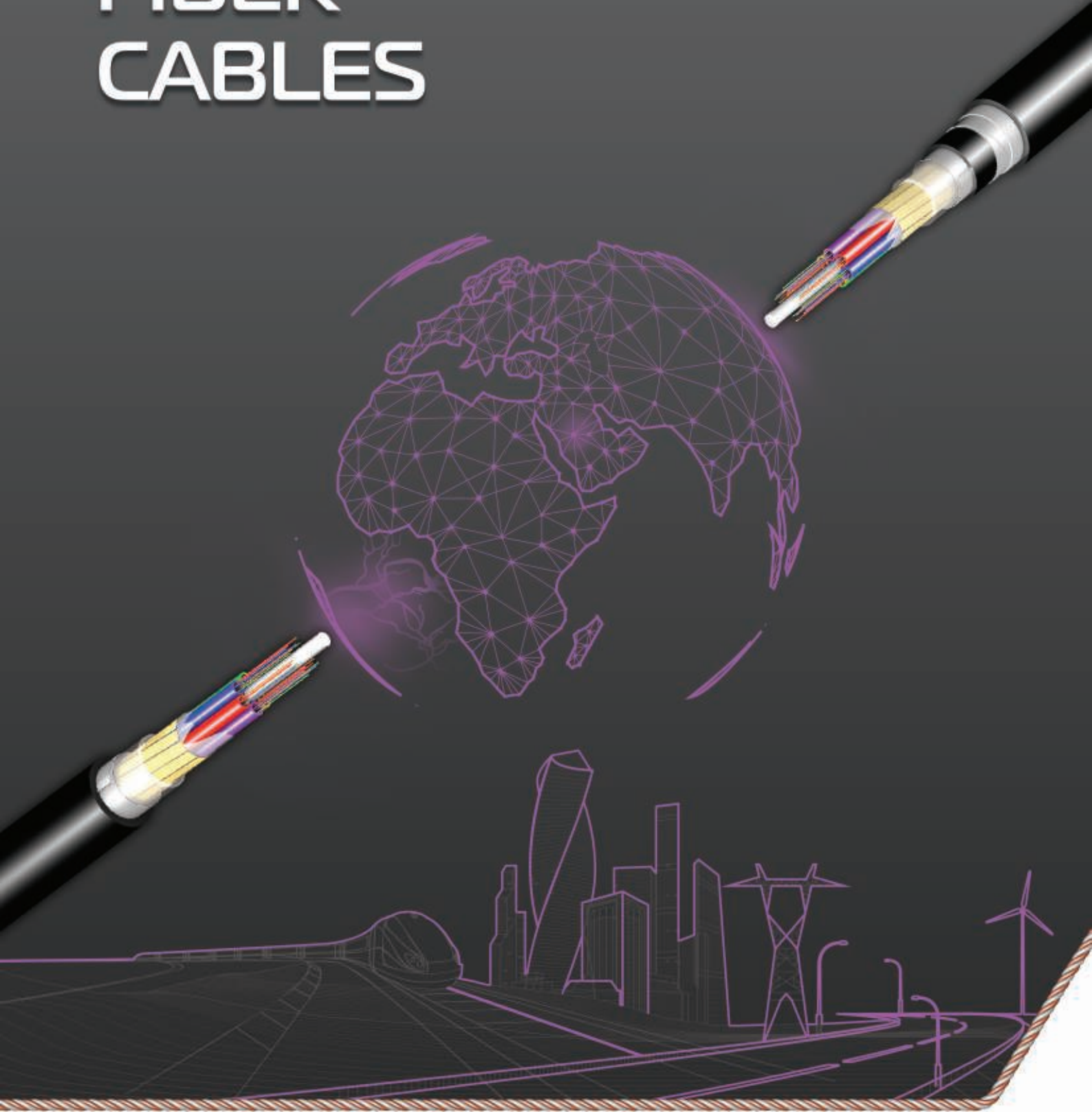


OPTICAL FIBER CABLES



شركة مجموعة كابلات الرياض
Riyadh Cables Group Company

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OPTICAL FIBRE CABLE PRODUCT CODES

