

Fiber Solutions

2021 - 2022

Fiber Optic
Cable &
Assembly
Solutions

LightWaveTM
Leads Communication ●●●



About LENORA

Lenora Innovation Ltd. is a European telecommunication company dedicated to providing leading edge, high performance telecommunication services to business and enterprise customers.

Lenora specializes in manufacturing and marketing of Fiber FTTx, Air blown Total solution, Copper & related connectivity products that are highly durable and offer superior performance, Lenora has evolved into a world-class provider of a complete line of products to a broad customer base.

By expanding our capabilities and product offerings, we have strategically positioned Lenora to support our customers' needs for increasingly sophisticated communications infrastructure and end-to-end cabling and connectivity solutions, by helping to implement the project from the very first step of network designing to the installation phase, providing all the necessary technical training, service and maintenance.

Lenora Fiber-To-The-Home Total Solution using Fiber Optics will guarantee the best performance even in the most severe conditions, and it will significantly reduce CaPEX and OpEX in comparison with conventional fiber optic deployment techniques.

Lenora's success in the battlefield provided a foundation for the creation of a broad fiber optic cable range, built on the evolution of new technologies, as well as opportunities to expand our product offerings beyond fiber optic solutions.

When you partner with Lenora, We bring you the most advanced products and solutions available. We own the knowledge and experience, we guarantee the results.

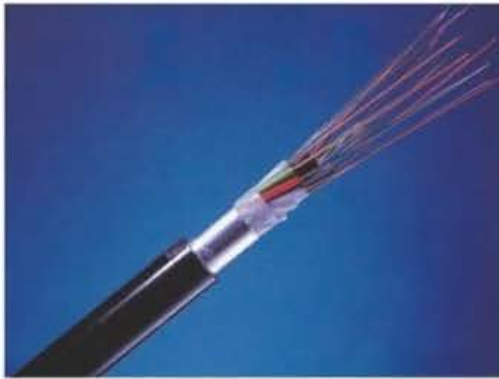


LIGHT TO INNOVATION
Lenora 

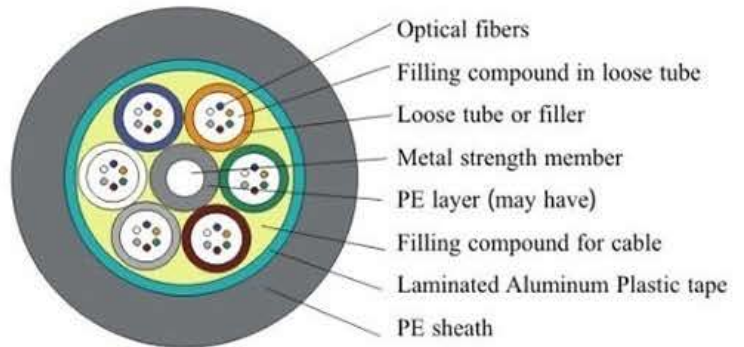
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Optical Cable for Duct & Aerial - (2-288)F



Structure of Optical Cable



- Metal strength member
- Filled & stranded loose tube layer
- Laminated AL-polyethylene sheath outdoor optical cable

Construction Parameters

Fiber count	2 ~ 30	32 ~ 36	38 ~ 60	62 ~ 72	74 ~ 84	86 ~ 96	98 ~ 108	110 ~ 120	122 ~ 132	134 ~ 144	146 ~ 216	288
cable outer diameter (mm)	9.7	10.0	11.0	11.6	12.4	13.1	13.8	14.7	15.5	16.2	17.4	19.0
cable weight (kg/km)	93	102	119	143	149	164	179	201	220	238	261	290

Mechanical Specifications

Test item	Test standard	Technical Performance	
Max. tolerable tensile strength (N)	IEC 60794-E1	Long term	600
		Short term	1500
Max. tolerable pressure (N/100mm)	IEC 60794-E3	Long term	300
		Short term	1000

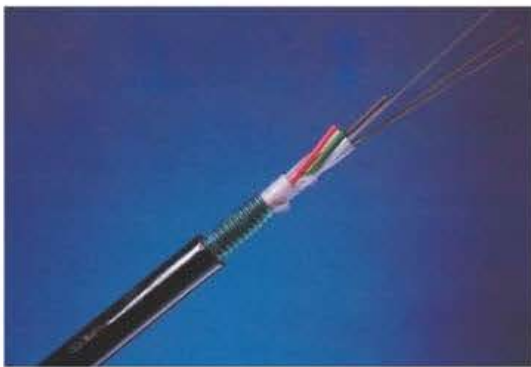
Others

Item	Content
Application	For duct or aerial installation. For local or long distance relaying cables.
Others	For customers' request, the materials of jacket can be made by halogen-free and flame-retardant PE, it has excellent flame resistance with non-toxic and non-contamination; anti-termite materials and Nylon are also can be used for prevent the cable from being damaged by white ants or mouse.

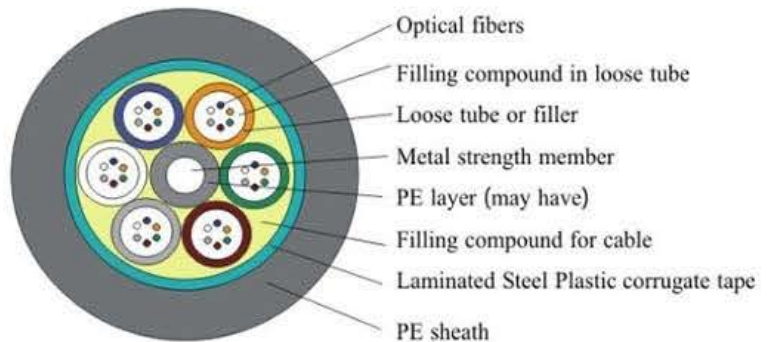
Environmental Specifications

Item	Technical Performance	
Min. Bending Radius (mm)	Static state	10*OD
	Dynamic state	20*OD
Temperature	Installation	-15°C ~ +50°C
	Operation	-40°C ~ +60°C
	Storage & Transport	-40°C ~ +60°C

Optical Cable for aerial & duct - (2-288)F



Structure of Optical Cable



- Metal strength member
- Filled & stranded loose tube layer
- Laminated Steel-polyethylene sheath outdoor optical cable

Construction Parameters

Fiber count	2 ~ 30	32 ~ 36	38 ~ 60	62 ~ 72	74 ~ 84	86 ~ 96	98 ~ 108	110 ~ 120	122 ~ 132	134 ~ 144	146 ~ 216	288
cable outer diameter (mm)	9.7	10.0	11.0	11.6	12.4	13.1	13.8	14.7	15.5	16.2	17.4	19.0
cable weight (kg/km)	113	124	145	170	180	195	213	231	251	271	300	330

Mechanical Specifications

Test item	Test standard	Technical Performance	
Max. tolerable tensile strength (N)	IEC 60794-E1	Long term	600
		Short term	1500
Max. tolerable pressure (N/100mm)	IEC 60794-E3	Long term	300
		Short term	1000

Others

Item	Content
Application	For aerial or duct installation. For local or long distance relaying cables.
Others	For customers' request, the materials of jacket can be made by halogen-free and flame-retardant PE, it has excellent flame resistance with non-toxic and non-contamination; anti-termite materials and Nylon are also can be used for prevent the cable from being damaged by white ants or mouse.

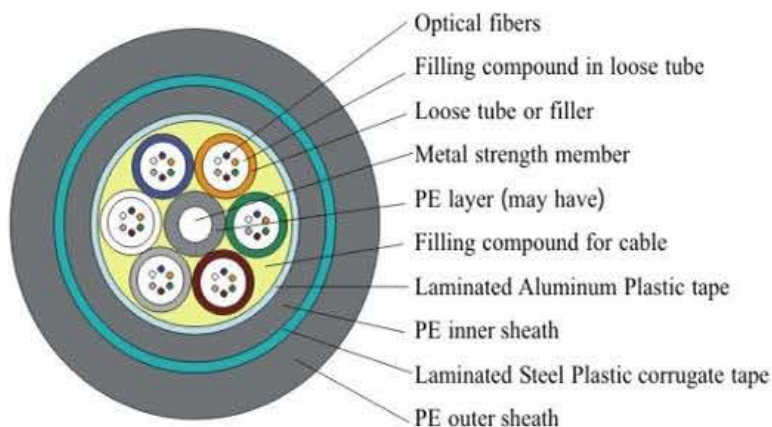
Environmental Specifications

Item	Technical Performance	
Min. Bending Radius (mm)	Static state	10*OD
	Dynamic state	20*OD
Temperature	Installation	-15°C ~ +50°C
	Operation	-40°C ~ +60°C
	Storage & Transport	-40°C ~ +60°C

Optical Cable for Direct Buried - (2-144)F



Structure of Optical Cable



- Metal strength member
- Filled & stranded loose tube layer
- Laminated AL-polyethylene inner sheath
- Corrugated steel tape armor longitudinally wrapped
- PE sheathed outdoor optical cable

Construction Parameters

Fiber count	2~36	38~60	62~72	74~84	86~96	98~108	110~120	122~132	134~144
cable outer diameter (mm)	13.6	14.6	15.2	16.0	16.7	17.4	18.3	19.1	19.8
cable weight (kg/km)	199	222	250	263	282	302	332	357	380

Mechanical Specifications

Test item	Test standard	Technical Performance	
Max. tolerable tensile strength (N)	IEC 60794-E1	Long term	1000
		Short term	3000
Max. tolerable pressure (N/100mm)	IEC 60794-E3	Long term	1000
		Short term	3000

Others

Item	Content
Application	For direct-burial installation. For local or long distance relaying cables.
Others	For customers' request, the materials of jacket can be made by halogen-free and flame-retardant PE, it has excellent flame resistance with non-toxic and non-contamination; anti-termite materials and Nylon are also can be used for prevent the cable from being damaged by white ants or mouse.

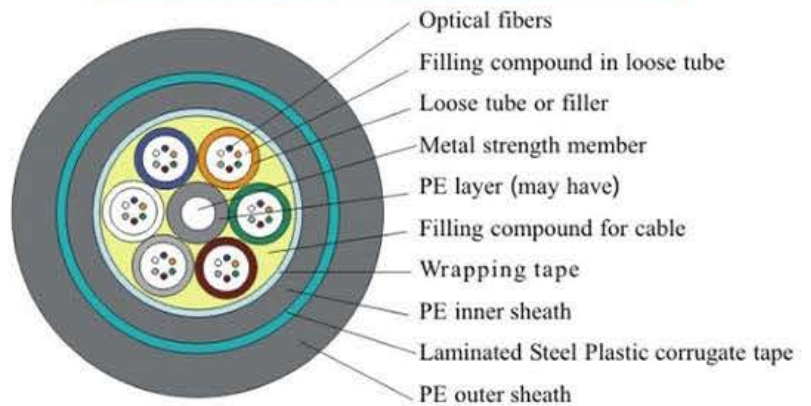
Environmental Specifications

Item	Technical Performance	
Min. Bending Radius (mm)	Static state	12.5*OD
	Dynamic state	25*OD
Temperature	Installation	-15°C ~ +50°C
	Operation	-40°C ~ +60°C
	Storage & Transport	-40°C ~ +60°C

Optical Cable for Aerial & Direct Buried - (2-144)F



Structure of Optical Cable



- Metal strength member
- Filled & stranded loose tube layer
- Polyethylene inner sheath
- Corrugated steel tape armor longitudinally wrapped
- PE sheathed outdoor optical cable

Construction Parameters

Fiber count	2~36	38~60	62~72	74~84	86~96	98~108	110~120	122~132	134~144
cable outer diameter (mm)	13.1	14.1	14.7	15.5	16.2	16.9	17.6	18.4	19.1
cable weight (kg/km)	179	198	227	237	254	274	293	316	338

Mechanical Specifications

Test item	Test standard	Technical Performance	
		Long term	Short term
Max. tolerable tensile strength (N)	IEC 60794-E1	Long term	1000
		Short term	3000
Max. tolerable pressure (N/100mm)	IEC 60794-E3	Long term	1000
		Short term	3000

Others

Item	Content
Application	For aerial or direct-burial installation. For local or long distance relaying cables.
Others	For customers' request, the materials of jacket can be made by halogen-free and flame-retardant PE, it has excellent flame resistance with non-toxic and non-contamination; anti-termite materials and Nylon are also can be used for prevent the cable from being damaged by white ants or mouse.

Environmental Specifications

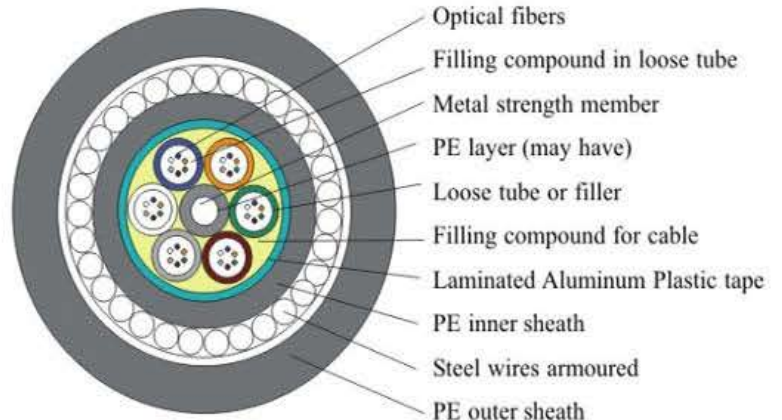
Item	Technical Performance	
Min. Bending Radius (mm)	Static state	12.5*OD
	Dynamic state	25*OD
Temperature	Installation	-15°C ~ +50°C
	Operation	-40°C ~ +60°C
	Storage & Transport	-40°C ~ +60°C

Strengthen optical cable for direct buried & underwater (1T/2T) - (2-144)F



- Metal strength member
- Filled & stranded loose tube layer
- Laminated AL-polyethylene sheath
- Single fine round steel wires armored
- PE sheathed outdoor optical cable

Structure of Optical Cable



Construction Parameters

Fiber count		2~36	38~60	62~72	74~84	86~96	98~108	110~120	122~132	134~144
GYTA33 (1 ton)	cable outer diameter (mm)	16.0	17.0	17.6	18.4	19.1	19.8	20.5	21.3	22.0
	cable weight (kg/km)	465	515	555	590	620	670	700	750	785
GYTA33 (2 ton)	cable outer diameter (mm)	17.0	18.0	18.6	19.4	20.1	20.8	21.5	22.3	23.0
	cable weight (kg/km)	575	645	695	730	770	815	860	905	975

Mechanical Specifications

Test item	Test standard	Technical Performance		
		1 ton	2 ton	
Max. tolerable tensile strength (N)	IEC 60794-E1	Long term	4000	10000
		Short term	10000	20000
Max. tolerable pressure (N/100mm)	IEC 60794-E3	Long term	3000	3000
		Short term	5000	5000

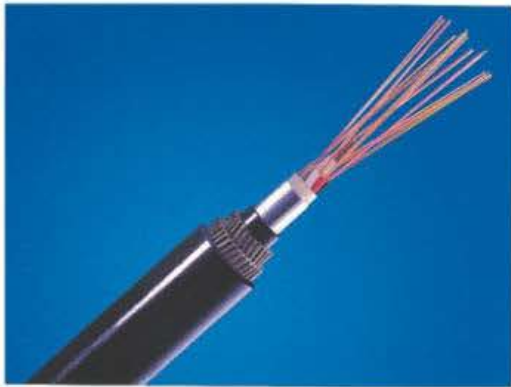
Others

Item	Content
Application	Direct buried on slope, laid in shallow water.

