KURABE INDUSTRIAL CO., LTD

SP3830M-X	FEP INSULATED HIGH-FREQUENCY COAXIAL CABLE (FWS 5022)	PAGE	1/4
PRODUCT STANDARD		ISSUED	17-9-2001
		REVISED	

1. SCOPE

This standard covers "FEP insulated High-Frequency coaxial cable".

2. CONSTRUCTION

Construction and dimensions of the cable are shown in Figure.1 and Table 1.

3. PERFORMANCE

Performance of the finished cable is shown in Table 2. The test methods are in accordance with applicable test methods described in JIS C 3005.

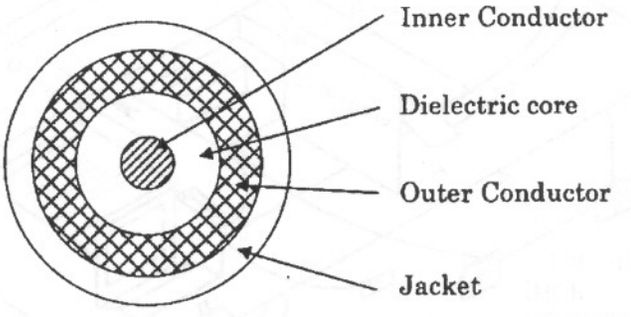

Figure 1.

NOTE :	MADE BY	M. Ohba
	APPROVALS	T. Nagahara

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Table 1. Construction

Item		Unit	Specified Value
Inner Conductor	Material	—	Silver coated annealed copper wire
	Stranding	No./mm	7/0.08
	Dia.(approx.)		0.24
Dielectric Core	Material	—	FEP
	Thick.(nom.)	mm	0.22
	Dia.	mm	0.68±0.05
	Color	—	Natural
Outer Conductor	Material	—	Silver coated annealed copper wire
	Type	—	Braid (16/4/0.05)
	Dia.(approx)	mm	0.93
Jacket	Material	—	FEP
	Thick.(nom.)	mm	0.10
	Dia.	mm	1.13 +0.10/-0.06
	Color	—	Standard colors are white,black,blue,brown,and gray.

Table 2. Performance

Item	Unit	Specified Value	Note
Appearance	—	Faultless in visible	—
Inner conductor resistance	Ω/km	Max.597	at 20℃
Insulation resistance	MΩ·km	Min.1500	at 20℃
Dielectric strength	—	Dielectric core: No breakdown at AC1.5kV for 0.15sec.	Spark test
		Jacket: No breakdown at AC1.5kV for 0.15sec.	Spark test
		No breakdown at AC500V for 1min.	Outer conductor to inner conductor
Heat resistance for solder	—	Shrink or expansion of dielectric core are not more than 0.5mm	※
Capacitance	pF/m	nom. 98	at 1kHz
Characteristic impedance	Ω	50±2	TDR method
Attenuation (nom.)	dB/m	2.0	1.0GHz
		2.9	2.0GHZ
		3.6	3.0GHz
		4.2	4.0GHz
		4.7	5.0GHz
		5.2	6.0GHz

※ After immersion of dielectric core, 10mm into soldering pot which is 230℃ for 5 seconds, shrinkage or expansion of the dielectric core must not exceed 0.5mm.

NOTE :	MADE BY	M. Ohba
	APPROVALS	T. Kawazoe

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4. INSPECTION

An inspection is took place in accordance with applicable test methods. The cable has to pass the specifications described Table 1 and Table 2.

5. TEST METHOD

The test methods are in accordance with applicable test methods described in JIS C 3005 (Test methods for rubber or plastic insulated wires and cables).

6. TEMPERATURE RATING

150 ℃

7. VOLATGE LATING

250 V

8. MARKING ON TAG

Each reel of finished cable is tagged to indicate following information:

(1) Designation of the cable,
(2) Conductor size,
(3) Length,
(4) Date of manufacture or LOT No.,
(5) Specification No., and
(6) Manufacture's name.

9. PACKAGE

The finished cables are cut into a shipping length of 200 meters, reeled to paper bobbin and packed securely to prevent injuries during transportation. Odd length of the finished wires should be accepted for shipping according to the condition of mutual agreement.

In the case no agreement is found, the condition stated in quotation shall prevail.

10. APPLICATION NOTES

10-1. For use other than the use mutually agreed, compatibility should be carefully confirmed in each practical use by user.

10-2. It is recommended to make a trial run for each practical application.