1	2	3	4	5	6	7	8	9	10	11	12, 13
Finish Goods	O.Fiber Cable	1 st . Sheath Type	Cable Type	Screen Type	Armouring Type	lInd Sheath Type	No. of Fiber		Fiber Mode	Type of Fiber	Specification
0	F	E=Polye thylene.	F=Filled Outdoor	S= Metallic Moisture Barrier N=Non- Metallic B=No Screen	0=No. Armouring	0=No. lInd. Sheath	01	2-Fiber	1= 10/125/250	0=DISP. UNSHIFT (G.652B/D)	01=STC(OLD)
		R= Halogen Free	B=indoor Cable		W=G.S.W Armouring	E=Poly- ethylene	02	4-Fiber		02=ST-STC(OLD)	
							03	6-Fiber		03=SCECO (1.8MM LT)	
							04	8-Fiber		04=LT-1.8MM (2FLT & 4FLT)	
		0=No Sheath	M=Self Supporting Aerial		D=D.S.T Armouring	G=PE plus Graphite	05	10-Fiber		05=LT-2.0MM (6FLT & 8FLT)	
							06	12-Fiber		06=	
							07	14-Fiber		07=SAUDI ARAMCO (OLD)	
		P=PVC	A= Overhead Cable (Shape-8)		C=Corru. ECCS Tape Armouring		08	16-Fiber		08=	
							09	18-Fiber		09=	
				10			20-Fiber	10=			
		U= Uni-tube	W=Un- filled	G=Corru. G.S. Tape Armouring		11	22-Fiber	11=FRP-1.0(12F/LT-1.5/1.9) STC			
						12	24-Fiber	12=FRP-1.0(12F/LT-1.5/1.9)ST-STC			
						13	30-Fiber	-			
		L=LT Indoor	Z=Blown Duct	A=YARN Armouring		14	32-Fiber	2= 50/125/250	0=Graded Index	-	
						15	36-Fiber		1=Step Index	-	
						16	48-Fiber			21=FRP-2.0(12F/LT-1.5/1.9)STC	
		T=Three Sheath		L=Lead		17	72-Fiber	3= 62.5/125/250	0=Graded Index	22=FRP-2.0(12F/LT-1.5/1.9)ST-STC	
						18	96-Fiber		1=Step Index	23=	
						19	128-Fiber			24=MOBILY	
				X=Lead Plus SWA		20	60-Fiber	4= 10/125/250 + 62.5/125/250	0= SM DISP. UNSHIFTED + MM Graded Index	25=	
						21	40-Fiber			26=	
						22	26-Fiber			27= SAUDI ARAMCO (NEW)	
				P= Aluminoweld		23	28-Fiber				
						24	34-Fiber				
						25	38-Fiber				
				U=Under Water		26	42-Fiber				
						27	44-Fiber				
						28	46-Fiber				
						29	50-Fiber				
						30	52-Fiber				
						31	54-Fiber				
						32	56-Fiber				
						33	58-Fiber				
						34	62-Fiber				
						35	64-Fiber				
						36	66-Fiber				
						37	68-Fiber				
						38	70-Fiber				
						39	84-Fiber				
						40	144-Fiber				
						41	108-Fiber				
						42	120-Fiber				
						43	124-Fiber				
						44	132-Fiber				
						45					
						46					

OPTICAL FIBRE PLANT

Based on high technology manufacturing process and the most modern up-to-date state-of-the-art production facilities, the plant started production in 1995, with total commitment in producing high quality Optical Fibre Cables.

RIYADH TELEPHONE CABLES produces all types of Cables in accordance with Saudi as well as other recognized international standards.

SALIENT FEATURES OF DESIGN

The Cable is to be used in telecommunication networks on trunk or interexchange routes. The cables may be hauled into ducts and sub-ducts or direct buried by ploughing or trenching. The cable is filled loose tube type for outdoor cable and tight buffer type for indoor cable. For outdoor cable, it may incorporate a metal moisture barrier or may be metal free.

- Non-toxic and dermatologically safe material used.
- Designed for fault free service for forty years without detriment to transmission or operation and maintenance characteristics of the cable.
- Environmental Condition

Ambient temperature	°C	0 to 55
Operating temperature	°C	-40 to 70
Relative humidity	%	5 to 95
Storage temperature	°C	-20 to 70
- Tensile Load (Maximum)

Indoor	Outdoor(D/B&DUCT)	Armoured	Aerial
1KN	3KN	4 KN	5KN
- **CRUSH RESISTANCE**

Indoor	Outdoor (D/B & Duct)	Armoured
1 KN/5 min	2KN/10min	3KN/10min
- Cable lengths

Indoor	Outdoor Direct Burial	Outdoor Duct
500/1000m	2000/3000/6000m	2000/3000/6000m
Other lengths can be provided, on request.		

- 
- Minimum Bending Radius

10 x cable diameter (no load)
15 x cable diameter (full load)

-
- Longitudinally water tight cable
-

- Mechanically rugged - Cable meets the stringent test requirement of temperature variation, tensile, crush resistance, impact, repeated bending and bending requirement.

- **DIFFERENT TYPES OF FIBRES USED IN FIBRE OPTIC CABLES**

- (a) **Single Mode Fibres:-**

- (1) Single Mode Fibre, Dispersion - Unshifted (Normal Fibre)
Complying to ITU-T G.652D
 - (2) Single Mode Fibre, Dispersion shifted Complying to ITU-T G.653
 - (3) Single Mode Fibre, Non-Zero Dispersion shifted Complying to ITU-T G.655 & G.656
 - (4) Single Mode fibers, complying to ITU-T-G.657 A & B

- (b) **Multi Mode Fibres:-**

- (1) Multimode Fibre (62.5/125/250 mm)
 - (2) Multimode Fibre (50/125/250 mm)
Complying to ITU-T G.651



GENERAL OUTDOOR CABLE DESCRIPTION

Loose tube type cables are designed to provide highly reliable transmission quality and an excellent environment required for high class fibre performance. These loose tubes are so designed to keep the fibres free from external mechanical forces present on the cable with the help of thixotropic jelly inside and having enough inside diameter of the loose tube for free movement of fibre. Each cable is designed for continuous operation even in severe environmental conditions and can be manufactured from 2F to 288F cables. These loose tubes are SZ stranded around a central strength member (CSM). Commonly used is FRP (Fibre Reinforced Plastic), but Steel can be used if required. This type of loose tube design is used for all types of outdoor fibre optic cables.

GENERAL INDOOR CABLE DESCRIPTION

Loose Buffer type cables are designed for indoor use to provide highly reliable transmission quality in a controlled environment. Each cable is designed for continuous operation and can be manufactured from 2 fibres to 144 fibres. These loose buffers are SZ stranded in one or two layers around a central strength member (CSM). Commonly used is FRP (Fibre Reinforced Plastic), This type of buffer design is used for all types of indoor fibre optic cables. This type of cable is easy to handle and install. Loose tube design, dry core: single mode (G652D) indoor cable from 2 f to 144f. Single can be manufactured.