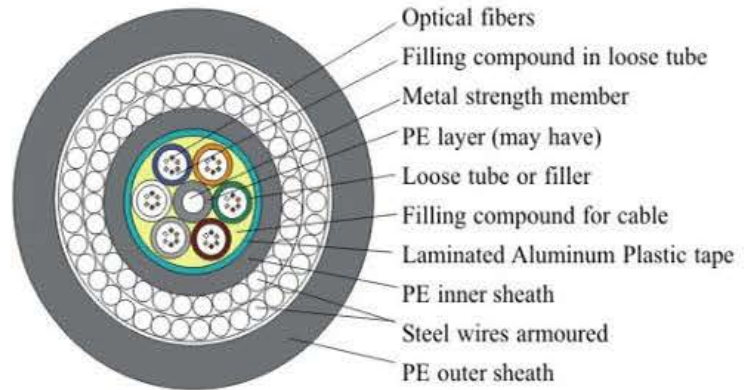
Environmental Specifications

Item	Technical Performance	
Min. Bending Radius (mm)	Static state	12.5*OD
	Dynamic state	25*OD
Temperature	Installation	-15°C ~ +50°C
	Operation	-40°C ~ +60°C
	Storage & Transport	-40°C ~ +60°C

Optical cable for underwater (2T/4T) - (2-144)F



Structure of Optical Cable



- Metal strength member
- Filled & stranded loose tube layer
- Laminated AL-polyethylene sheath
- Double fine round steel wires armored
- PE sheathed outdoor optical cable

Construction Parameters

Fiber count		2~36	38~60	62~72	74~84	86~96	98~108	110~120	122~132	134~144
GYTA333 (2 ton)	cable outer diameter (mm)	19.4	20.4	21.0	21.8	22.5	23.2	23.9	25.7	26.4
	cable weight (kg/km)	875	950	1005	1070	1115	1190	1235	1510	1570
GYTA333 (4 ton)	cable outer diameter (mm)	21.4	22.4	23.0	23.8	24.5	25.2	25.9	26.7	27.4
	cable weight (kg/km)	1160	1280	1355	1415	1485	1550	1620	1720	1815

Mechanical Specifications

Test item	Test standard	Technical Performance		
		2 ton	4 ton	
Max. tolerable tensile strength (N)	IEC 60794-E1	Long term	10000	20000
		Short term	20000	40000
Max. tolerable pressure (N/100mm)	IEC 60794-E3	Long term	3000	3000
		Short term	5000	5000

Others

Item	Content
Application	Direct buried on slope, laid in shallow water.

Environmental Specifications

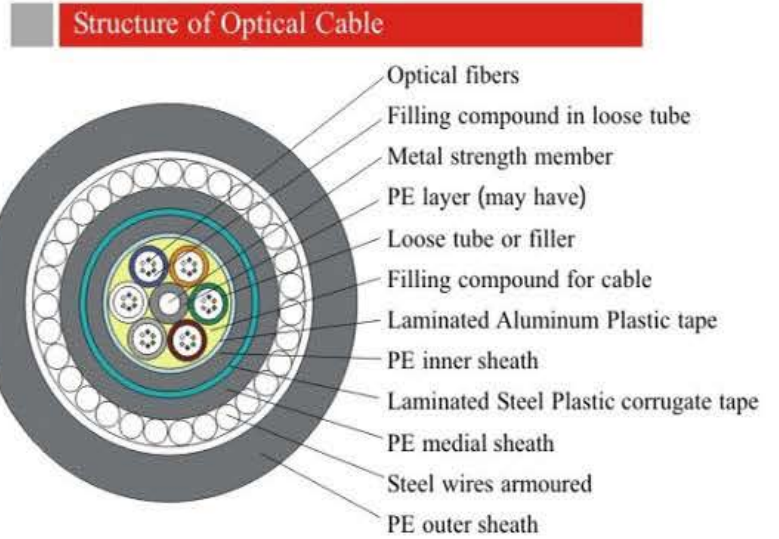
Item	Technical Performance	
Min. Bending Radius (mm)	Static state	15*OD
	Dynamic state	30*OD
Temperature	Installation	-15°C ~ +50°C
	Operation	-40°C ~ +60°C
	Storage & Transport	-40°C ~ +60°C

Armored Optical Cable

Strengthen optical cable for direct buried & underwater (1T/2T) - (2-144)F



- Metal strength member
- Filled & stranded loose tube layer
- Laminated AL-polyethylene sheath
- Corrugated steel tape armored
- PE sheathed
- Single fine round steel wires armored
- PE sheathed outdoor optical cable



Construction Parameters

Fiber count		2~36	38~60	62~72	74~84	86~96	98~108	110~120	122~132	134~144
GYTA533 (1 ton)	cable outer diameter (mm)	19.2	20.2	20.8	21.6	22.3	23.0	24.7	25.5	26.2
	cable weight (kg/km)	650	705	765	790	840	870	1100	1150	1215
GYTA533 (2 ton)	cable outer diameter (mm)	20.2	21.2	21.8	22.6	23.3	24.0	24.7	25.5	26.2
	cable weight (kg/km)	800	880	935	970	1015	1060	1100	1150	1215

Mechanical Specifications

Test item	Test standard	Technical Performance		
		1 ton	2 ton	
Max. tolerable tensile strength (N)	IEC 60794-E1	Long term	4000	10000
		Short term	10000	20000
Max. tolerable pressure (N/100mm)	IEC 60794-E3	Long term	3000	3000
		Short term	5000	5000

Others

Item	Content
Application	Direct buried on slope, laid in shallow water.

Environmental Specifications

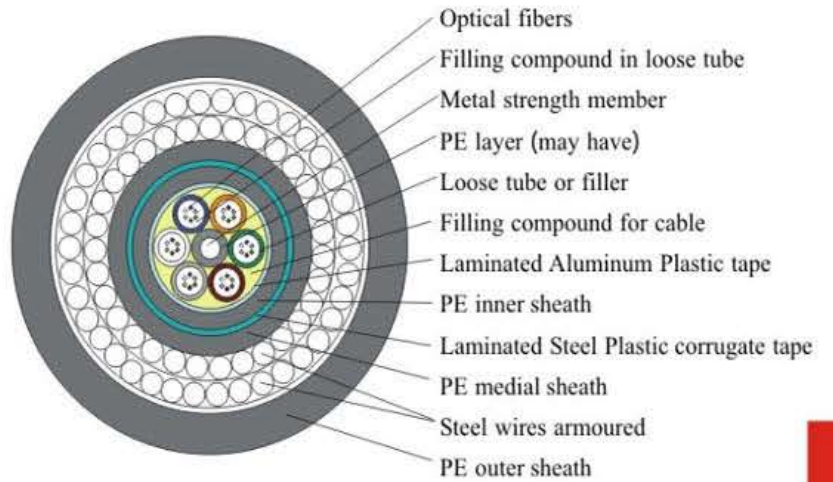
Item	Technical Performance	
Min. Bending Radius (mm)	Static state	12.5*OD
	Dynamic state	25*OD
Temperature	Installation	-15°C ~ +50°C
	Operation	-40°C ~ +60°C
	Storage & Transport	-40°C ~ +60°C

Optical cable for underwater (2T/4T) - (2-144)F



- Metal strength member
- Filled & stranded loose tube layer
- Laminated AL-polyethylene sheath
- Corrugated steel tape armored
- PE sheathed
- Double fine round steel wires armored
- PE sheathed outdoor optical cable

Structure of Optical Cable



Construction Parameters

Fiber count		2~36	38~60	62~72	74~84	86~96	98~108	110~120	122~132	134~144
GYTA5333 (2 ton)	cable outer diameter (mm)	22.6	24.6	25.2	26.0	26.7	27.4	29.1	29.9	30.6
	cable weight (kg/km)	1160	1420	1505	1575	1650	1705	2015	2085	2180
GYTA5333 (4 ton)	cable outer diameter (mm)	24.6	25.6	26.2	27.0	27.7	28.4	29.1	29.9	30.6
	cable weight (kg/km)	1515	1645	1725	1785	1855	1920	2015	2085	2180

Mechanical Specifications

Test item	Test standard	Technical Performance		
		2 ton	4 ton	
Max. tolerable tensile strength (N)	IEC 60794-E1	Long term	10000	20000
		Short term	20000	40000
Max. tolerable pressure (N/100mm)	IEC 60794-E3	Long term	3000	3000
		Short term	5000	5000

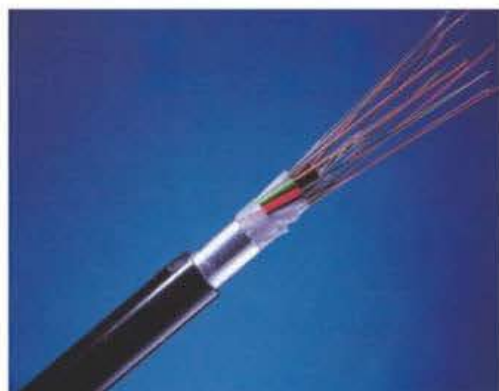
Others

Item	Content
Application	Direct buried on slope, laid in shallow water.

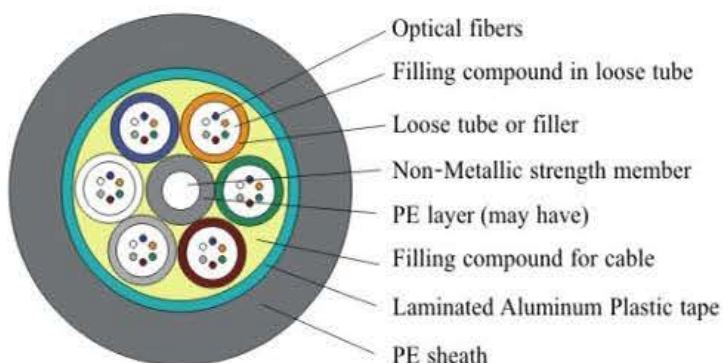
Environmental Specifications

Item	Technical Performance	
Min. Bending Radius (mm)	Static state	15*OD
	Dynamic state	30*OD
Temperature	Installation	-15°C ~ +50°C
	Operation	-40°C ~ +60°C
	Storage & Transport	-40°C ~ +60°C

Non-metallic Optical Cable for Duct & Aerial - (2-144)F



Structure of Optical Cable



- Non-Metallic strength member
- Filled & stranded loose tube layer
- Laminated AL-polyethylene sheath outdoor optical cable

Construction Parameters

Fiber count	2~36	38~72	74~84	86~96	98~108	110~120	122~132	134~144
cable outer diameter (mm)	11.3	12.1	12.9	13.6	14.4	15.1	15.9	16.7
cable weight (kg/km)	105	120	135	155	175	190	210	230

Mechanical Specifications

Test item	Test standard	Technical Performance	
Max. tolerable tensile strength (N)	IEC 60794-E1	Long term	600
		Short term	1500
Max. tolerable pressure (N/100mm)	IEC 60794-E3	Long term	300
		Short term	1000

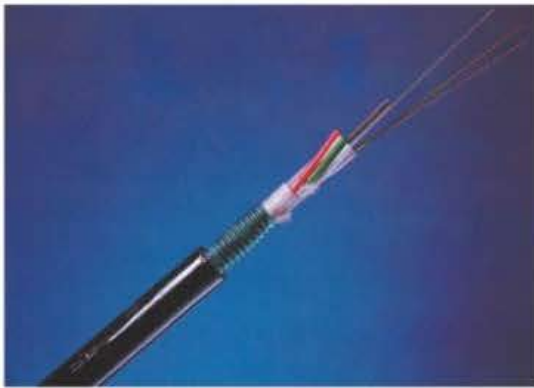
Others

Item	Content
Application	For duct or aerial installation. For environment with strong electromagnetic interference. For area where frequent thunder happens.
Others	For customers' request, the materials of jacket can be made by halogen-free and flame-retardant PE, it has excellent flame resistance with non-toxic and non-contamination; anti-termite materials and Nylon are also can be used for prevent the cable from being damaged by white ants or mouse.

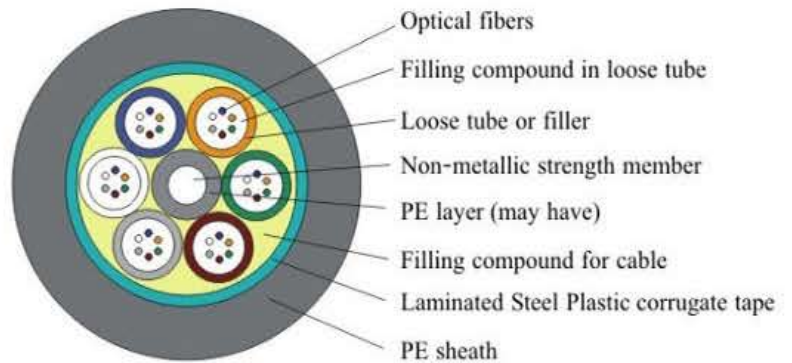
Environmental Specifications

Item	Technical Performance	
Min. Bending Radius (mm)	Static state	10*OD
	Dynamic state	20*OD
Temperature	Installation	-15℃ ~ +50℃
	Operation	-40℃ ~ +60℃
	Storage & Transport	-40℃ ~ +60℃

Non-metallic Optical Cable for Aerial & Duct - (2-144)F



Structure of Optical Cable



- Non-metallic strength member
- Filled & stranded loose tube layer
- Laminated Steel-polyethylene sheath outdoor optical cable

Construction Parameters

Fiber count	2~36	38~72	74~84	86~96	98~108	110~120	122~132	134~144
cable outer diameter (mm)	11.3	12.1	12.9	13.6	14.4	15.1	15.9	16.7
cable weight (kg/km)	130	150	165	185	205	220	240	265

Mechanical Specifications

Test item	Test standard	Technical Performance	
Max. tolerable tensile strength (N)	IEC 60794-E1	Long term	600
		Short term	1500
Max. tolerable pressure (N/100mm)	IEC 60794-E3	Long term	300
		Short term	1000

Others

Item	Content
Application	For duct or aerial installation. For environment with strong electromagnetic interference. For area where frequent thunder happens.
Others	For customers' request, the materials of jacket can be made by halogen-free and flame-retardant PE, it has excellent flame resistance with non-toxic and non-contamination; anti-termite materials and Nylon are also can be used for prevent the cable from being damaged by white ants or mouse.

