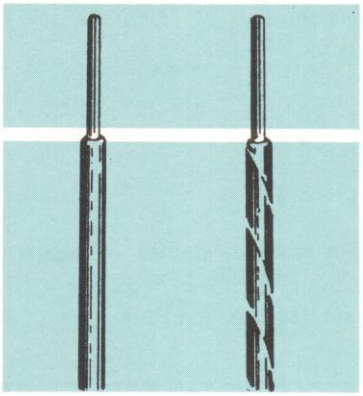
See also : data sheet E 107, wrapping wire WR.

SCOPE :

— Solid wrapping wires for automatic or manual wrapping without solder.

CONSTRUCTION :

SINGLE WIRES :

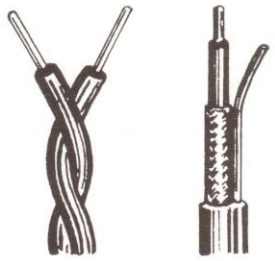


— Conductor :
- — in copper electrolytically tinned or silvered.
- ⩽ AWG 26 : Cu WW
- > AWG 26 : Cu OWW (oxygen free copper)
- in copper alloy (Ca) Cuprall silvered
- > AWG 26 : Breaking resistance ⩾ 35 daN

— Insulation :
- — must meet severe mechanical and electrical requirements.
- — we manufacture standard production in the following insulations :

— PVC semi-hard	index V	- 40° C to + 100° C
— KYNAR	index Y	- 40° C to + 120° C
— TEFZEL (ETFE)	index Z	- 60° C to + 150° C
— FEP	index F	- 100° C to + 200° C
— KAPTON	index K	- 150° C to + 200° C
— "FILTER"	see data sheet E 107	

— VARIANTS :



— Twisted pairs

— Single conductor screened with drainwire and sheath

— Miniature coaxial wrapping

CHARACTERISTICS :

— Suggested temperature range in every case - 10° C to + 100° C
— Maximum working voltage 350 V ac or 500 Vdc
— Absolutely non flammable
— Insulation resistance always better than 100 M Ω /km at 20° C
— Stripping easy

PRODUCTION RANGE :

— Standard colours are :
Natural, Black, Brown, Red, Orange, Yellow, Green, Blue, Violet, Grey and White.
— Non standard :
- Marking by two or three coloured stripes (consult us about it).
- All other configuration which will be considered on request, according to individual specifications.

— Combinations and variants :
- Multicore and wrapping, other than shown in the table of variants, will be considered on request.
- FILECA is UL approved for a large number of specifications.

PACKAGING :

— We recommend as a base our bobbin with large diameter mandrel FILECA LC 400 W.
- for product in stock (variant St) length is about 2 km.
- for special manufacture maximum length is 5 km.

— Packaging using LP bobbins gives about 250 m.

ROUTE NATIONALE N° 1 - 60730 SAINTE GENEVIÈVE FRANCE - TÉL. : (4) 422.22.22 + - TELEX FILECTA 140 300 F FILECA

KW

WRAPPING WIRES

SPECIFICATION NFC 93-522

REFERENCES FOR IDENTIFICATION :

— Example of reference according to NFC 93-522, for single cores only.

KW 03 : Variant defined by specification.

26 : AWG

C : Variant of type A : permittivity factor $\leq$ 2,5
B : permittivity factor $\leq$ 3,7
C : permittivity factor > 3,7

1 : Variant of category : defined by the specification for 2 categories of cut resistance (cat. 1 > cat. 2).

E : Base colour : according to the specification code.

Natural	Black	Brown	Red	Orange	Yellow	Green	Blue	Violet	Grey	White
A	B	C	D	E	F	G	H	J	K	L

— Example of FILECA reference, for single, twins, screened and sheathed.

X : Number of cores (1 core, leave blank)

KW : Wrapping standard

Z : Insulation index : Tefzel in this case, see page 1

A : Automatic (for manual leave blank)

30 : AWG

CA/t : construction Ca : alloy copper
t : screened (braid)
h : screened (helical)

Yellow/black : Colours : Primary : Yellow
Jacket : Black

REFERENCE AND APPLICABLE DOCUMENTS :

— All KW series wires meet the requirement of FRENCH Standard NFC 93-522.