STANDARD COLOUR CODING

Our standard colour coding for fibres (12-colour) are; Blue, Orange, Green, Brown, Grey, White, Red, Black, Yellow, Violet, Pink, Turquoise and our loose tube colours commonly used are; 1st. Blue, 2nd. Orange, and rest all natural or the loose tube colour sequence same as fibre colour sequence or as per customer requirement.

APPLICABLE STANDARDS

Our fibres meet all the requirements of ITU - T recommendations and our cable meets all the requirements of IEC - 60793 & 60794, EN - 187000, EIA/TIA Standards.



STANDARD SPECIFICATIONS

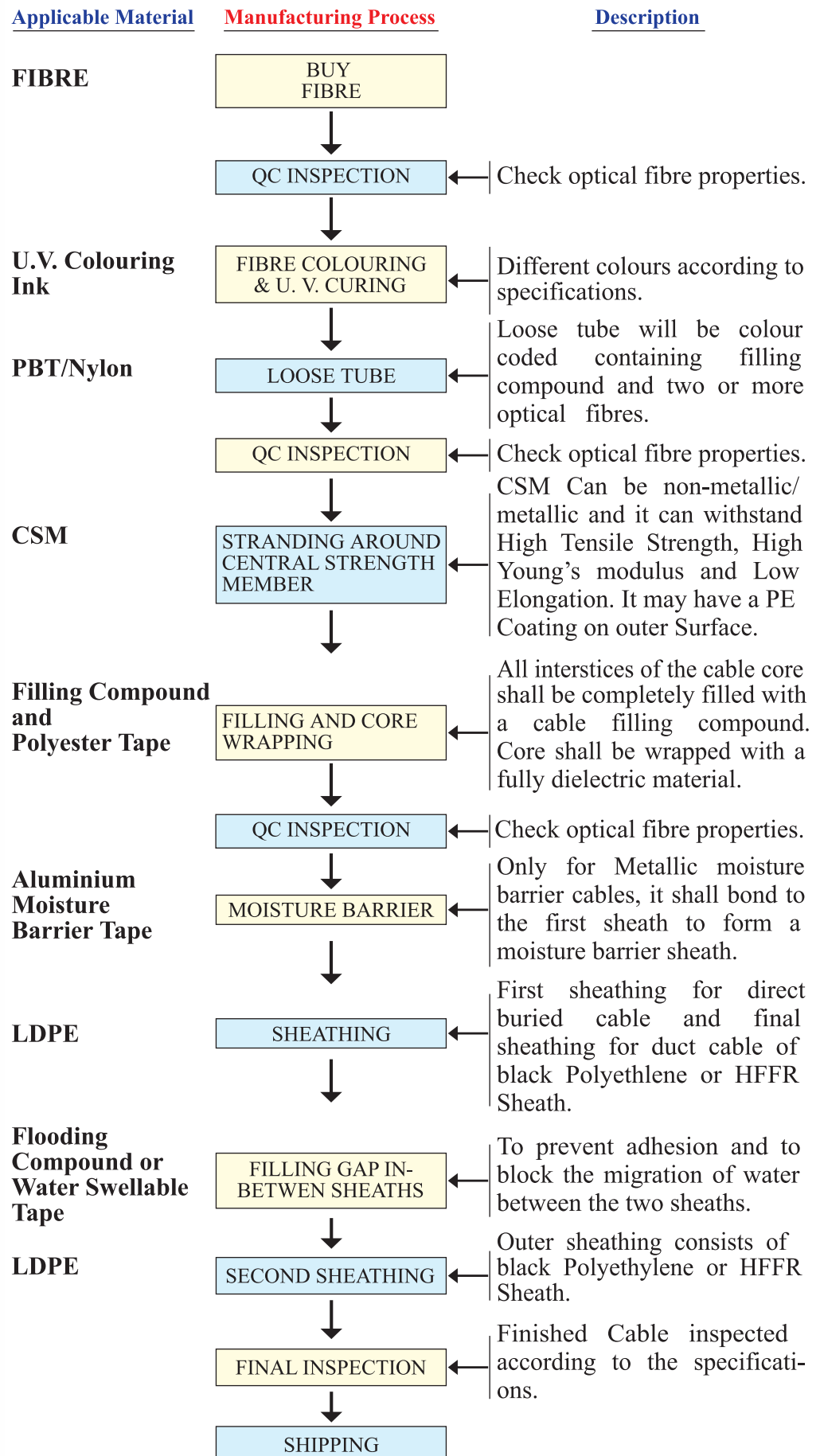
Our cable meets all the Local/International standard specifications such as STC specifications and , Saudi Aramco and Saudi Electric Company etc. See more information for ordering of our standard fibre optic cable design in this catalogue.

Cables with different values to those listed can be designed to meet individual customers specifications if required.