Environmental Specifications

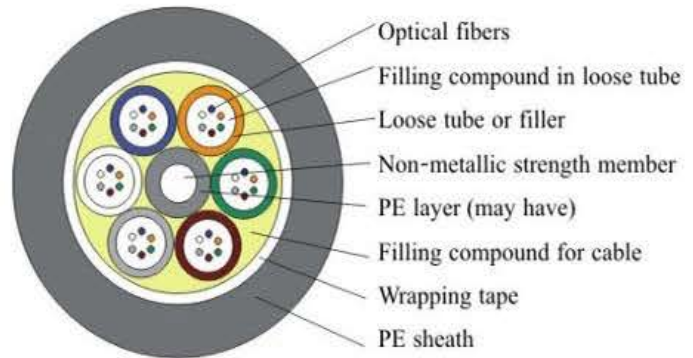
Item	Technical Performance	
Min. Bending Radius (mm)	Static state	10*OD
	Dynamic state	20*OD
Temperature	Installation	-15°C ~ +50°C
	Operation	-40°C ~ +60°C
	Storage & Transport	-40°C ~ +60°C

Non-metallic Optical Cable

Non-metallic Optical Cable for Aerial & Duct - (2-144)F



Structure of Optical Cable



- Non-metallic strength member
- Filled & stranded loose tube layer
- Polyethylene sheathed outdoor optical cable

Construction Parameters

Fiber count	2~36	38~72	74~84	86~96	98~108	110~120	122~132	134~144
cable outer diameter (mm)	10.7	11.5	12.3	13.0	13.8	14.5	15.3	16.1
cable weight (kg/km)	95	105	120	135	150	165	180	200

Mechanical Specifications

Test item	Test standard	Technical Performance	
Max. tolerable tensile strength (N)	IEC 60794-E1	Long term	600
		Short term	1500
Max. tolerable pressure (N/100mm)	IEC 60794-E3	Long term	300
		Short term	1000

Others

Item	Content
Application	For duct or aerial installation. For environment with strong electromagnetic interference. For area where frequent thunder happens.
Others	For customers' request, the materials of jacket can be made by halogen-free and flame-retardant PE, it has excellent flame resistance with non-toxic and non-contamination; anti-termite materials and Nylon are also can be used for prevent the cable from being damaged by white ants or mouse.

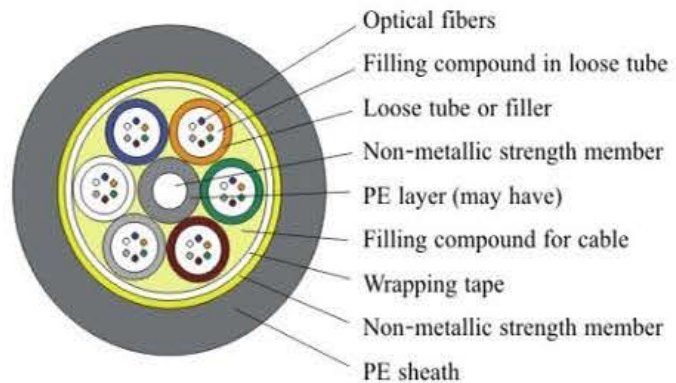
Environmental Specifications

Item	Technical Performance	
Min. Bending Radius (mm)	Static state	10*OD
	Dynamic state	20*OD
Temperature	Installation	-15°C ~ +50°C
	Operation	-40°C ~ +60°C
	Storage & Transport	-40°C ~ +60°C

Non-metallic Optical Cable for Aerial & Duct - (2-144)F



Structure of Optical Cable



- Non-metallic strength member
- Filled & stranded loose tube layer
- Non-metallic strengthen peripheral materials
- Polyethylene sheathed outdoor optical cable

Construction Parameters

Fiber count	2~36	38~60	62~72	74~84	86~96	98~108	110~120	122~132	134~144
cable outer diameter (mm)	10.9	11.3	11.8	12.6	13.2	14.0	14.7	15.5	16.3
cable weight (kg/km)	95	100	110	120	135	150	165	180	200

Mechanical Specifications

Test item	Test standard	Technical Performance	
		Long term	Short term
Max. tolerable tensile strength (N)	IEC 60794-E1	Long term	1000
		Short term	3000
Max. tolerable pressure (N/100mm)	IEC 60794-E3	Long term	1000
		Short term	3000

Others

Item	Content
Application	For duct or aerial installation. For environment with strong electromagnetic interference. For area where frequent thunder happens.
Others	For customers' request, the materials of jacket can be made by halogen-free and flame-retardant PE, it has excellent flame resistance with non-toxic and non-contamination; anti-termite materials and Nylon are also can be used for prevent the cable from being damaged by white ants or mouse.

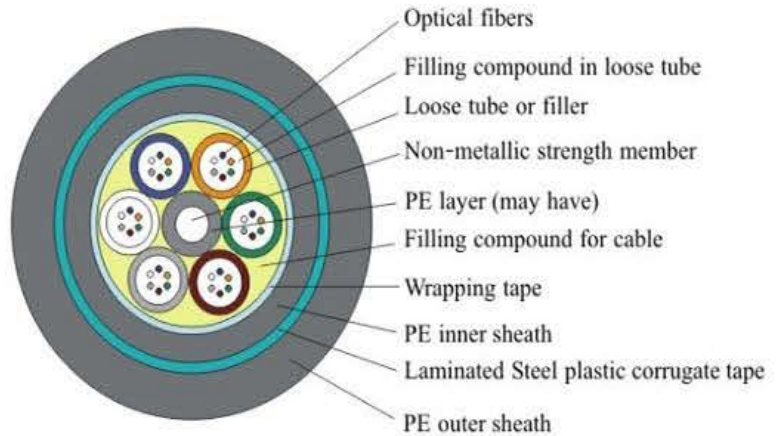
Environmental Specifications

Item	Technical Performance	
Min. Bending Radius (mm)	Static state	10*OD
	Dynamic state	20*OD
Temperature	Installation	-15°C ~ +50°C
	Operation	-40°C ~ +60°C
	Storage & Transport	-40°C ~ +60°C

Non-metallic Optical Cable for Direct Buried - (2-144)F



Structure of Optical Cable



- Non-metallic strength member
- Filled & stranded loose tube layer
- Polyethylene inner sheath
- Corrugated steel tape armor longitudinally wrapped
- PE sheathed outdoor optical cable

Construction Parameters

Fiber count	2~48	50~84	86~96	98~108	110~120	122~132	134~144
cable outer diameter (mm)	15.1	15.7	16.2	17.0	17.7	18.5	19.3
cable weight (kg/km)	225	235	245	270	290	315	335

Mechanical Specifications

Test item	Test standard	Technical Performance	
Max. tolerable tensile strength (N)	IEC 60794-E1	Long term	1000
		Short term	3000
Max. tolerable pressure (N/100mm)	IEC 60794-E3	Long term	1000
		Short term	3000

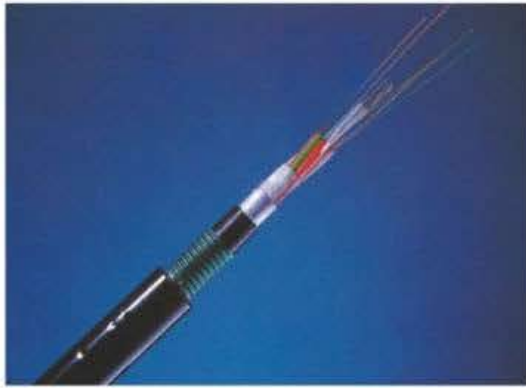
Others

Item	Content
Application	For direct-burial installation. For area where frequent thunder happens.
Others	For customers' request, the materials of jacket can be made by halogen-free and flame-retardant PE, it has excellent flame resistance with non-toxic and non-contamination; anti-termite materials and Nylon are also can be used for prevent the cable from being damaged by white ants or mouse.

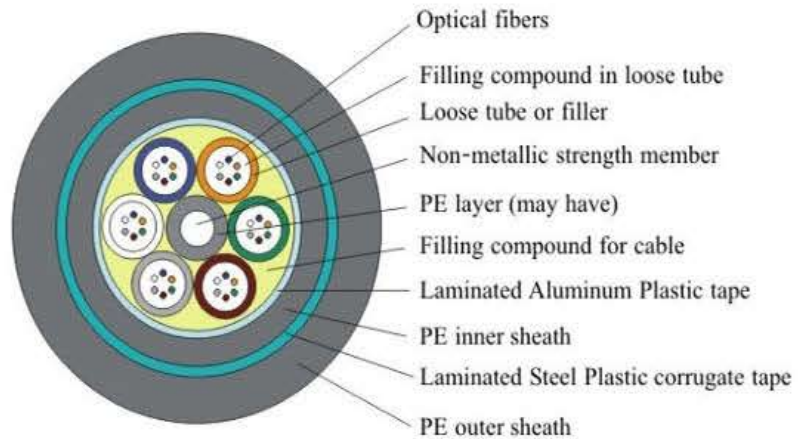
Environmental Specifications

Item	Technical Performance	
Min. Bending Radius (mm)	Static state	12.5*OD
	Dynamic state	25*OD
Temperature	Installation	-15°C ~ +50°C
	Operation	-40°C ~ +60°C
	Storage & Transport	-40°C ~ +60°C

Non-metallic Optical Cable for Direct Buried - (2-144)F



Structure of Optical Cable



- Non-metallic strength member
- Filled & stranded loose tube layer
- Laminated AL-polyethylene inner sheath
- Corrugated steel tape armor longitudinally wrapped
- PE sheathed outdoor optical cable

Construction Parameters

Fiber count	2~48	50~84	86~96	98~108	110~120	122~132	134~144
cable outer diameter (mm)	16.1	16.7	17.2	18.0	18.7	19.5	20.3
cable weight (kg/km)	255	265	290	315	335	360	385

Mechanical Specifications

Test item	Test standard	Technical Performance	
Max. tolerable tensile strength (N)	IEC 60794-E1	Long term	1000
		Short term	3000
Max. tolerable pressure (N/100mm)	IEC 60794-E3	Long term	1000
		Short term	3000

Others

Item	Content
Application	For direct-burial installation. For local or long distance relaying cables.
Others	For customers' request, the materials of jacket can be made by halogen-free and flame-retardant PE, it has excellent flame resistance with non-toxic and non-contamination; anti-termite materials and Nylon are also can be used for prevent the cable from being damaged by white ants or mouse.

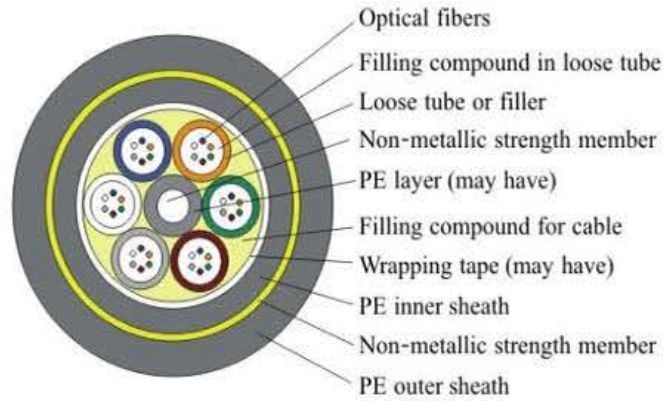
Environmental Specifications

Item	Technical Performance	
Min. Bending Radius (mm)	Static state	12.5*OD
	Dynamic state	25*OD
Temperature	Installation	-15°C ~ +50°C
	Operation	-40°C ~ +60°C
	Storage & Transport	-40°C ~ +60°C

All Dielectric Optical cable for Direct Buried - (2-144)F



Structure of Optical Cable



- Non-metallic strength member
- Filled & stranded loose tube layer
- polyethylene inner sheath
- Non-metallic strength materials armored
- PE sheathed outdoor optical cable

Construction Parameters

Fiber count	2~36	38~60	62~72	74~84	86~96	98~108	110~120	122~132	134~144
cable outer diameter (mm)	12.6	12.9	13.4	14.2	14.9	15.7	16.4	17.1	17.9
cable weight (kg/km)	125	130	145	160	175	195	210	230	250

Mechanical Specifications

Test item	Test standard	Technical Performance	
Max. tolerable tensile strength (N)	IEC 60794-E1	Long term	1000
		Short term	3000
Max. tolerable pressure (N/100mm)	IEC 60794-E3	Long term	1000
		Short term	3000

Others

Item	Content
Application	For direct-burial installation. For environment with strong electromagnetic interference. For area where frequent thunder happens.
Others	For customers' request, the materials of jacket can be made by halogen-free and flame-retardant PE, it has excellent flame resistance with non-toxic and non-contamination; anti-termite materials and Nylon are also can be used for prevent the cable from being damaged by white ants or mouse.

Environmental Specifications

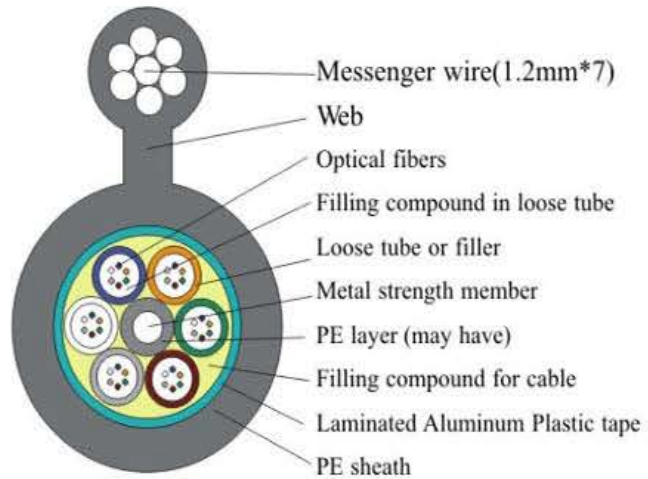
Item	Technical Performance	
Min. Bending Radius (mm)	Static state	12.5*OD
	Dynamic state	25*OD
Temperature	Installation	-15°C ~ +50°C
	Operation	-40°C ~ +60°C
	Storage & Transport	-40°C ~ +60°C

Figure 8 Self-supporting Optical Cable for Aerial - (2-144)F



- Messenger wire
- Metal strength member
- Filled & stranded loose tube layer
- Laminated AL-polyethylene sheath
- Fig. 8 self-supporting outdoor optical cable

Structure of Optical Cable



Construction Parameters

Fiber count	2~36	38~60	62~72	74~84	86~96	98~108	110~120	122~132	134~144
cable outer diameter (mm)	11.2*20.2	11.4*20.4	12.1*21.1	12.9*21.9	13.6*22.6	14.4*23.4	15.1*24.1	15.9*24.9	16.7*25.7
cable weight (kg/km)	215	215	245	250	270	290	315	340	370

Mechanical Specifications

Test item	Test standard	Technical Performance	
Max. tolerable tensile strength (N)	IEC 60794-E1	Long term	3500
		Short term	7000
Max. tolerable pressure (N/100mm)	IEC 60794-E3	Long term	300
		Short term	1000

Remarks: The max tolerable tensile strength could be re-designed according to customers' requirements.