NOTE :	MADE BY	M. Ohba
	APPROVALS	T. Hamasuna

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10-3. In case a design for use of cable is changed, please contact our sales department, if necessary. Do not use under extreme mechanical stress such as hard bending, tightening, and twisting. The use under extreme mechanical stress may cause not only shortening the life span of cable but also troubles such as decline of dielectric strength.

10-4. Handling precautions

①Do not hurt the insulation and sheath of the cable by making holes and scratches. And avoid any sharp edge when wiring so as not to injure cables.

②Avoid unnecessary excessive force to cable, such as pulling, twisting, bending or tightening.

10-5. Storage precautions

Avoid continuous exposure to sunlight.

NOTE :	MADE BY	M. Ohba
	APPROVALS	T. Kawazawa

Nizing Electric Co., Ltd. 11-15 Santai Rd., Hsinchuang, Taipei Hsien, 242, Taiwan, R.O.C
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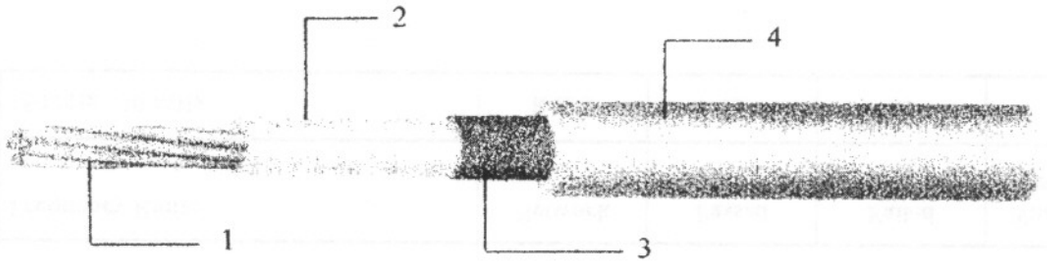
A3132PS001	FEP INSULATED HIGH-FREQUENCY COAXIAL CABLE	PAGE	1 / 2
PRODUCT STANDARD		ISSUED	21. Oct. 2003
		REVISED	

I - Scope

This specification presents a FEP insulated high-frequency coaxial cable AWG 32, 1.13 mm O.D. for internal wiring of electronic equipment, such as Computer / Notebook with wireless communication systems.

II - Construction



Item		Unit	Details
1. Inner Conductor	Material	—	Silver coated copper
	Composition	No./mm	AWG 32 or 7 × 0.08
	Dia. (approx.)	mm	0.24
2. Dielectric	Material	—	Extruded FEP
	Thickness	mm	0.22
	Nom. O.D.	mm	0.68 ± 0.02
	Color	—	Natural
3. Outer Conductor	Material	—	Silver coated copper
	Composition	—	Braided (16 / 4 / 0.05)
	Dia. (approx)	mm	0.90 ± 0.03
4. Jacket	Material	—	Extruded FEP
	Thickness	mm	0.10
	Dia.	mm	1.13 + 0.05 / -0.08
	Color	—	Standard colors are Light Grey, Black, Dark Grey

Note :

MADE BY	Gigi Lin
APPROVALS	Shen Bin Chao

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III – Characteristics

Item	Unit	Specified Value	Note
Temperature Rating	℃	200	
Voltage Lasting	V	250	
Dielectric strength	—	Dielectric core: No breakdown at AC 1.5 kV for 0.15 sec.	Spark test
		Jacket: No breakdown at AC 1.5 kV for 0.15 sec.	Spark test
		No breakdown at AC 500V for 1 min.	Outer conductor to inner conductor
Inner conductor resistance	Ω / km	525	at 20℃
Insulation resistance	MΩ / km	Min. 1500	at 20℃
Characteristic Impedance	Ω	50 ± 2	TDR method
Capacitance	pF / m	98	at 1 kHz
Attenuation. (nom.)	dB / m	2.0	1.0 GHz
		2.9	2.0 GHz
		3.6	3.0 GHz
		4.2	4.0 GHz
		4.7	5.0 GHz
		5.2	6.0 GHz
Approx. Weight	g / m	3.15	

Note :