COMPANY QUALITY POLICY

Our company quality policy is to supply our customers with products, that fully comply to their requirements. Our Company has been ISO Certified Since 1994 by TUV Certification body for QM-system of RWTUV System GmbH, and fulfill all the requerments of ISO 9001:2008 / EN ISO 9001: 2008

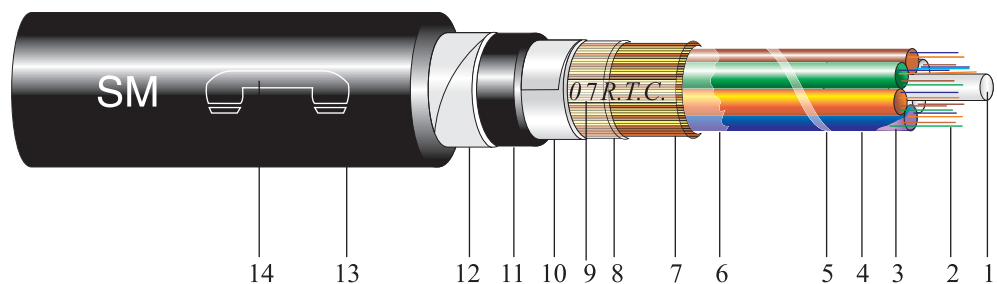
PROCESS FLOW CHART FOR OUTDOOR OPTICAL FIBRE CABLES



OUTDOOR DIRECT BURIED CABLE

METALLIC

PRODUCT CODE : FEFSE



1. CSM
2. FIBRE
3. THIXOTROPIC JELLY
4. LOOSE TUBE
5. BINDER TAPE
6. FILLING COMPOUND
7. HIGH STRENGTH YARN
8. CORE WRAPPING TAPE
9. IDENTIFICATION TAPE
10. ALUMINIUM MOISTURE BARRIER
11. INNER P.E. SHEATH BLACK
12. FLOODING COMPOUND OR SWELLABLE TAPE
13. OUTER P.E. SHEATH BLACK
14. SHEATH MARKING

DESCRIPTION

Primary coated Single Mode Fibre, filled, loose tubes, assembled around the Central Strength Member (CSM), filled core, metallic Moisture Barrier, Polyethylene sheathed optical fibre telecommunication cables, complying with National and International Standard Specifications.

APPLICATION

Single Mode Optical Fibre Cables generally used for out-door telecommunication networks on trunk or inter-exchange routes.

RELATED SPECIFICATION

IEC-60793

IEC-60794

STANDARD CABLE DIMENSIONS FEFSE

SINGLE MODE FIBER CABLES WITH ITU-T-G.652D

RTC Product Code	Number of Fibers	Outer Diameter Approx. (mm)	Net Weight Approx. (kg/km)
0FEFS0E031021	6	13.2	152
0FEFS0E041021	8	13.2	152
0FEFS0E051021	10	13.2	152
0FEFS0E061021	12	13.2	152
0FEFS0E081021	16	13.2	152
0FEFS0E101021	20	13.2	152
0FEFS0E121021	24	13.2	152
0FEFS0E151021	36	13.2	152
0FEFS0E161021	48	13.2	152
0FEFS0E201021	60	13.2	152
0FEFS0E381021	70	13.2	152
0FEFS0E171021	72	13.2	152
0FEFS0E391021	84	13.7	163
0FEFS0E181021	96	14.2	176
0FEFS0E191021	128	16.0	221
0FEFS0E401021	144	16.6	236

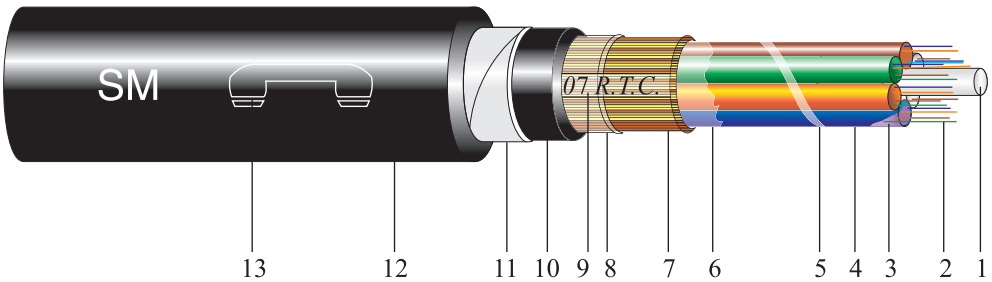
Note: Cable dimensions may vary according to customer's requirement.



OUTDOOR DIRECT BURIED CABLE

METAL FREE

PRODUCT CODE : FEFNE



1. CSM

2. FIBRE

3. THIXOTROPIC JELLY

4. LOOSE TUBE

5. BINDER TAPE
6. FILLING COMPOUND

7. HIGH STRENGTH YARN

8. CORE WRAPPING TAPE

9. IDENTIFICATION TAPE

10. INNER P.E. SHEATH BLACK
11. FLOODING COMPOUND OR SWELLABLE TAPE

12. OUTER P.E. SHEATH BLACK

13. SHEATH MARKING

DESCRIPTION

Primary coated Single Mode Fibre, filled, loose tubes, assembled around the Central Strength Member (CSM), filled core, core wrap, non-metallic Moisture Barrier, Polyethylene sheathed optical fiber telecommunication cables, complying with National and International Standard Specifications.

APPLICATION

Single Mode Optical Fibre Cables generally used for out-door telecomm-unication networks on trunk or inter-exchange routes.