Environmental Specifications

Item	Technical Performance	
Min. Bending Radius (mm)	Static state	10*OD
	Dynamic state	20*OD
Temperature	Installation	-15°C ~ +50°C
	Operation	-40°C ~ +60°C
	Storage & Transport	-40°C ~ +60°C

Others

Item	Content
Application	For self-supporting aerial installation; For local or long distance relaying cables; also for main lines of CATV, railway and military transmission network.

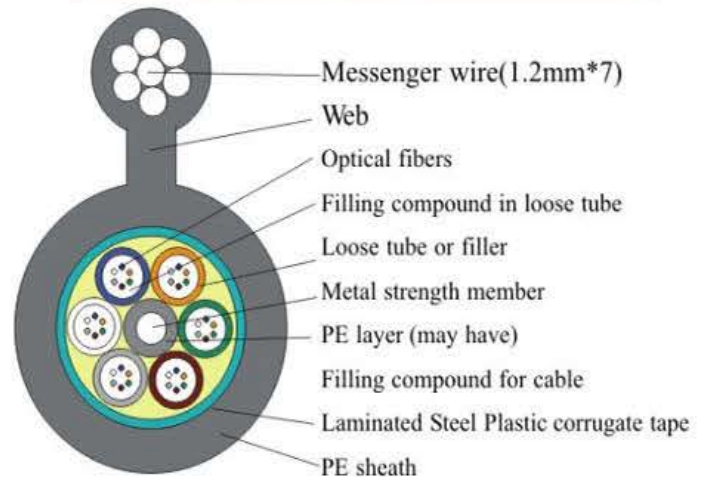
Outdoor figure 8 self-supporting optical cable

Figure 8 Self-supporting Optical Cable for Aerial - (2-144)F



- Messenger wire
- Metal strength member
- Filled & stranded loose tube layer
- Laminated steel-polyethylene sheath
- Fig. 8 self-supporting outdoor optical cable

Structure of Optical Cable



Construction Parameters

Fiber count	2~36	38~60	62~72	74~84	86~96	98~108	110~120	122~132	134~144
cable outer diameter (mm)	11.2*20.2	11.4*20.4	12.1*21.1	12.9*21.9	13.6*22.6	14.4*23.4	15.1*24.1	15.9*24.9	16.7*25.7
cable weight (kg/km)	240	240	270	280	300	325	350	375	405

Mechanical Specifications

Test item	Test standard	Technical Performance	
Max. tolerable tensile strength (N)	IEC 60794-E1	Long term	3500
		Short term	7000
Max. tolerable pressure (N/100mm)	IEC 60794-E3	Long term	300
		Short term	1000

Remarks: The max tolerable tensile strength could be re-designed according to customers' requirements.

Others

Item	Content
Application	For self-supporting aerial installation; For local or long distance relaying cables; also for main lines of CATV railway and military transmission network.

Environmental Specifications

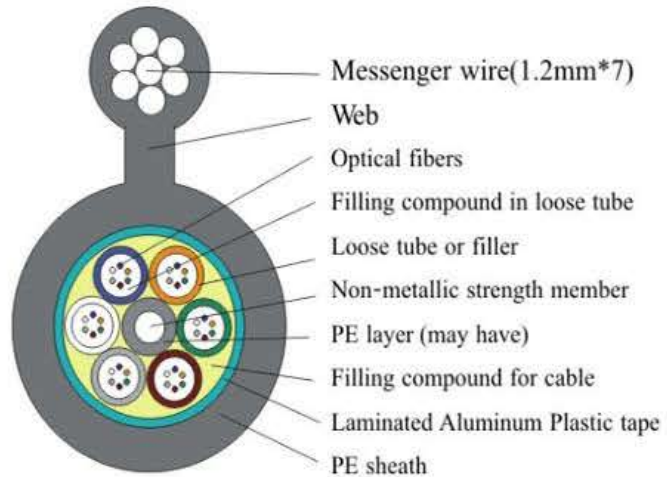
Item	Technical Performance	
Min. Bending Radius (mm)	Static state	10*OD
	Dynamic state	20*OD
Temperature	Installation	-15℃ ~ +50℃
	Operation	-40℃ ~ +60℃
	Storage & Transport	-40℃ ~ +60℃

Figure 8 Self-supporting Optical Cable for Aerial - (2-144)F



- Messenger wire
- Non-metallic strength member
- Filled & stranded loose tube layer
- Laminated AL-polyethylene sheath
- Fig. 8 self-supporting outdoor optical cable

Structure of Optical Cable



Construction Parameters

Fiber count	2~36	38~60	62~72	74~84	86~96	98~108	110~120	122~132	134~144
cable outer diameter (mm)	11.2*20.2	11.4*20.4	12.1*21.1	12.9*21.9	13.6*22.6	14.4*23.4	15.1*24.1	15.9*24.9	16.7*25.7
cable weight (kg/km)	200	200	215	235	255	275	300	325	355

Mechanical Specifications

Test item	Test standard	Technical Performance	
Max. tolerable tensile strength (N)	IEC 60794-E1	Long term	3500
		Short term	7000
Max. tolerable pressure (N/100mm)	IEC 60794-E3	Long term	300
		Short term	1000

Remarks: The max tolerable tensile strength could be re-designed according to customers' requirements.

Others

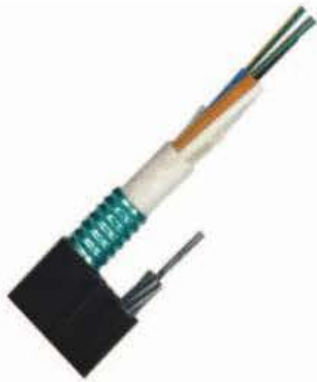
Item	Content
Application	For self-supporting aerial installation; For local or long distance relaying cables; also for main lines of CATV, railway and military transmission network.

Environmental Specifications

Item	Technical Performance	
Min. Bending Radius (mm)	Static state	10*OD
	Dynamic state	20*OD
Temperature	Installation	-15°C ~ +50°C
	Operation	-40°C ~ +60°C
	Storage & Transport	-40°C ~ +60°C

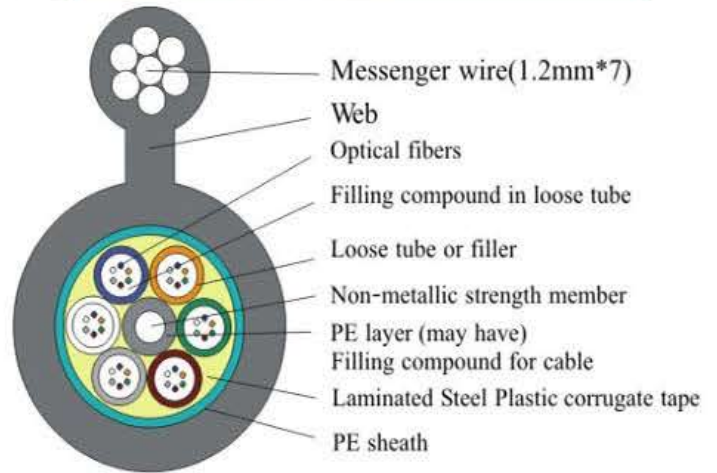
Outdoor figure 8 self-supporting optical cable

Figure 8 Self-supporting Optical Cable for Aerial - (2-144)F



- Messenger wire
- Non-metallic strength member
- Filled & stranded loose tube layer
- Laminated steel-polyethylene sheath
- Fig. 8 self-supporting outdoor optical cable

Structure of Optical Cable



Construction Parameters

Fiber count	2~36	38~60	62~72	74~84	86~96	98~108	110~120	122~132	134~144
cable outer diameter (mm)	11.2*20.2	11.4*20.4	12.1*21.1	12.9*21.9	13.6*22.6	14.4*23.4	15.1*24.1	15.9*24.9	16.7*25.7
cable weight (kg/km)	225	225	245	265	285	310	335	360	390

Mechanical Specifications

Test item	Test standard	Technical Performance	
Max. tolerable tensile strength (N)	IEC 60794-E1	Long term	3500
		Short term	7000
Max. tolerable pressure (N/100mm)	IEC 60794-E3	Long term	300
		Short term	1000

Remarks: The max tolerable tensile strength could be re-designed according to customers' requirements.

Environmental Specifications

Item	Technical Performance	
Min. Bending Radius (mm)	Static state	10*OD
	Dynamic state	20*OD
Temperature	Installation	-15℃~+50℃
	Operation	-40℃~+60℃
	Storage & Transport	-40℃~+60℃

Others

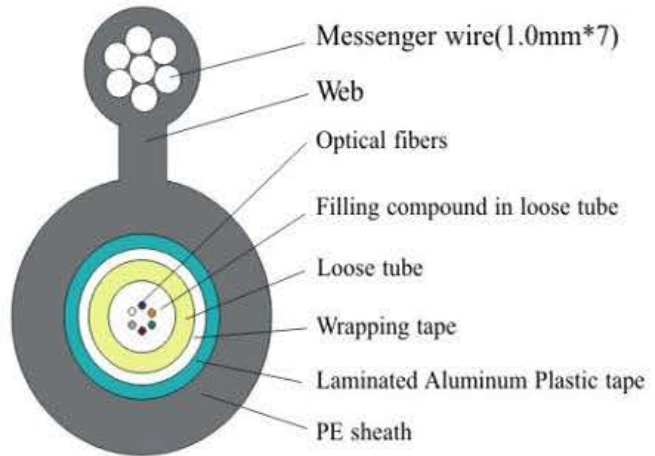
Item	Content
Application	For self-supporting aerial installation; For local or long distance relaying cables; also for main lines of CATV, railway and military transmission network.

Figure 8 Self-supporting Optical Cable for Aerial - (2-24)F



- Messenger wire
- Filled central tube
- Laminated AL-polyethylene sheath
- Fig. 8 self-supporting outdoor optical cable

Structure of Optical Cable



Construction Parameters

Fiber count	2~12	14~24
cable outer diameter (mm)	8.2 *16.6	9.1 *17.4
cable weight (kg/km)	130	139

Others

Item	Content
Application	For self-supporting aerial installation; For long distance, local or rural relaying cables, And it also can be used in FTTH distribution solution in rural areas.

Mechanical Specifications

Test item	Test standard	Technical Performance	
Max. tolerable tensile strength (N)	IEC 60794-E1	Long term	1500
		Short term	3000
Max. tolerable pressure (N/100mm)	IEC 60794-E3	Long term	300
		Short term	1000

Remarks: The max tolerable tensile strength could be re-designed according to customers' requirements.

Environmental Specifications

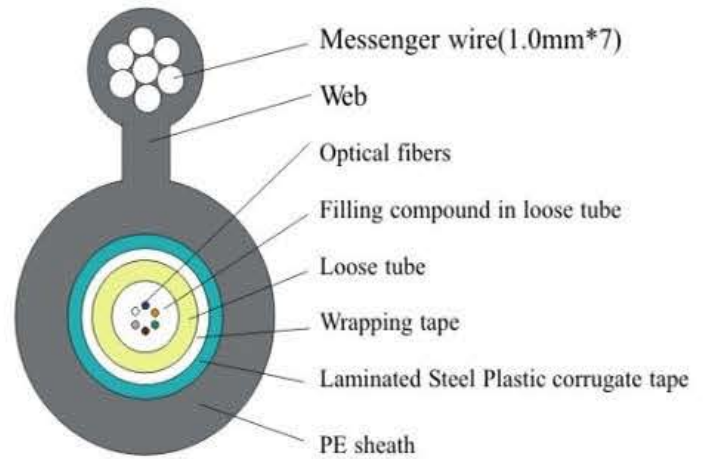
Item	Technical Performance	
Min. Bending Radius (mm)	Static state	10*OD
	Dynamic state	20*OD
Temperature	Installation	-15°C ~ +50°C
	Operation	-40°C ~ +60°C
	Storage & Transport	-40°C ~ +60°C

Figure 8 Self-supporting Optical Cable for Aerial - (2-24)F



- Messenger wire
- Filled central tube
- Laminated Steel-polyethylene sheath
- Fig. 8 self-supporting outdoor optical cable

Structure of Optical Cable



Construction Parameters

Fiber count	2~12	14~24
cable outer diameter (mm)	8.2 *16.6	9.1*17.4
cable weight (kg/km)	160	170

Others

Item	Content
Application	For self-supporting aerial installation; For long distance, local or rural relaying cables, And it also can be used in FTTH distribution solution in rural areas

Mechanical Specifications

Test item	Test standard	Technical Performance	
Max. tolerable tensile strength (N)	IEC 60794-E1	Long term	1500
		Short term	3000
Max. tolerable pressure (N/100mm)	IEC 60794-E3	Long term	300
		Short term	1000

Remarks: The max tolerable tensile strength could be re-designed according to customers' requirements.

Environmental Specifications

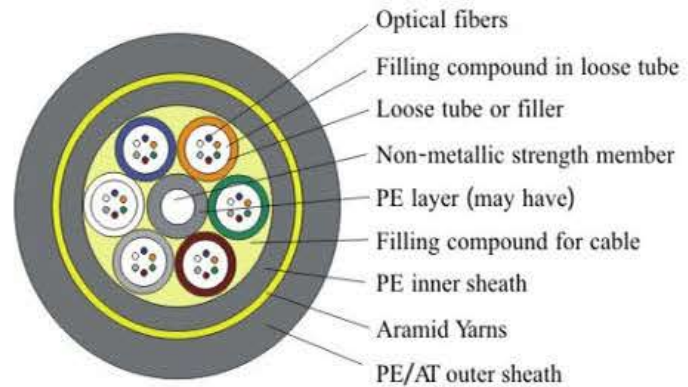
Item	Technical Performance	
Min. Bending Radius (mm)	Static state	10*OD
	Dynamic state	20*OD
Temperature	Installation	-15℃ ~ +50℃
	Operation	-40℃ ~ +60℃
	Storage & Transport	-40℃ ~ +60℃

Outdoor figure 8 self-supporting optical cable

ADSS ALL-Dielectric Self-supporting Optical Cable (ADSS) for Aerial



Structure of Optical Cable



- Non-metallic strength member
- Filled & stranded loose tube layer
- High-strength aramid yarns armored
- PE/AT sheathed outdoor optical cable

Construction Parameters

Technical Parameters	Take the case of 24B1			
Reference span(m)	100~300	300~500	500~700	700~1000
cable outer diameter (mm)	10.8~12.2	12.2~12.8	12.8~13.2	13.2~13.8
cable weight (kg/km)	90~120	120~135	135~150	150~160
Installation sag(%)	0.6~3			

Remarks: The cable construction shall be designed according to the weather conditions, lines arrangement, etc.