SPECIFICATION NFC 93-522

TABLE OF CHARACTERISTICS FOR CURRENT PRODUCTION

- SINGLE WIRES

FILECA References	AWG	Conductor			Insulation		FRENCH Standard C 93-522
		Ø mm	Section mm2	Resist. Ω /Km	Type	Ø mm	
KWK 32 Ca	32	0,20 CaAg	0,031	⩽ 710	KAPTON	0,38 ± 0,05 (1)	KW 08 - 32 B1
KWZA 30	30	0,254 CuAg	0,050	⩽ 350	TEFZEL	0,495 ± 0,025	KW 02 - 30 B1
KWFA 30	30	0,254 CuAg	0,050	⩽ 350	FEP	0,495 ± 0,025	KW 03 - 30 A2
KWYA 30	30	0,254 CuAg	0,050	⩽ 350	KYNAR	0,495 ± 0,025	KW 02 - 30 C1
KWZA 30 Ca	30	0,254 CaAg	0,050	⩽ 440	TEFZEL	0,495 ± 0,025	KW 07 - 30 B1
KWFA 30 Ca	30	0,254 CaAg	0,050	⩽ 440	FEP	0,495 ± 0,025	KW 08 - 30 A2
KWYA 30 Ca	30	0,254 CaAg	0,050	⩽ 440	KYNAR	0,495 ± 0,025	KW 07 - 30 C1
KWKA 30 Ca	30	0,254 CaAg	0,050	⩽ 440	KAPTON	0,495 ± 0,025	KW 08 - 30 B1
KWV 30	30	0,254 CuAg	0,050	⩽ 350	PVC	0,53 ± 0,05	KW 09 - 30 C1
KWZ 30	30	0,254 CuAg	0,050	⩽ 350	TEFZEL	0,53 ± 0,05	KW 02 - 30 B1
KWF 30	30	0,254 CuAg	0,050	⩽ 350	FEP	0,53 ± 0,05	KW 03 - 30 A2
KWY 30	30	0,254 CuAg	0,050	⩽ 350	KYNAR	0,53 ± 0,05	KW 02 - 30 C1
KWV 30 Ca	30	0,254 CaAg	0,050	⩽ 440	PVC	0,53 ± 0,05	KW 11 - 30 C1
KWZ 30 Ca	30	0,254 CaAg	0,050	⩽ 440	TEFZEL	0,53 ± 0,05	KW 07 - 30 B1
KWF 30 Ca	30	0,254 CaAg	0,050	⩽ 440	FEP	0,53 ± 0,05	KW 08 - 30 A2
KWY 30 Ca	30	0,254 CaAg	0,050	⩽ 440	KYNAR	0,53 ± 0,05	KW 07 - 30 C1
KWV 28	28	0,32 CuAg	0,080	⩽ 220	PVC	0,62 ± 0,05	KW 09 - 28 B1
KWZ 28	28	0,32 CuAg	0,080	⩽ 220	TEFZEL	0,62 ± 0,05	KW 02 - 28 B1
KWF 28	28	0,32 CuAg	0,080	⩽ 220	FEP	0,62 ± 0,05	KW 03 - 28 A2
KWY 28	28	0,32 CuAg	0,080	⩽ 220	KYNAR	0,62 ± 0,05	KW 02 - 28 C1
KWV 28 Ca	28	0,32 CaAg	0,080	⩽ 275	PVC	0,62 ± 0,05	KW 11 - 28 B1
KWZ 28 Ca	28	0,32 CaAg	0,080	⩽ 275	TEFZEL	0,62 ± 0,05	KW 07 - 28 B1
KWF 28 Ca	28	0,32 CaAg	0,080	⩽ 275	FEP	0,62 ± 0,05	KW 08 - 28 A2
KWY 28 Ca	28	0,32 CaAg	0,080	⩽ 275	KYNAR	0,62 ± 0,05	KW 07 - 28 C1
KWZA 26	26	0,40 CuAg	0,132	⩽ 140	TEFZEL	0,69 ± 0,04	
KWFA 26	26	0,40 CuAg	0,132	⩽ 140	FEP	0,69 ± 0,04	
KWYA 26	26	0,40 CuAg	0,132	⩽ 140	KYNAR	0,69 ± 0,04	
KWV 26	26	0,40 CuAg	0,132	⩽ 140	PVC	0,74 ± 0,05	KW 09 - 26 B1
KWZ 26	26	0,40 CuAg	0,132	⩽ 140	TEFZEL	0,74 ± 0,05	KW 02 - 26 B1
KWF 26	26	0,40 CuAg	0,132	⩽ 140	FEP	0,74 ± 0,05	KW 03 - 26 A2
KWY 26	26	0,40 CuAg	0,132	⩽ 140	KYNAR	0,74 ± 0,05	KW 02 - 26 C1
KWV 24	24	0,51 CuAg	0,204	⩽ 86	PVC	1,05 ± 0,05	KW 09 - 24 B1
KWZ 24	24	0,51 CuAg	0,204	⩽ 86	TEFZEL	1,05 ± 0,05	KW 02 - 24 B1
KWF 24	24	0,51 CuAg	0,204	⩽ 86	FEP	1,05 ± 0,05	KW 03 - 24 A2
KWY 24	24	0,51 CuAg	0,204	⩽ 86	KYNAR	1,05 ± 0,05	KW 02 - 24 C1