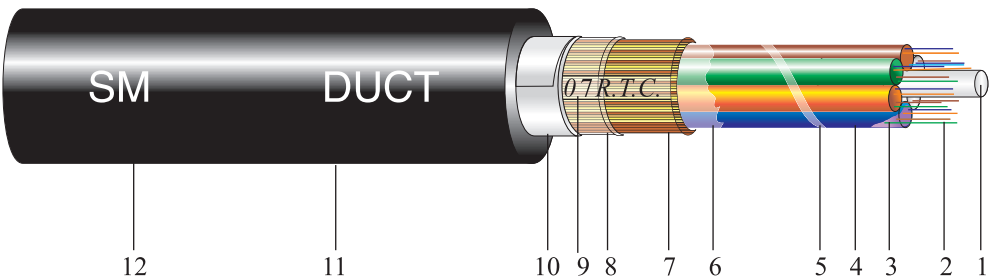
RELATED SPECIFICATION

IEC-60793
IEC-60794

STANDARD CABLE DIMENSIONS FEFNE
SINGLE MODE FIBER CABLES WITH ITU-T-G.652D

RTC Product Code	Number of Fibers	Outer Diameter Approx. (mm)	Net Weight Approx. (kg/km)
0FEFN0E031021	6	12.3	119
0FEFN0E041021	8	12.3	119
0FEFN0E051021	10	12.3	119
0FEFN0E061021	12	12.3	119
0FEFN0E081021	16	12.3	119
0FEFN0E101021	20	12.3	119
0FEFN0E121021	24	12.3	119
0FEFN0E151021	36	12.3	119
0FEFN0E161021	48	12.3	119
0FEFN0E201021	60	12.3	119
0FEFN0E381021	70	12.3	119
0FEFN0E171021	72	12.3	119
0FEFN0E391021	84	12.8	131
0FEFN0E181021	96	13.3	141
0FEFN0E191021	128	15.1	182
0FEFN0E401021	144	15.7	197

Note: Cable dimensions may vary according to customer's requirement.



1. CSM
2. FIBRE
3. THIXOTROPIC JELLY
4. LOOSE TUBE
5. BINDER TAPE
6. FILLING COMPOUND
7. HIGH STRENGTH YARN
8. CORE WRAPPING TAPE
9. IDENTIFICATION TAPE
10. ALUMINIUM MOISTURE BARRIER
11. OUTER PE SHEATH BLACK
12. SHEATH MARKING

DESCRIPTION

Primary coated Single Mode Fibre, filled, loose tubes, assembled around the Central Strength Member (CSM), filled core, metallic Moisture Barrier, Polyethylene sheathed optical fibre telecommunication cables, complying with National and International Standard Specifications.

APPLICATION

Single Mode Optical Fibre Cables generally used for out-door telecommunication networks on trunk or inter-exchange routes.

RELATED SPECIFICATION

IEC-60793
IEC-60794

STANDARD CABLE DIMENSIONS FEFS SINGLE MODE FIBER CABLES WITH ITU-T-G.652D

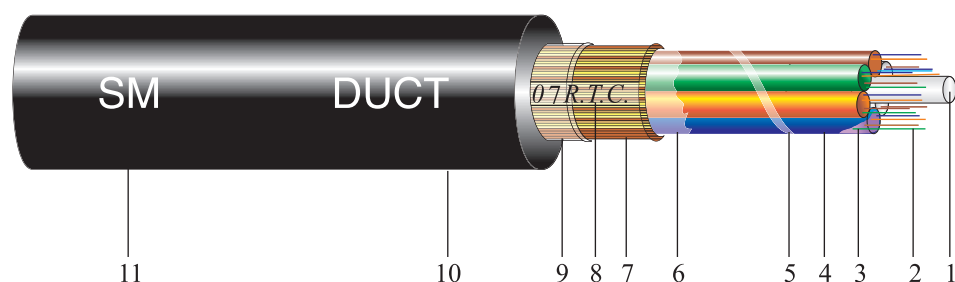
RTC Product Code	Number of Fibers	Outer Diameter Approx. (mm)	Net Weight Approx. (kg/km)
0FEFS00031021	6	10.6	105
0FEFS00041021	8	10.6	105
0FEFS00051021	10	10.6	105
0FEFS00061021	12	10.6	105
0FEFS00081021	16	10.6	105
0FEFS00101021	20	10.6	105
0FEFS00121021	24	10.6	105
0FEFS00151021	36	10.6	105
0FEFS00161021	48	10.6	105
0FEFS00201021	60	10.6	105
0FEFS00381021	70	10.6	105
0FEFS00171021	72	10.6	105
0FEFS00391021	84	11.1	115
0FEFS00181021	96	11.6	127
0FEFS00191021	128	13.4	165
0FEFS00401021	144	14.0	178

Note: Cable dimensions may vary according to customer's requirement.

OUTDOOR DUCT CABLE

METAL FREE

PRODUCT CODE : FEFN



- | | | |
|----------------------|------------------------|-----------------------------|
| 1. CSM | 5. BINDER TAPE | 9. CORE WRAPPING TAPE |
| 2. FIBRE | 6. FILLING COMPOUND | 10. OUTER P.E. SHEATH BLACK |
| 3. THIXOTROPIC JELLY | 7. HIGH STRENGTH YARN | 11. SHEATH MARKING |
| 4. LOOSE TUBE | 8. IDENTIFICATION TAPE | |

DESCRIPTION

Primary coated Single Mode Fibre, filled, loose tubes, assembled around the Central Strength Member (CSM), filled core, core wrap, non-metallic Moisture Barrier, Polyethylene sheathed optical fibre telecommunication cables, complying with National and International Standard Specifications.

APPLICATION

Single Mode Optical Fibre Cables generally used for out-door telecommunication networks on trunk or inter-exchange routes.