Mechanical Specifications

Test item	Test standard	Technical Performance	
Max. tolerable tensile strength (N)	IEC 60794-E1	No fiber strain under operation load.	
Max. tolerable pressure (N/100mm)	IEC 60794-E3	With inner sheath	2200
		Without inner sheath	1000

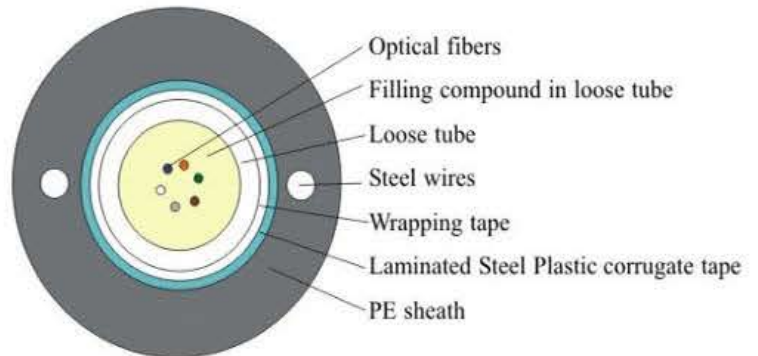
Environmental Specifications

Item	Technical Performance	
Min. Bending Radius (mm)	Static state	12.5*OD
	Dynamic state	25*OD
Temperature	Installation	-15°C ~ +50°C
	Operation	-40°C ~ +60°C
	Storage & Transport	-40°C ~ +60°C
Max. electrical field strength (kV/m)	AT outer sheath: 25 PE outer sheath: 12	
Tracking resistance	The cable could pass salt fog test for 1000 hours with applying 30kV voltage, any vestige or vestige point at the cable surface should be less than 50% of the thickness of the outer sheath.	
Aeolian vibration	1.0x10 ⁸ times cycles, attenuation at 1550nm < 1.0dB/km	
Pulley passing	120 times cycles, attenuation at 1550nm < 1.0dB/Km	

Optical cable for Aerial & Duct - (2-24)F



Structure of Optical Cable



- Metal strength member
- Filled central tube
- Laminated Steel-polyethylene sheath with steel wires

Construction Parameters

Fiber count	2~12	14~24
cable outer diameter (mm)	10.3	11.1
cable weight (kg/km)	115	135

Mechanical Specifications

Test item	Test standard	Technical Performance	
		Long term	Short term
Max. tolerable tensile strength (N)	IEC 60794-E1	Long term	600
		Short term	1500
Max. tolerable pressure (N/100mm)	IEC 60794-E3	Long term	300
		Short term	1000

Environmental Specifications

Item	Technical Performance	
	Static state	Dynamic state
Min. Bending Radius (mm)	Static state	10*OD
	Dynamic state	20*OD
Temperature	Installation	-15°C ~ +50°C
	Operation	-40°C ~ +60°C
	Storage & Transport	-40°C ~ +60°C

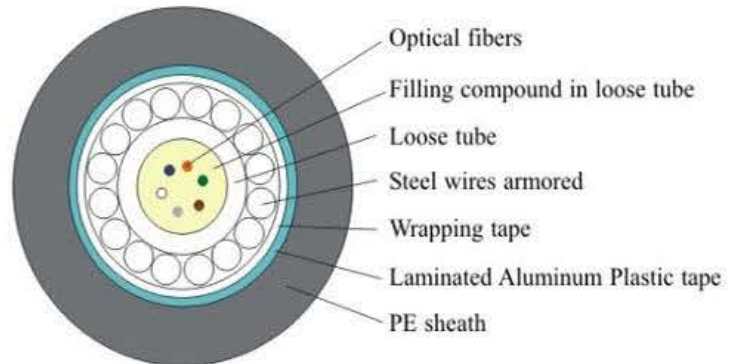
Others

Item	Content
Application	For duct or aerial installation. For local or rural trunk lines.
Others	For customers' request, the materials of jacket can be made by halogen-free and flame-retardant PE, it has excellent flame resistance with non-toxic and non-contamination.

Optical cable for Aerial & Duct - (2-24)F



Structure of Optical Cable



- Metal strength member
- Filled central tube
- Steel wires armored
- Laminated AL-polyethylene sheath

Construction Parameters

Fiber count	2~12	14~24
cable outer diameter (mm)	10.4	11.2
cable weight (kg/km)	145	175

Mechanical Specifications

Test item	Test standard	Technical Performance	
Max. tolerable tensile strength (N)	IEC 60794-E1	Long term	1000
		Short term	3000
Max. tolerable pressure (N/100mm)	IEC 60794-E3	Long term	300
		Short term	1000

Environmental Specifications

Item	Technical Performance	
Min. Bending Radius (mm)	Static state	10*OD
	Dynamic state	20*OD
Temperature	Installation	-15°C ~ +50°C
	Operation	-40°C ~ +60°C
	Storage & Transport	-40°C ~ +60°C

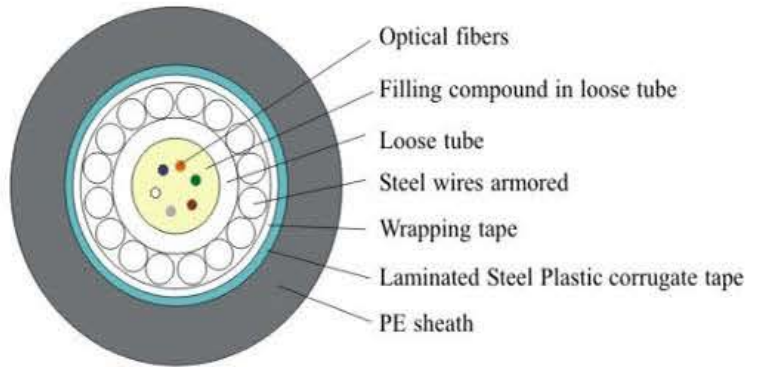
Others

Item	Content
Application	For duct or aerial installation. For local or rural trunk lines.
Others	For customers' request, the materials of jacket can be made by halogen-free and flame-retardant PE, it has excellent flame resistance with non-toxic and non-contamination.

Optical cable for Aerial & Direct Buried - (2-24)F



Structure of Optical Cable



- Metal strength member
- Filled central tube
- Steel wires armored
- Laminated Steel-polyethylene sheath

Construction Parameters

Fiber count	2~12	14~24
cable outer diameter (mm)	10.6	11.4
cable weight (kg/km)	170	200

Mechanical Specifications

Test item	Test standard	Technical Performance	
Max. tolerable tensile strength (N)	IEC 60794-E1	Long term	1000
		Short term	3000
Max. tolerable pressure (N/100mm)	IEC 60794-E3	Long term	300
		Short term	1000

Environmental Specifications

Item	Technical Performance	
Min. Bending Radius (mm)	Static state	10*OD
	Dynamic state	20*OD
Temperature	Installation	-15℃ ~ +50℃
	Operation	-40℃ ~ +60℃
	Storage & Transport	-40℃ ~ +60℃

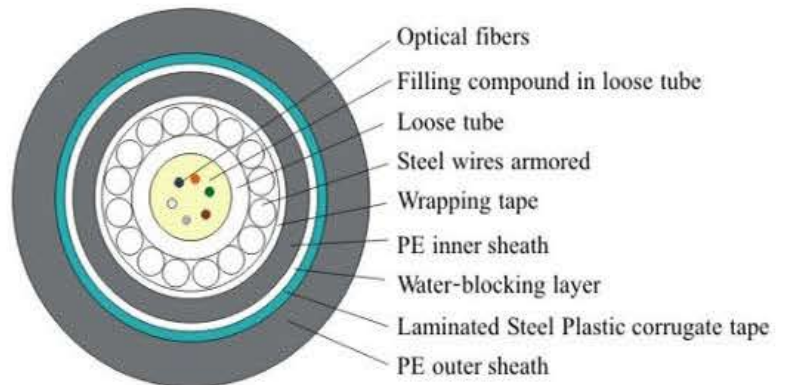
Others

Item	Content
Application	For duct or aerial installation. For local or rural trunk lines.
Others	For customers' request, the materials of jacket can be made by halogen-free and flame-retardant PE, it has excellent flame resistance with non-toxic and non-contamination.

Optical cable for Direct Buried - (2-24)F



Structure of Optical Cable



- Metal strength member
- Filled central tube
- Steel wires armored
- Polyethylene inner sheath
- Corrugated Steel tape armor longitudinally wrapped
- PE sheathed outdoor optical cable

Construction Parameters

Fiber count	2~12	14~24
cable outer diameter (mm)	12.7	13.5
cable weight (kg/km)	230	270

Mechanical Specifications

Test item	Test standard	Technical Performance	
		Long term	Short term
Max. tolerable tensile strength (N)	IEC 60794-E1	Long term	1000
		Short term	3000
Max. tolerable pressure (N/100mm)	IEC 60794-E3	Long term	1000
		Short term	3000

Environmental Specifications

Item	Technical Performance	
	Static state	Dynamic state
Min. Bending Radius (mm)	Static state	12.5*OD
	Dynamic state	25*OD
Temperature	Installation	-15℃ ~ +50℃
	Operation	-40℃ ~ +60℃
	Storage & Transport	-40℃ ~ +60℃

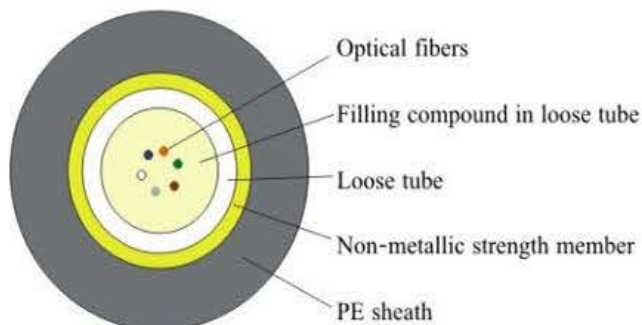
Others

Item	Content
Application	For duct or aerial installation. For local or rural trunk lines.
Others	For customers' request, the materials of jacket can be made by halogen-free and flame-retardant PE, it has excellent flame resistance with non-toxic and non-contamination.

Non-metallic Optical Cable for Duct & Aerial - (2-24)F



Structure of Optical Cable



- Non-metallic strength member
- Filled central tube
- PE sheathed outdoor optical cable

Construction Parameters

Fiber count	2~12	14~24
cable outer diameter (mm)	5.5	6.5
cable weight (kg/km)	30	36

Mechanical Specifications

Test item	Test standard	Technical Performance	
		Long term	Short term
Max. tolerable tensile strength (N)	IEC 60794-E1	Long term	600
		Short term	1500~3000
Max. tolerable pressure (N/100mm)	IEC 60794-E3	Long term	300
		Short term	1000

Environmental Specifications

Item	Technical Performance	
Min. Bending Radius (mm)	Static state	10*OD
	Dynamic state	20*OD
Temperature	Installation	-15°C ~ +50°C
	Operation	-40°C ~ +60°C
	Storage & Transport	-40°C ~ +60°C

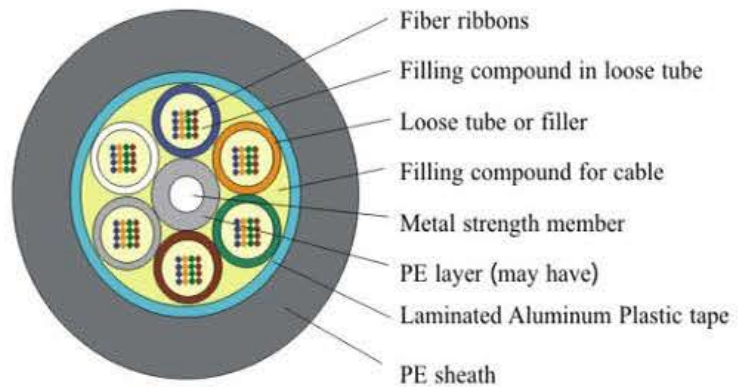
Others

Item	Content
Application	For duct or aerial installation. For environment with strong electromagnetic interference. For area where frequent thunder happens.
Others	For customers' request, the materials of jacket can be made by halogen-free and flame-retardant PE, it has excellent flame resistance with non-toxic and non-contamination.

Ribbon Optical Cable for Duct - (12-768)F



Structure of Optical Cable



- Metal strength member
- Filled & stranded loose tube layer
- Laminated AL-polyethylene sheath outdoor ribbon optical cable

Construction Parameters

Fiber ribbon	6F			12F				
	12~96	108~144	156~216	24~192	216~288	300~432	456~576	600~768
cable outer diameter (mm)	14.8	16.0	18.5	19.0	20.4	24.2	25.4	29.5
cable weight (kg/km)	205	235	300	325	360	490	535	685

The cable structure and fiber count per ribbon will be designed for customers' requirements.

Mechanical Specifications

Test item	Test standard	Technical Performance	
Max. tolerable tensile strength (N)	IEC 60794-E1	Long term	600
		Short term	1500~3000
Max. tolerable pressure (N/100mm)	IEC 60794-E3	Long term	300
		Short term	1000

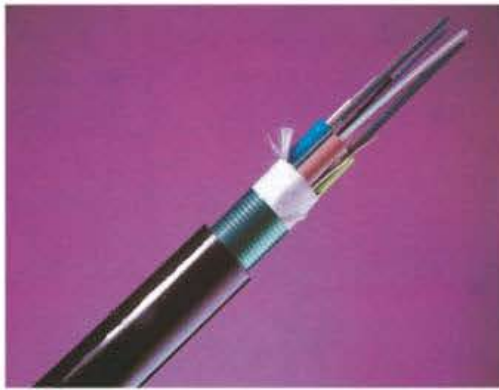
Others

Item	Content
Application	For duct installation. For local network and access network.
Others	For customers' request, the materials of jacket can be made by halogen-free and flame-retardant PE, it has excellent flame resistance with non-toxic and non-contamination.