MADE BY	Peter Lin
APPROVALS	Shen Bin Chao

Arnitel
polyether esters
polyetherester
esters de polyether

天線桿套材質特性表

Units Einheiten Unites	EM400	EM460	EL550	EL630	EL740	PL380
	1.12	1.16	1.20	1.23	1.27	1.18
℃	195	185	202	212	221	197
μm/m.k	220	160	180	140	110	150
℃	\	\	110	115	120	\
℃	130	150	180	200	200	145
℃	\	50	85	115	150	\
%	0.30	0.30	0.20	0.20	0.15	0.40
%	0.75	0.70	0.55	0.60	0.90	7.0
*	HB	HB	HB	HB	HB	HB
Mpa	55	110	220	375	900	60
Mpa	4.0	7.1	13.2	20.2	26.9	3.5
Mpa	5.4	9.0	15.7	23	22.6	5.2
Mpa	8.4	11.4	16.6	22.0	26.3	8.5
Mpa	17	21	32	40	45	16
%	700	800	600	600	360	450
kj/㎡	NB	NB	NB	NB	NB	NB
kj/㎡	NB	NB	NB	NB	200	NB
kj/㎡	NB	NB	NB	NB	9	NB
kj/㎡	NB	NB	20	4	4	NB
	38	45	55	63	74	38
MV/m	\	\	\	\	\	\
Ω.cm	$5*10^{14}$	10^{14}	10^{14}	10^{14}	10^{12}	10^{12}
Ω	$>10^{13}$	$>10^{14}$	$>10^{14}$	$>10^{14}$	$>10^{10}$	$>10^{13}$
\	4.1	\	\	3.8	\	4.7
\	4.0	4.4	4.0	3.4	3.3	4.4
$x10^{14}$	10	\	\	3.8	\	310
$x10^{14}$	170	350	400	350	300	350
\	800	800	600	600	600	800
\	600	600	600	800	800	600

2.2 Product coding

The structure of the Arnitel productcodes is illustrated wirth the following example:

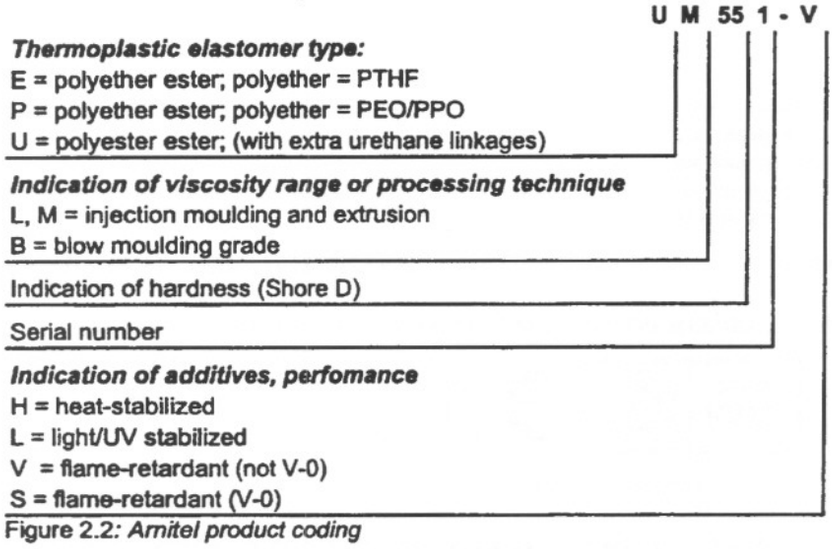

Figure 2.2: *Arnitel product coding*

2.3 Product portfolio

The Arnitel productrange is available with a hardness from 38 to 74 Shore D. The general Arnitel grades are shown in table 2.2. In order to enhance the flexibility of the portfolio a set of masterbatches (a.o. for heat, UV, etc) are on offer (refer to § 2.4).
Because of the development of these masterbatches heat stabilised Arnitel P is suggested for application areas where thermo-oxidative stability is an issue. For applications where colour and UV stability is required, the Arnitel E range is advised.

	Shore D					
	38	40	46	55	63	74
Arnitel E		EM400	EM460	EL550 EM550	EL630 EM630	EL740 EM740
Arnitel P	PL380		PL460	PL580 PM581		
Arnitel U				UM551 UM551-V UM552 UM552-V	UM622	

Table 2.2: *Arnitel productrange for general purpose*

Besides these multi-purpose grades, specialty grades can be offered for specific purposes and/or application areas. These grades are not intended for regular sales and are therefore restricted. Permission from marketing is needed before sampling is initiated.

	A'tel E	A'tel P	A'tel U
Automotive			
• CVJ boots	EB460 EB463 EB464		
• Boyplugs		PL380-M0	
Extrusion			
• Roofing foil	EM402-L		

Table 2.3: *Examples of specialty grades*