RELATED SPECIFICATION

IEC-60793

IEC-60794

STANDARD CABLE DIMENSIONS FEFN

SINGLE MODE FIBER CABLES WITH ITU-T-G.652D

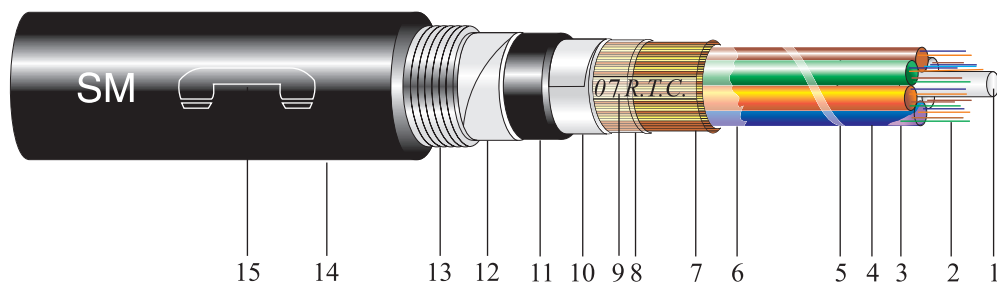
RTC Product Code	Number of Fibers	Outer Diameter Approx. (mm)	Net Weight Approx. (kg/km)
0FEFN00031021	6	9.7	75
0FEFN00041021	8	9.7	75
0FEFN00051021	10	9.7	75
0FEFN00061021	12	9.7	75
0FEFN00081021	16	9.7	75
0FEFN00101021	20	9.7	75
0FEFN00121021	24	9.7	75
0FEFN00151021	36	9.7	75
0FEFN00161021	48	9.7	75
0FEFN00201021	60	9.7	75
0FEFN00381021	70	9.7	75
0FEFN00171021	72	9.7	75
0FEFN00391021	84	10.2	85
0FEFN00181021	96	10.7	92
0FEFN00191021	128	12.5	125
0FEFN00401021	144	13.1	136

Note: Cable dimensions may vary according to customer's requirement.

OUTDOOR DIRECT BURIED CABLE

CORRUGATED STEEL TAPE ARMoured

PRODUCT CODE : FEFSCE



1. CSM
2. FIBRE
3. THIXOTROPIC JELLY
4. LOOSE TUBE
5. BINDER TAPE
6. FILLING COMPOUND
7. HIGH STRENGTH YARN
8. CORE WRAPPING TAPE
9. IDENTIFICATION TAPE
10. ALUMINIUM MOISTURE BARRIER
11. INNER P.E. SHEATH BLACK
12. FLOODING COMPOUND OR SWELLABLE TAPE
13. CORRUGATED STEEL TAPE
14. OUTER P.E. SHEATH BLACK
15. SHEATH MARKING

DESCRIPTION

Primary coated Single Mode Fibre, filled, loose tubes, assembled around the Central Strength Member (CSM), filled core, metallic Moisture Barrier, Inner Polyethylene sheath, Corrugated Steel Tape Armoured, Polyethylene sheathed optical fibre telecommunication cables, complying with National and International Standard Specifications.

APPLICATION

Single Mode Optical Fibre Cables generally used for out-door telecommunication networks on trunk or inter-exchange routes.

RELATED SPECIFICATION

IEC-60793

IEC-60794

STANDARD CABLE DIMENSIONS FEFSCE

SINGLE MODE FIBER CABLES WITH ITU-T-G.652D

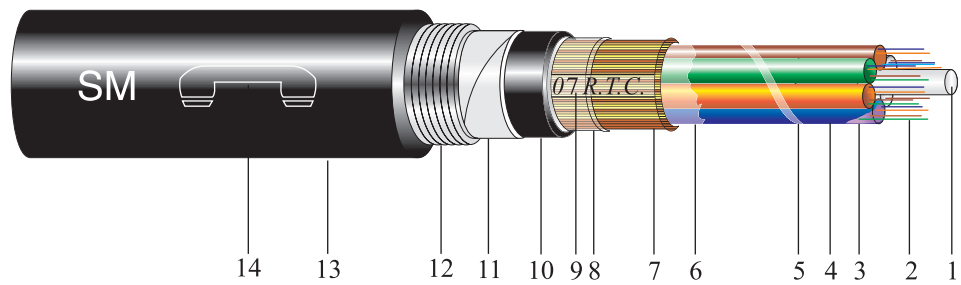
RTC Product Code	Number of Fibers	Outer Diameter Approx. (mm)	Net Weight Approx. (kg/km)
0FEFSCE031021	6	16.1	244
0FEFSCE041021	8	16.1	244
0FEFSCE051021	10	16.1	244
0FEFSCE061021	12	16.1	244
0FEFSCE081021	16	16.1	244
0FEFSCE101021	20	16.1	244
0FEFSCE121021	24	16.1	244
0FEFSCE151021	36	16.1	244
0FEFSCE161021	48	16.1	244
0FEFSCE201021	60	16.1	244
0FEFSCE381021	70	16.1	244
0FEFSCE171021	72	16.1	244
0FEFSCE391021	84	16.6	294
0FEFSCE181021	96	17.1	311
0FEFSCE191021	128	18.9	387
0FEFSCE401021	144	19.5	410

Note: Cable dimensions may vary according to customer's requirement.