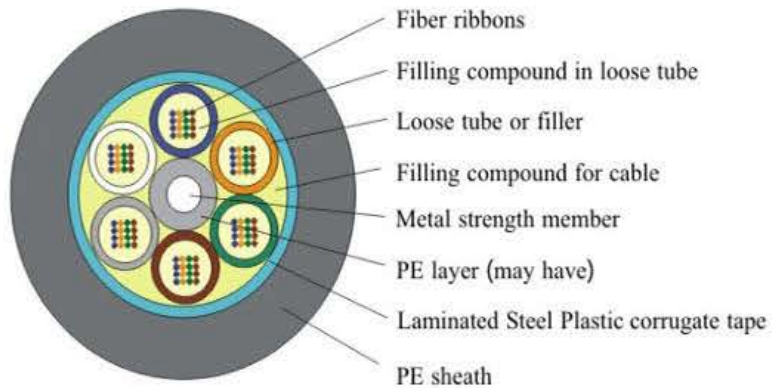
Environmental Specifications

Item	Technical Performance	
Min. Bending Radius (mm)	Static state	10*OD
	Dynamic state	20*OD
Temperature	Installation	-15°C ~ +50°C
	Operation	-40°C ~ +60°C
	Storage & Transport	-40°C ~ +60°C

Ribbon Optical Cable for Duct - (12-768)F



Structure of Optical Cable



- Metal strength member
- Filled & stranded loose tube layer
- Laminated Steel-polyethylene sheath outdoor ribbon optical cable

Construction Parameters

Fiber ribbon	6F			12F				
	12~96	108~144	156~216	24~192	216~288	300~432	456~576	600~768
cable outer diameter (mm)	14.8	16.0	18.5	19.0	20.4	24.2	25.4	29.5
cable weight (kg/km)	230	265	335	365	400	540	585	735

The cable structure and fiber count per ribbon will be designed for customers' requirements.

Mechanical Specifications

Test item	Test standard	Technical Performance	
		Long term	Short term
Max. tolerable tensile strength (N)	IEC 60794-E1	Long term	600
		Short term	1500~3000
Max. tolerable pressure (N/100mm)	IEC 60794-E3	Long term	300
		Short term	1000

Others

Item	Content
Application	For duct installation. For local network and access network.
Others	For customers' request, the materials of jacket can be made by halogen-free and flame-retardant PE, it has excellent flame resistance with non-toxic and non-contamination.

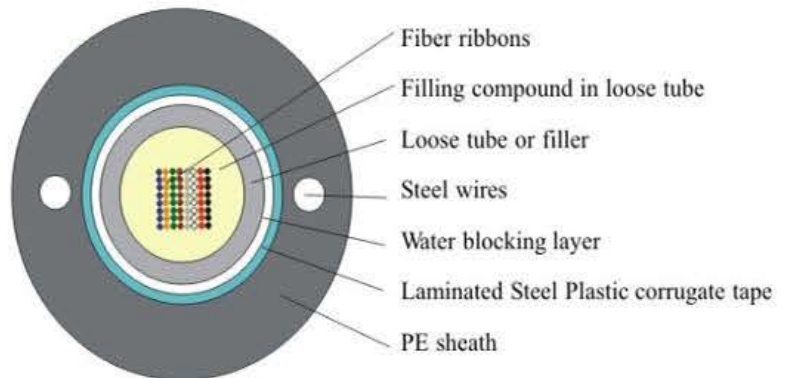
Environmental Specifications

Item	Technical Performance	
Min. Bending Radius (mm)	Static state	10*OD
	Dynamic state	20*OD
Temperature	Installation	-15°C ~ +50°C
	Operation	-40°C ~ +60°C
	Storage & Transport	-40°C ~ +60°C

Ribbon Optical Cable for Duct - (12-288)F



Structure of Optical Cable



- Metal strength member
- Filled central tube with optical fiber ribbon
- Laminated steel-polyethylene sheath with steel wires
- Outdoor ribbon optical cable

Construction Parameters

Fiber ribbon	12F				24F
	Fiber count	24~60	72~96	108~144	156~216
cable outer diameter (mm)	14.8	15.6	16.8	19.4	21.0
cable weight (kg/km)	225	240	275	350	400

Remarks: The fiber counts could be 6F or 8F in a ribbon.

Mechanical Specifications

Test item	Test standard	Technical Performance	
		Long term	Short term
Max. tolerable tensile strength (N)	IEC 60794-E1	600	1500
		300	1000
Max. tolerable pressure (N/100mm)	IEC 60794-E3	300	1000
		1000	

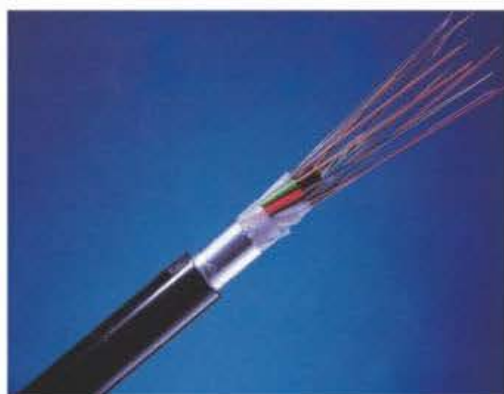
Others

Item	Content
Application	For duct installation. For local network and access network.
Others	For customers' request, the materials of jacket can be made by halogen-free and flame-retardant PE, it has excellent flame resistance with non-toxic and non-contamination.

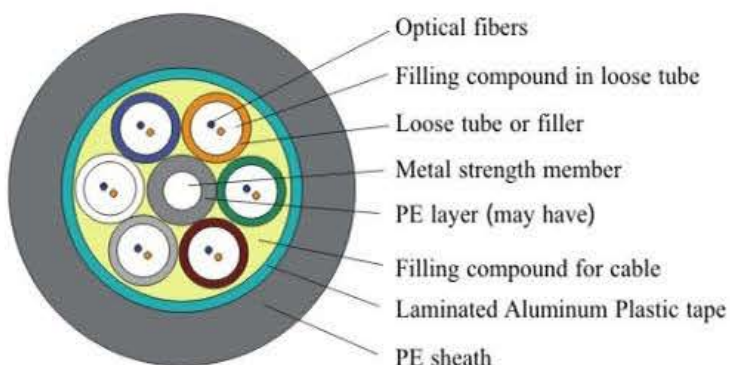
Environmental Specifications

Item	Technical Performance	
Min. Bending Radius (mm)	Static state	10*OD
	Dynamic state	20*OD
Temperature	Installation	-15°C ~ +50°C
	Operation	-40°C ~ +60°C
	Storage & Transport	-40°C ~ +60°C

Mini size tube distribution optical fiber cable - (2-24)F



Structure of Optical Cable



- Mini loose tube, 2 fiber per tube
- Metal strength member
- Filled & stranded loose tube layer
- Laminated AL-polyethylene sheath outdoor optical cable

Construction Parameters

Fiber count	2~12	14	16	18	20	22	24
cable outer diameter (mm)	9.0	9.6	10.0	10.5	10.8	11.4	11.8
cable weight (kg/km)	75	90	110	100	105	120	125

Mechanical Specifications

Test item	Test standard	Technical Performance	
		Long term	Short term
Max. tolerable tensile strength (N)	IEC 60794-E1	Long term	600
		Short term	1500
Max. tolerable pressure (N/100mm)	IEC 60794-E3	Long term	300
		Short term	1000

Environmental Specifications

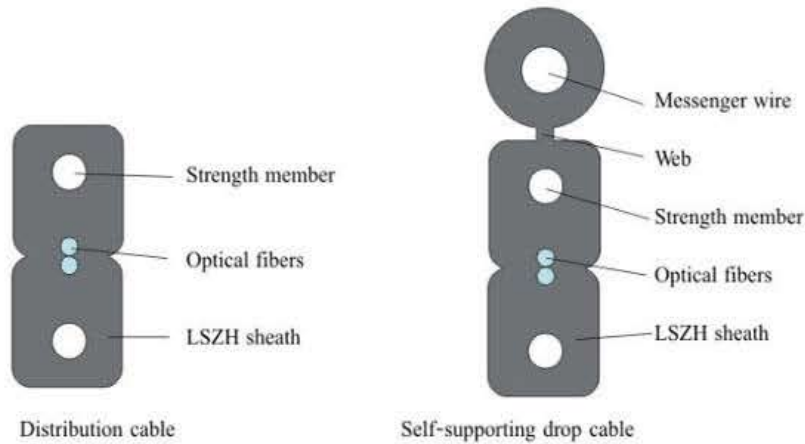
Item	Technical Performance	
Min. Bending Radius (mm)	Static state	10*OD
	Dynamic state	20*OD
Temperature	Installation	-15°C ~ +50°C
	Operation	-40°C ~ +60°C
	Storage & Transport	-40°C ~ +60°C

Others

Item	Content
Application	FTTH distribution section
Others	This product is mainly for the FTTH distribution section, esp. routing for the duct, non self-supporting, passageway and shaft. It is suitable for using with distribution box. The cable is designed 2 fibers in one tube for easily distribution. In the FTTH box, this cable can pass in/out the box with loose tube coiling type, without the splicing. So that, the cables splicing points are decreased, and the loss in the whole line is reduced.

FTTH Bow-type Optical Drop Cable for access network

Structure of Optical Cable



Construction Parameters

Cable type	Distribution cable		Self-supporting drop cable	
	1-4F	4F(Ribbon)	1-4F	4F(Ribbon)
Physical dimensions (mm)	2.0*3.1	2.0*4.1	2.0*5.0	2.0*6.0
Cable weight (kg/km)	8.0	10.0	20	23

Mechanical Specifications

Test item	Test standard	Technical performance			
			Distribution		Self-supporting
			Non-metallic	Metallic	
Max. tolerable tensile strength (N)	IEC 60794-E1	Long term	40	100	300
		Short term	80	200	600
Max. tolerable pressure (N/100mm)	IEC 60794-E3	Long term	500	500	1000
		Short term	1000	1000	2200

Environmental Specifications

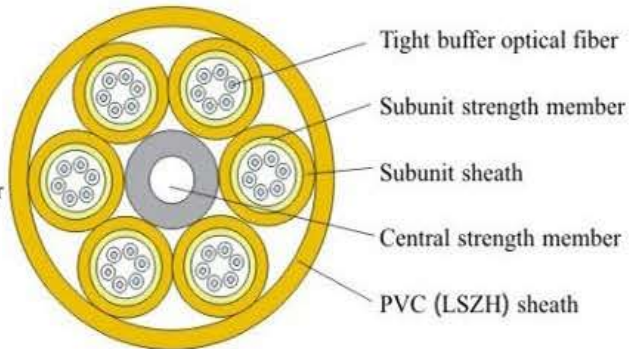
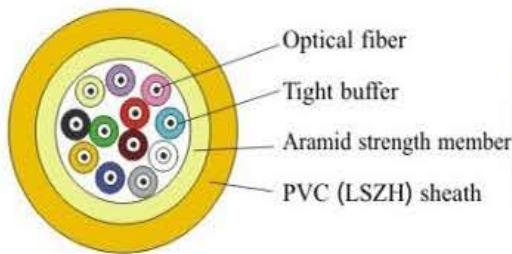
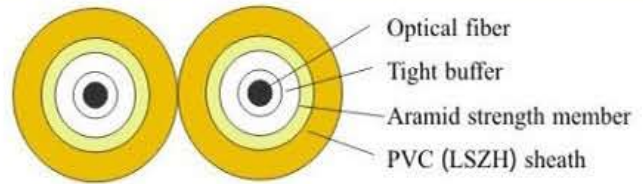
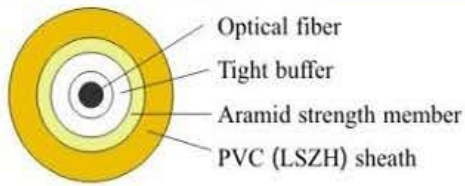
Item	Technical performance			
	Type of fiber	G.652B/D	G.657A1	G.657A2
Min. Bending Radius (mm)	Static state	30	15	10
	Dynamic state	60	30	25
Temperature	Installation	-5°C ~ +40°C		
	Operation	-20°C ~ +50°C		
	Storage & Transport	-20°C ~ +50°C		

Others

Item	Content
Application	<p>Bow-type drop cable can be installed in the shafts, closed conduits and ceilings within the buildings. The self-supporting Bow-type optical cable, combining the characteristics of outdoor and indoor optical cable, can meet both of the requirements of two different environments. When used in the outdoor overhead situation, the extra messenger wire and hooks can not be used, so the installation is very convenient. When used in the indoor situation, the cable can be fixed directly on the wall after removing the messenger wire.</p> <p>When removing the messenger wire, no special tools will be used. The self-supporting Bow-type optical cable is suitable for independent houses, villas and so on.</p>

Indoor Optical Cable

Structure of Optical Cable



Structural characteristics

Indoor optical cable is consisted of one or more tight tubes wrapping with a layer of high-strength aramid yarn and fire-retardant PVC or non-halogen polythene sheath.

Scope of application

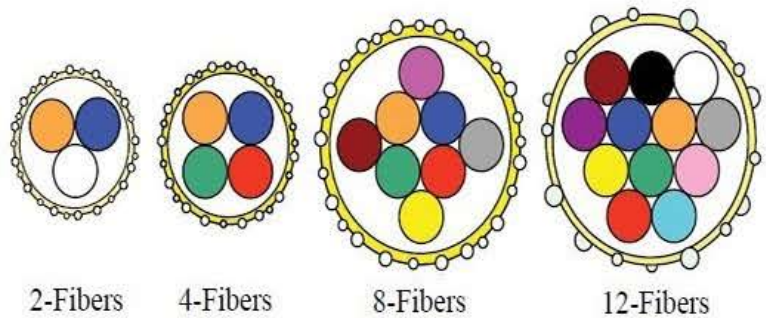
Mainly applied to transmission equipment, switching equipment, data processing and communications & transport networks as optical transmission lines, can also be used as pigtail cable, active link or jumper of communication or other kind of equipment.