(1) this dimension is that of the natural Kapton (Amber). All colouring on top of this will increase the diameter by ≃ 4/100 mm.

All dimensions are in millimeters, areas, in square millimeters

SPECIFICATION NFC 93-522

TABLE OF CHARACTERISTICS (CONTINUED)

– TWINS :

- All single wires shown in table can be paired.
- For reference codes are same as on E 10-2 with a 2 in front.

– SINGLE SCREENED AND JACKETED :

- **Conductor and drain have same diameter, same material. Insulation and jacket have same material.**

- All single wires shown in table can be screened and jacketed with a drainwire beneath the screen.
- Reference for screened and jacketed wires : see page E 10-2. examples below.

FILECA REFERENCE	BASE	SCREEN Ø MAX	DRAIN	JACKET Ø MAX
KWZ 30 t	KWZ 30	Braid 0,90	0,254 Cu Ag	1,70
KWZ 28 t	KWZ 28	Braid 1,10	0,32 Cu Ag	1,90
KWZ 26 t	KWZ 26	Braid 1,25	0,41 Cu Ag	2,10

— Twins and triples can be made with a screen by special request.

— COAXIAL CABLES FOR MINI WRAPPING :

Drain in silver plated copper (Cu Ag) or tin plated copper (Cu Et)

- 50 Ω or 75 Ω coaxial cables carry a screen wire and a conductor that may be wrapped.
- These cables are available in a large variety. Below are 3 examples of the most popular variants.

FILECA REFERENCE	CONDUCTOR AND DRAIN DIAMETER	INSULATION Ø MAX	SCREEN Ø MAX	JACKET Ø MAX	IMPEDANCE Zc in Ω
F 1703/31	0,254 Cu Ag	0,83	1,25	1,75 × 2,0	50
F 1703/33	0,254 Cu Ag	1,45	1,90	2,35 × 2,6	75
F 1703/34	0,20 Cu Et	0,65	TPH/ALU 0,80	Filter T:1,1 × 1,4	50

All dimensions are in millimeters, areas in square millimeters

ANNEXE N° 6 to data sheet E 10
of the general catalogue

C S W

WRAPPING WIRES OF LOW ADHESION FOR CUT, STRIP AND WRAP TOOLS

Purpose of this annexe : As the demand for easy strip wrapping wires of AWG 30 is increasing it is necessary to introduce our wires of this type in leaflet E 10.

CONSTRUCTION : identical to single KW wires (see page E 10-1).

CHARACTERISTICS : — Conductor

- Elongation ⩾ 20 %
- Silver coating recommended
- Insulations types - see page E 10-1
  The following materials have been adopted :
  - FEP - TEFZEL - FILTON - FILTER -
  - KYNAR is being considered.

CHARACTERISTICS OF WIRES IN CURRENT PRODUCTION

FILECA REFERENCE	Conductor			Insulation			Standard
	Ø mm	Section mm2	Resist. Ω /Km	Type	Ø Mini in mm	Ø Max. in mm	C 93-522
KWZ 30/AF	0,254 Cu Ag	0,050	⩽ 350	F E P	0,50	0,55	KW03 - 03 A2
KWZ 30/AF	0,254 Cu Ag	0,050	⩽ 350	TEFZEL	0,50	0,55	KW02 - 30 B1
(1) **KWY 30/AF**	0,254 Cu Ag	0,050	⩽ 350	KYNAR	0,50	0,55	KW02 - 30 C1
(2) **KWKA 30/AF**	0,254 Cu Ag	0,050	⩽ 350	FILTON	0,47	0,52	KW03 - 30 B1

(1) Low adhesion wire with Kynar insulation is being studied.
(2) The thin wall of these wires, combined with the stiffness of the materials facilitates their use with CSW tools but necessitates the use of tools that are not worn.

Note : For cut, strip and wrap wire having FILTER insulation see additional note n° 1 to data sheet E 107.

All dimensions are in millimeters, areas in square millimeters