OUTDOOR DIRECT BURIED CABLE

CORRUGATED STEEL TAPE ARMoured

PRODUCT CODE : FEFNCE



- | | | |
|----------------------|------------------------|-----------------------------|
| 1. CSM | 6. FILLING COMPOUND | 10. INNER P.E. SHEATH BLACK |
| 2. FIBRE | 7. HIGH STRENGTH YARN | 11. FLOODING COMPOUND |
| 3. THIXOTROPIC JELLY | 8. CORE WRAPPING TAPE | 12. CORRUGATED STEEL TAPE |
| 4. LOOSE TUBE | 9. IDENTIFICATION TAPE | 13. OUTER P.E. SHEATH BLACK |
| 5. BINDER TAPE | | 14. SHEATH MARKING |

DESCRIPTION

Primary coated Single Mode Fibre, filled, loose tubes, assembled around the Central Strength Member (CSM), filled core, non-metallic Moisture Barrier, Inner Polyethylene sheath, Corrugated Steel Tape Armoured, Polyethylene sheathed optical fibre telecommunication cables, complying with National and International Standard Specifications.

APPLICATION

Single Mode Optical Fibre Cables generally used for out-door telecommunication networks on trunk or inter-exchange routes.

RELATED SPECIFICATION

IEC-60793

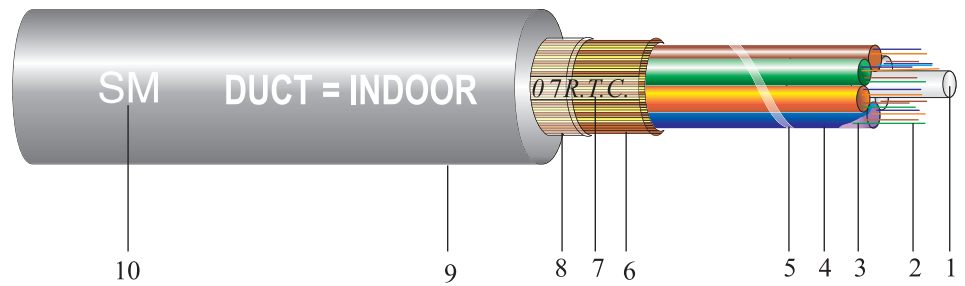
IEC-60794

STANDARD CABLE DIMENSIONS FEFNCE

SINGLE MODE FIBER CABLES WITH ITU-T-G.652D

RTC Product Code	Number of Fibers	Outer Diameter Approx. (mm)	Net Weight Approx. (kg/km)
0FEFNCE031021	6	15.2	208
0FEFNCE041021	8	15.2	208
0FEFNCE051021	10	15.2	208
0FEFNCE061021	12	15.2	208
0FEFNCE081021	16	15.2	208
0FEFNCE101021	20	15.2	208
0FEFNCE121021	24	15.2	208
0FEFNCE151021	36	15.2	208
0FEFNCE161021	48	15.2	208
0FEFNCE201021	60	15.2	208
0FEFNCE381021	70	15.2	208
0FEFNCE171021	72	15.2	208
0FEFNCE391021	84	15.7	212
0FEFNCE181021	96	16.2	227
0FEFNCE191021	128	18	279
0FEFNCE401021	144	18.6	305

Note: Cable dimensions may vary according to customer's requirement.



- | | | |
|----------------------|------------------------|-----------------------|
| 1. CSM | 5. BINDER TAPE | 8. CORE WRAPPING TAPE |
| 2. FIBRE | 6. HIGH STRENGTH YARN | 9. OUTER HFFR SHEATH |
| 3. THIXOTROPIC JELLY | 7. IDENTIFICATION TAPE | 10. SHEATH MARKING |
| 4. LOOSE TUBE | | |

DESCRIPTION

Primary coated Single Mode Fibre, filled, loose tubes, assembled around the Central Strength Member (CSM) , core wrap, non-metallic Moisture Barrier, Halogen free flame Retardent sheathed optical fibre telecommunication cables, complying with National and International Standard Specifications.

APPLICATION

Single Mode Optical Fibre Cables generally used for out-door/in-door telecommunication networks on trunk or inter-exchange routes.

RELATED SPECIFICATION

IEC-60793
 IEC-60794

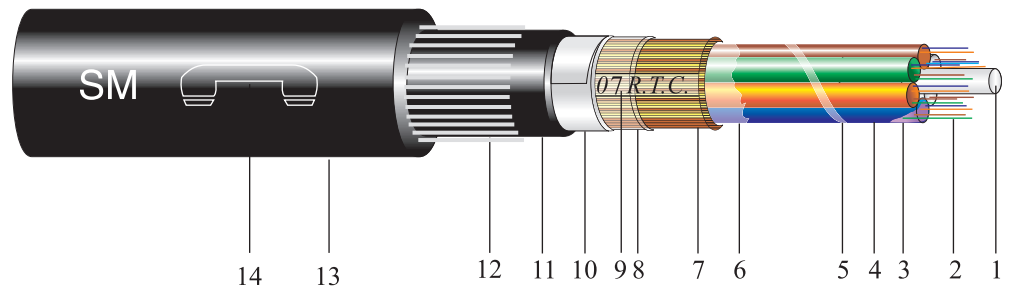
STANDARD CABLE DIMENSIONS FRLN **SINGLE MODE FIBER CABLES WITH ITU-T-G.652D**

RTC Product Code	Number of Fibers	Outer Diameter Approx. (mm)	Net Weight Approx. (kg/km)
0FRLN00031021	6	9.5	91
0FRLN00041021	8	9.5	91
0FRLN00051021	10	9.5	91
0FRLN00061021	12	9.5	91
0FRLN00081021	16	9.5	91
0FRLN00101021	20	9.5	91
0FRLN00121021	24	9.5	91
0FRLN00151021	36	9.5	91
0FRLN00161021	48	9.5	91
0FRLN00201021	60	9.5	91
0FRLN00381021	70	9.5	91
0FRLN00171021	72	9.5	91

Note: Cable dimensions may vary according to customer's requirement.