Technical specification

Fiber count	Structure	Outer diameter (mm)	Tolerable Max. Short-term Tension(N)	Tolerable Max. Long-term Tension(N)	Tolerable Max. Short-term Pressure (N/10cm)	Tolerable Max. Long-term Pressure (N/10cm)	Min. Bending Radius	
							Static	Dynamic
1	/	2.0	60	30	500	100	10D	20D
1	/	3.0	100	60	500	100	10D	20D
2	/	2.0*4.1	120	60	500	100	10D	20D
2	/	3.0*6.1	200	100	500	100	10D	20D
4	/	5.0	440	130	1000	200	10D	20D
6	/	5.5	440	130	1000	200	10D	20D
8	/	5.8	440	130	1000	200	10D	20D
12	/	6.2	440	130	1000	200	10D	20D
24	4 units	15.6	2000	500	1000	200	10D	20D
48	4 units	17.6	2000	500	1000	200	10D	20D
72	6 units	21.2	2000	500	1000	200	10D	20D
96	8 units	25.0	2000	500	1000	200	10D	20D

Structure of Optical Cable



- Small diameter, lightweight, high flexibility
- Designed with special grooves to advance blowing performance
- Designed with no gel, easy stripping and handling
- The flexibility to install from 2 to 12 fibers per microduct

Construction Parameters

Fiber Count	2~4	8	12
Cable outer diameter (mm)	1.02 ± 0.06	1.40 ± 0.05	1.60 ± 0.10
Cable weight (Kg/km)	0.90 ± 0.05	1.70 ± 0.08	2.20 ± 0.10
Min. Bending Radius (mm)	50	80	80

Environmental Specifications

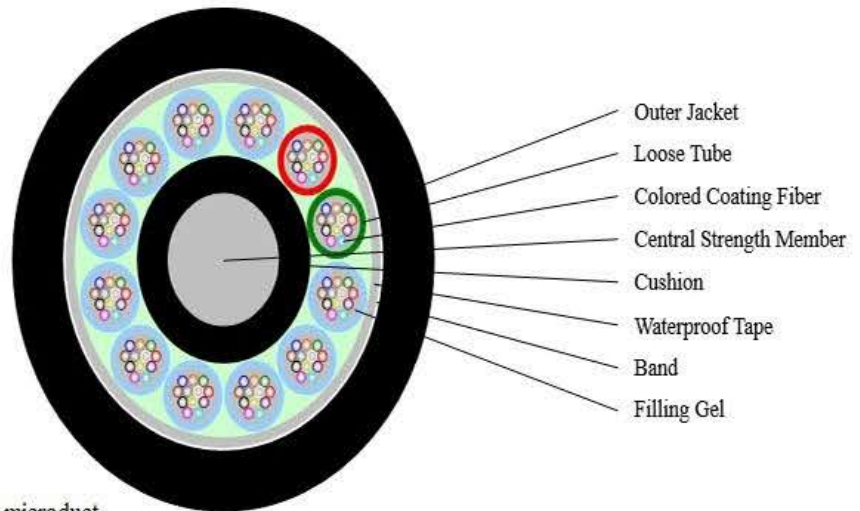
Item	Technical Performance	
Temperature	Installation	-5°C ~ +50°C
	Operation	-20°C ~ +60°C
	Storage & Transport	-30°C ~ +60°C

Others

Item	Content
Application	Small diameter, lightweight, high flexibility and proper stiffness, it can be blown into the micro duct of 5/3.5mm. The fiber are coated with soft acrylate resin which provides excellent dimensional and thermal stability to cushion the fibers.
Others	Simple & cost effective solution, the use of Air blown fiber systems gives complete freedom from risk by pre-installing a ducting route, then blowing in the fiber cable when required.



Structure of Optical Cable



- Small diameter, high fiber capacity
- Coloured binder threads for easily identifiable optical fiber bundles
- High installation tensile load rating
- The flexibility to install from 2 to 144 fibers per microduct

Construction Parameters

Fiber Count	2~72	74~96	98~120	122~144
Cable outer diameter (mm)	6.0	7.0	8.1	9.1
Cable weight (KG/GM)	25	39	50	62

Mechanical Specifications

Test Item	Test Standard	Technical Performance	
Max. tolerable tensile Strength (N)	IEC 60794-E1	Long Term	200
		Short Term	400
Max. tolerable pressure (N/100mm)	IEC 60794-E3	Long Term	300
		Short Term	1000

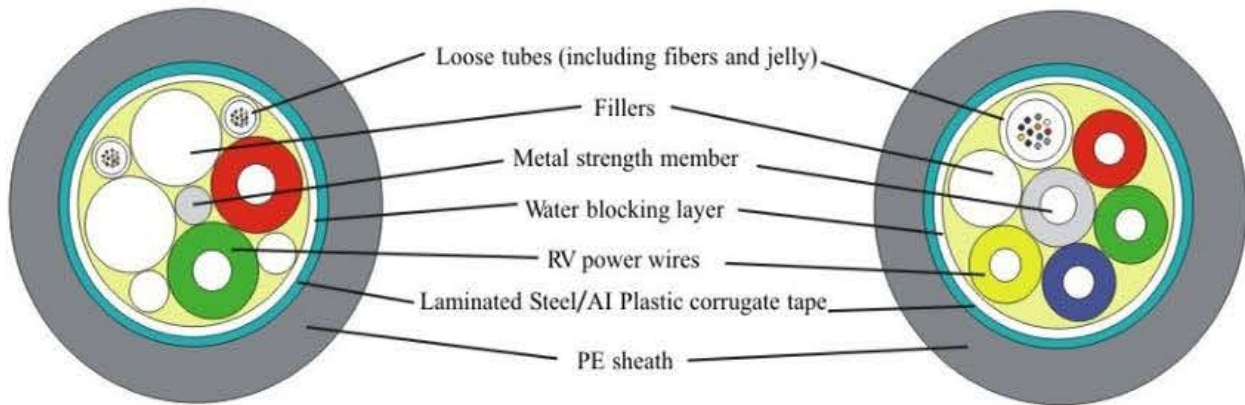
Environmental Specifications

Item	Technical Performance	
Min. Bending Radius (mm)	Static state	10*OD
	Dynamic state	20*OD
Temperature	Installation	-20°C~+60°C
	Operation	-40°C~+70°C
	Storage & Transport	-40°C~+70°C

Others

Item	Content
Application	Designed for long-haul, middle mile and metro loop Campus inter-building backbone distribution Low-cost fiber upgrade migration strategies
Others	Simple & cost effective solution, the use of Air blown fiber systems gives complete freedom from risk by pre-installing a ducting route, then blowing in the fiber cable when required.

Typical blended cable structure



- Metal strength member
- Loose tube & feeder line stranded, half-dry core
- Al/steel- PE bonded jacket, outdoor optical fiber cable

Mechanical specifications

Test item	Test standard	Technical performance	
		Long term	Short term
Max. tolerable tensile strength (N)	IEC 60794-E1	600	1500
		300	1000
Max. tolerable pressure (N/100mm)	IEC 60794-E3	300	1000
		1000	

Environmental Specifications

Item	Technical performance	
Min. Bending Radius (mm)	Static state	12.5 * OD
	Dynamic state	25 * OD
Temperature	Installation	-15°C ~ +50°C
	Operation	-40°C ~ +60°C
	Storage & Transport	-40°C ~ +60°C

Feeder line technical standard

Item	Reference standard
Copper conductor	Meet the requirement of item 5 (soft copper conductor) in GB/T 3956-2008/IEC 60228.
Insulation	Meet the requirement of RV cable standard in GB/T 5023.3-2008/IEC 60227.3.

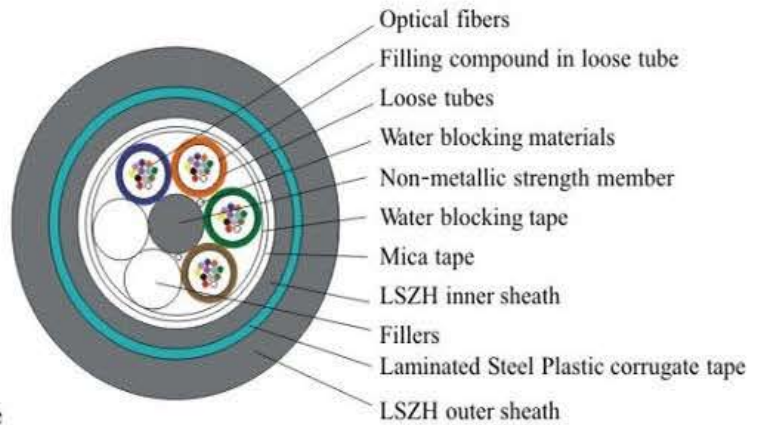
Others

Item	Content
Application	For duct installation. For telecommunication in short range, and remote power supply
Others	The outer jacket materials can be decided by the customers, such as LSZH, with good fire-resistance, and no-toxic, no pollution. The cable structure can be designed by the customers too.

Fire Resistance Optical Cable - (2-144)F



Structure of Optical Cable



- Non-metallic strength member
- Filled & stranded loose tube layer, Dry core
- Mica tape+LSZH inner sheath
- Corrugated steel tape armor longitudinally wrapped
- LSZH sheathed Fire Resistance optical cable

Construction Parameters

Fiber count	2~36	38~72	74~96	98~144
cable outer diameter (mm)	15.0	15.4	16.8	19.6
cable weight (kg/km)	255	265	310	400

Mechanical Specifications

Test item	Test standard	Technical Performance	
Max. tolerable tensile strength (N)	IEC 60794-E1	Long term	1000
		Short term	3000
Max. tolerable pressure (N/100mm)	IEC 60794-E3	Long term	1000
		Short term	3000

Environmental Specifications

Item	Technical Performance	
Min. Bending Radius (mm)	Static state	12.5*OD
	Dynamic state	25*OD
Temperature	Installation	-15°C ~ +50°C
	Operation	-40°C ~ +60°C
	Storage & Transport	-40°C ~ +60°C

Others

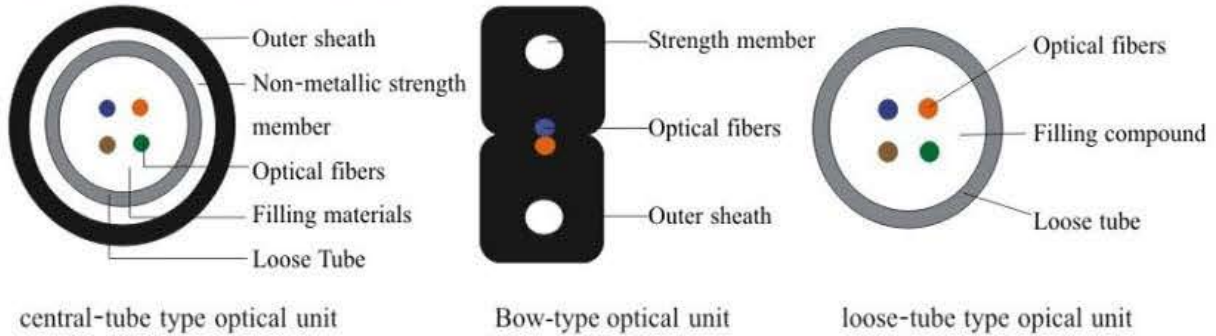
Item	Content
Application	This product is used in airport, subway, high-speed rail, oil, mine and some other system telecommunication. The cable can ensure the main system operation for a long time when fire happens.
Others	The fire-resistance performance of this product can meet the requirement of IEC 60331-25 (750°C 90min) and BS 6387 AWX. And other performance meets the requirement of IEC 60793 and IEC 60794.

OPLC Optical Fiber Composite Low-voltage Power Cable

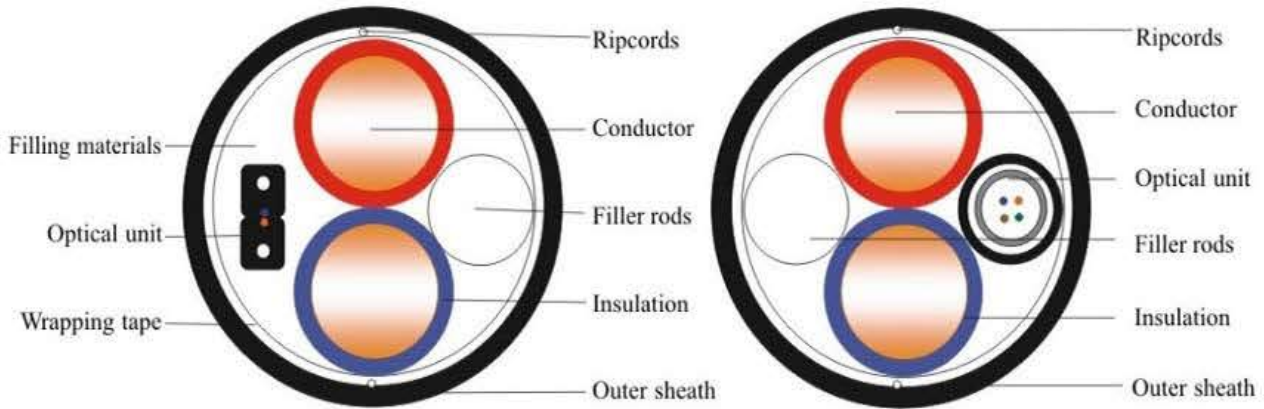
Products characteristics and usage

Optical Fiber Composite Low-voltage Power Cable, OPLC for short, embodies the optical transportation and power supply functions, with the features of reliable data transmission, low price, easy installation and etc. The cable combines optical cable and power cable together. Moreover, it has more advantages, such as small outer-dia., light weight, little space taking and etc. Then the construction cost decreased, and the telecommunication problem in power network can be solved. It is suitable for smart grid with fiber access and the distribution part in multi-network convergence.

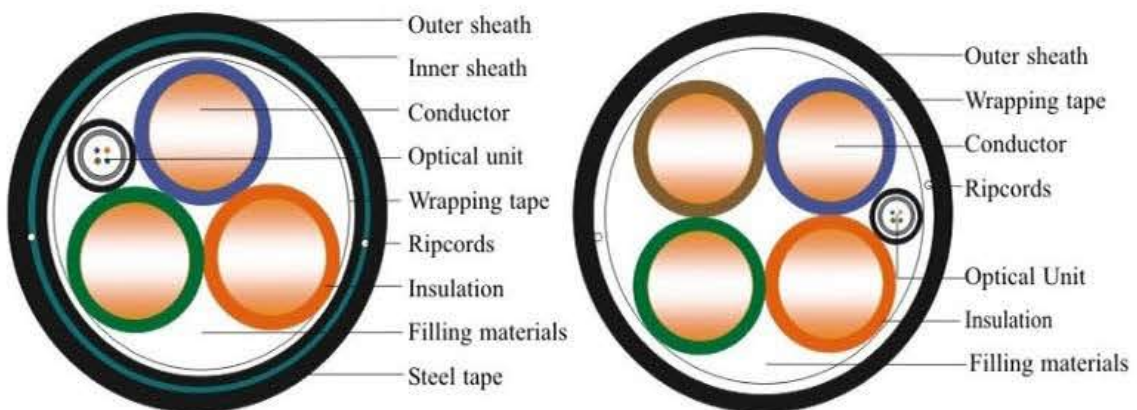
Typical optical optical unit structure in composite cable



Typical structure of optical fiber composite low-voltage power cable



Typical structure of Single phase two wire series optical fiber composite low-voltage power cable



Typical structure of single phase three wire series

Typical structure of three phase four wire series

Singlemode Fiber (ITU-T G.652B)

Characteristics		Units	Specified values
Optical Characteristics			
Type of fiber			Single Mode, Doped Silica
Attenuation	@1310nm @1550nm	dB/km	≤0.36 ≤0.22
Dispersion coefficient	@1288-1339nm @1271-1360nm @1550 nm	ps/(nm.km)	≤3.5 ≤5.3 ≤18
Zero dispersion wavelength		nm	1300 ~ 1324
Zero dispersion slope		ps/(nm ² km)	≤0.092
Polarization Mode Disperion PMD Max.Individual fiber PMD Link Design Value		ps/km ^{1/2}	≤0.2 ≤0.1
Cable cut-off wavelength λ _{cc}		nm	≤1260
Mode Field Diameter (MFD)	@1310nm @1550nm	μm	9.2 ± 0.4 10.4±0.8
Geometrical characteristics			
Cladding Diameter		μ m	125.0 ± 1.0
Cladding Non-Circularity		%	≤1.0
Coating Diameter		μ m	245 ± 10
Coating /Cladding Concentricity Error		μ m	≤ 12.0
Core/Cladding Concentricity Error		μ m	≤0.6
Curl (radius)		m	≥4
Mechanical characteristics			
Proof test	Off Line	N % kpsi	≥8.6 ≥1.0 ≥100
Bending Dependence Induced Attenuation @1550nm			
1 turn, φ 32mm diameter		dB	≤0.50
100 turns, φ 60mm diameter		dB	≤0.05
Environmental characteristics			
Temperature Dependence Induced Attenuation -60°C ~ + 85 °C @1310 &1550nm		dB/km	≤0.05
Temperature-humidity cycling Induced Attenuation -10°C ~ + 85 °C 90% R.H. @1310 &1550nm		dB/km	≤0.05
Damp Heat Dependence Induced Attenuation 85°C, 85% R.H. 30 days @1310 &1550nm		dB/km	≤0.05
Watersoak Dependence Induced Attenuation 20°C for 30 days @1310 &1550nm		dB/km	≤0.05

Singlemode Fiber (ITU-T G.652D)

Characteristics		Units	Specified Values
Optical Characteristics			
Type of fiber			Single Mode, Doped Silica
Attenuation	@1310nm @1383nm (after H2 aging) @1550nm @1625nm	dB/km	≤0.36 ≤0.35 ≤0.22 ≤0.24
Dispersion Coefficient	@1288-1339nm @1271-1360nm @1550nm	ps/(nm.km)	≤3.5 ≤5.3 ≤18
Zero Dispersion Wavelength		nm	1300~1324
Zero Dispersion Slope		ps/(nm ² .km)	≤0.092
Polarization Mode Dispersion			≤0.2
PMD Max, Individual Fiber		ps/km ^{1/2}	≤0.1
PMD Link Design Value			≤1260
Cable Cut-Off Wavelength λ _{cc}		nm	≤1260
Mode Field Diameter (MFD)	@1310nm @1550nm	μm	9.2±0.4 10.4±0.8
Geometrical Characteristics			
Cladding Diameter		μm	125.0±1.0
Cladding Non-Circularity		%	≤1.0
Coating Diameter		μm	245±10
Coating/Cladding Concentricity Error		μm	≤12.0
Core/Cladding Concentricity Error		μm	≤0.6
Curl (radius)		m	≥4
Mechanical Characteristics			
Proof Test	Off Line	N % kpsi	≥8.6 ≥1.0 ≥100
Bending Dependence Induced Attenuation	@1550nm		
1 turn, φ32mm diameter		dB	≤0.50
100 turns, φ 60mm diameter		dB	≤0.05
Enviromental Characteristics			
Temperature Dependence Induced Attenuation			
-60°C~ +85°C	@1310 & 1550nm	dB/km	≤0.05
Temperature-Humidity Cycling Induced Attenuation			
-10°C~ +85°C 90% R.H.	@1310 & 1550nm	dB/km	≤0.05
Damp Heat Dependence Induced Attenuation			
85°C, 85% R.H. 30 days	@1310 & 1550nm	dB/km	≤0.05
Watersoak Dependence Induced Attenuation			
20°C for 30 days	@1310 & 1550nm	dB/km	≤0.05

Singlemode Fiber (ITU-T G.655C)

Characteristics		Units	Specified values
Optical Characteristics			
Type of fiber			Single Mode, Doped Silica
Attenuation	@1550nm	dB/km	≤0.22
	@1625nm		≤0.24
Dispersion Coefficient	@1530-1565nm	ps/(nm.km)	2.0~6.0
	@1565-1625nm		4.5~11.2
Zero Dispersion Wavelength		nm	≤1520
Dispersion Slope	@1550nm	ps/(nm ² .km)	≤0.084
Polarization Mode Disperion		ps/km ^{1/2}	≤0.2
PMD Max.Individual fiber			≤0.1
PMD Link Design value			
Cable Cut-Off Wavelength λ _{cc}		nm	≤1450
Mode Field Diameter (MFD)	@1550nm	μ m	9.6 ± 0.5
Geometrical characteristics			
Cladding Diameter		μ m	125.0 ± 1.0
Cladding Non-Circularity		%	≤1.0
Coating Diameter		μ m	245 ± 10
Coating /Cladding Concentricity Error		μ m	≤ 12.0
Core/Cladding Concentricity Error		μ m	≤0.6
Curl (radius)		m	≥4
Mechanical characteristics			
Proof test	Off Line	N	≥8.6
		%	≥1.0
		Kpsi	≥100
Bending Dependence Induced Attenuation @1550nm			
1 turn, φ 32mm diameter		dB	≤0.50
100 turns, φ 60mm diameter		dB	≤0.05
Environmental characteristics @1550nm & 1625nm			
Temperature Dependence Induced Attenuation -60°C ~ + 85 °C		dB/km	≤0.05
Temperature-humidity cycling Induced Attenuation -10°C ~ + 85 °C 90% R.H.		dB/km	≤0.05
Damp Heat Dependence Induced Attenuation 85°C, 85% R.H. 30 days		dB/km	≤0.05
Watersoak Dependence Induced Attenuation 20°C for 30 days		dB/km	≤0.05

Singlemode Fiber (ITU-T G.657A)

Characteristics		Units	Specified Values
Optical Characteristics			
Type of fiber		Single Mode, Doped Silica	
Attenuation	@1310nm @1383nm (after H2 aging) @1490nm @1550nm @1625nm	dB/km	≤0.36 ≤0.36 ≤0.25 ≤0.22 ≤0.24
Zero Dispersion Wavelength		nm	1300~1324
Zero Dispersion Slope		ps/(nm ² .km)	≤0.092
Cable Cut-Off Wavelength λ _{cc}		nm	≤1260
Mode Field Diameter (MFD)	@1310nm @1550nm	μm	(8.6-8.8)±0.4 (9.6-9.8)±0.8
Geometrical Characteristics			
Cladding Diameter		μm	125.0±0.7
Cladding Non-Circularity		%	≤0.7
Coating Diameter		μm	245±5
Coating/Cladding Concentricity Error		μm	≤12.0
Core/Cladding Concentricity Error		μm	≤0.5
Curl (radius)		m	≥4
Mechanical Characteristics			
Proof Test	Off Line	N % kpsi	≥8.6 ≥1.0 ≥100
Bending Dependence Induced Attenuation			
1 turn, φ 15mm	@1550nm	dB	≤0.5
1 turn, φ 15mm	@1625nm	dB	≤1.0
1 turn, φ 20mm	@1550nm	dB	≤0.1
1 turn, φ 20mm	@1625nm	dB	≤0.2
10 turn, φ 30mm	@1550nm	dB	≤0.03
10 turn, φ 30mm	@1625nm	dB	≤0.1
Environmental Characteristics			
Temperature Dependence Induced Attenuation -60°C~ +85°C @1310 & 1550nm		dB/km	≤0.05
Temperature-Humidity Cycling Induced Attenuation -10°C~ +85°C 90% R.H. @1310 & 1550nm		dB/km	≤0.05
Damp Heat Dependence Induced Attenuation 85°C, 85% R.H. 30 days @1310 & 1550nm		dB/km	≤0.05
Watersoak Dependence Induced Attenuation 20°C for 30 days @1310 & 1550nm		dB/km	≤0.05

Multimode Fiber (OM1/62.5/125 μ m)

Characteristics		Units	Specified values
Optical Characteristics			
Type of fiber			62.5/125 μ m, Multimode
Attenuation	@850nm	dB/km	≤ 2.7
	@1300nm		≤ 0.6
Minimum Modal bandwidth	@850nm	MHz.km	≥ 200
	@1300nm		≥ 600
Numerical Aperture (NA)			0.275 ± 0.015
Geometrical Characteristics			
Core Diameter		μ m	62.5 ± 2.5
Cladding Diameter		μ m	125.0 ± 1.0
Cladding Non-Circularity		%	≤ 1.0
Coating Diameter		μ m	245 ± 10
Coating/Cladding Concentricity Error		μ m	≤ 12.0
Core/Cladding Concentricity Error		μ m	≤ 1.5
Mechanical Characteristics			
Proof test	Off Line	N	≥ 8.6
		%	≥ 1.0
		kpsi	≥ 100
Bending Dependence Induced Attenuation @850 & 1300nm 100 turns, ϕ 60mm diameter		dB	≤ 0.50
Environmental characteristics 850nm & 1300nm			
Temperature Dependence Induced Attenuation $-60^{\circ}\text{C} \sim +85^{\circ}\text{C}$		dB/km	≤ 0.1
Temperature-Humidity Cycling Induced Attenuation $-10^{\circ}\text{C} \sim +85^{\circ}\text{C}$ 90% R.H.		dB/km	≤ 0.1
Damp Heat Dependence Induced Attenuation 85°C , 85% R.H. 30 days		dB/km	≤ 0.1
Watersoak Dependence Induced Attenuation 20°C for 30 days		dB/km	≤ 0.1

Multimode Fiber (OM2/50/125 μ m)

Characteristics		Units	Specified Values
Optical Characteristics			
Type of fiber			50/125 μ m, Multimode
Attenuation	@850nm	dB/km	≤ 2.5
	@1300nm		≤ 0.7
Minimum Modal Bandwidth	@850nm	MHz.km	≥ 600
	@1300nm		≥ 1200
Numerical Aperture (NA)			0.200 \pm 0.015
Geometrical Characteristics			
Core Diameter		μ m	50 \pm 2.5
Cladding Diameter		μ m	125 \pm 1.0
Cladding Non-Circularity		%	≤ 1.0
Coating Diameter		μ m	245 \pm 10
Coating/Cladding Concentricity Error		μ m	≤ 12.0
Core/Cladding Concentricity Error		μ m	≤ 1.5
Mechanical Characteristics			
Proof Test	Off Line	N	≥ 8.6
		%	≥ 1.0
		kpsi	≥ 100
Bending Dependence Induced Attenuation @ 850 & 1300nm 100 turns, ϕ 60mm diameter		dB	≤ 0.50
Environmental Characteristics 850nm & 1300nm			
Temperature Dependence Induced Attenuation -60°C~ +85°C		dB/km	≤ 0.1
Temperature-Humidity Cycling Induced Attenuation -10°C~ +85°C 90% R.H.		dB/km	≤ 0.1
Damp Heat Dependence Induced Attenuation 85°C, 85% R.H. 30 days		dB/km	≤ 0.1
Watersoak Dependence Induced Attenuation 20°C for 30 days		dB/km	≤ 0.1

Multimode Fiber (OM3/50/125 μ m)

Characteristics		Units	Specified values
Optical Characteristics			
Type of fiber			50/125 μ m, Multimode
Attenuation	@850nm	dB/km	≤ 2.5
	@1300nm		≤ 0.7
OFL Bandwidth	@850nm	MHz.km	≥ 1500
	@1300nm		≥ 500
Effective Modal Bandwidth	@ 850nm	MHz.km	≥ 2000
Application support distance on			
10 Gigabit Ethernet SX	@850nm	m	300
Gigabit Ethernet SX	@850nm		1000
Gigabit Ethernet SX	@1300nm		600
40&100 Gigabit Ethernet	@850nm		100
Numerical Aperture (NA)			0.200 ± 0.015
Geometrical Characteristics			
Core Diameter		μ m	50 ± 2.5
Cladding Diameter		μ m	125 ± 1.0
Cladding Non-Circularity		%	≤ 1.0
Coating Diameter		μ m	245 ± 10
Coating/Cladding Concentricity Error		μ m	≤ 12.0
Core/Cladding Concentricity Error		μ m	≤ 1.5
Mechanical Characteristics			
Proof test	Off Line	N	≥ 8.6
		%	≥ 1.0
		kpsi	≥ 100
Bending Dependence Induced Attenuation @850 & 1300nm 100 turns, ϕ 60mm diameter		dB	≤ 0.50
Environmental Characteristics 850nm & 1300nm			
Temperature Dependence Induced Attenuation -60 $^{\circ}$ C ~ + 85 $^{\circ}$ C		dB/km	≤ 0.1
Temperature-Humidity Cycling Induced Attenuation -10 $^{\circ}$ C ~ + 85 $^{\circ}$ C 90% R.H.		dB/km	≤ 0.1
Damp Heat Dependence Induced Attenuation 85 $^{\circ}$ C, 85% R.H. 30 days		dB/km	≤ 0.1
Watersoak Dependence Induced Attenuation 20 $^{\circ}$ C for 30 days		dB/km	≤ 0.1

The color identification of Loose Tube and Fiber

1- Fiber color code within the loose tube :

Number	1	2	3	4	5	6	7	8	9	10	11	12
Color	Blue	Orange	Green	Brown	Slate	Natural	Red	Black	Yellow	Violet	Pink	Aqua

Note: Full color code is used for optical fiber.

The color is selected from the above form, the nature color can be used when no effect on identification.

2- Loose tube color within the cable cord:

Both full color code and Red-Green leading color code can be used in loose tube.

Full color code

Number	1	2	3	4	5	6	7	8	9	10	11	12
Color	Blue	Orange	Green	Brown	Slate	Natural	Red	Black	Yellow	Violet	Pink	Aqua

Red-Green leading color code

Number	1	2	3	4	5	6	7	8	9	10	11	12
Color	Red	Green	Natural	Natural	Natural	Natural	Natural	Natural	Natural	Natural	Natural	Natural



Fiber Optic Product Catalog

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