OUTDOOR DIRECT BURIED GALVANISED STEEL WIRE ARMOR CABLE

GALVANISED STEEL WIRE ARMORED: PRODUCT CODE : FEFSWE



1. CSM
2. FIBRE
3. THIXOTROPIC JELLY
4. LOOSE TUBE
5. BINDER TAPE
6. FILLING COMPOUND
7. HIGH STRENGTH YARN
8. CORE WRAPPING TAPE
9. IDENTIFICATION TAPE
10. ALUMINIUM MOISTURE BARRIER (OPTIONAL)
11. INNER/PE/ PVC / LSF SHEATH
12. G. S WIRE ARMOURING
13. OUTER PE/LSF/PVC/SHEATH
14. SHEATH MARKER

DESCRIPTION

Primary coated single mode fiber , filled, loose tubes, assembled around the Central Strength Member (CSM), filled core metallic moisture barrier, inner polyethylene sheath, galvanized steel wire armour and polyethylene outer sheathed optical fiber optic telecommunication cables complying with National and international Standards.

APPLICATION

Single Mode Optical fiber cable generally used for out-door telecommunication network or trunk or inter-exchange routes.

RELETED SPECIFICATION

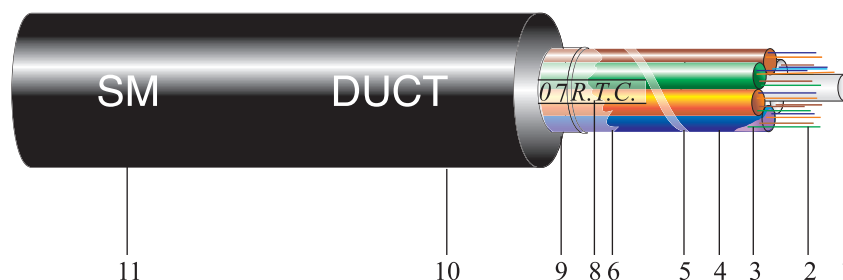
IEC-60793

IEC-60794

STANDARD CABLE DIMENSION

SINGLE MODE FIBER CONFIRMING TO ITU-T- G.652D

RTC Product code	Number of fibers	Outer diameter approx. (mm)	Net Weight Approx. (kg/km)
0FEFSWE031021	6	19.0	560
0FEFSWE041021	8	19.0	560
0FEFSWE051021	10	19.0	560
0FEFSWE061021	12	19.0	560
0FEFSWE081021	16	19.0	560
0FEFSWE101021	20	19.0	560
0FEFSWE121021	24	19.0	560
0FEFSWE151021	36	19.0	560
0FEFSWE161021	48	19.0	560
0FEFSWE201021	60	19.0	560
0FEFSWE171021	72	19.0	560



- | | | |
|----------------------|------------------------|-----------------------------|
| 1. CSM | 5. BINDER TAPE | 9. CORE WRAPPING TAPE |
| 2. FIBRE | 6. FILLING COMPOUND | 10. OUTER P.E. SHEATH BLACK |
| 3. THIXOTROPIC JELLY | 8. IDENTIFICATION TAPE | 11. SHEATH MARKING |
| 4. LOOSE TUBE | | |

DESCRIPTION

Primary coated single mode fiber , filled, loose tubes, assembled around the Central Strength Member (CSM), filled core, wrap, non-metallic moisture barrier polyethylene sheathed optical fiber telecommunication cables complying with National and international Standards.

APPLICATION

Single Mode Optical fiber cable generally used for micro-duct installations for telecommunication FTTH projects optimized for blown technology reduced cable outer diameters, reduced cable weight and low cost than traditional cables.

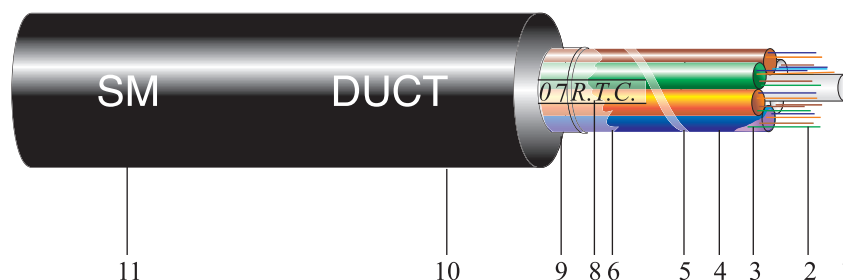
RELEATED SPECIFICATION

IEC-60793
IEC-60794

STANDARD CABLE DIMENSION

SINGLE MODE FIBER CONFIRMING TO ITU-T- G.652D

RTC Product code	Number of fibers	Outer diameter approx. (mm)	Net Weight Approx. (kg/km)
0FEZN00011021	2	7.0	37
0FEZN00021021	4	7.0	37
0FEZN00031021	6	7.0	37
0FEZN00041021	8	7.0	37
0FEZN00051021	10	7.0	37
0FEZN00061021	12	7.0	37
0FEZN00081021	16	7.0	37
0FEZN00101021	20	7.0	37
0FEZN00121021	24	7.0	37
0FEZN00151021	36	7.0	37
0FEZN00161021	48	7.0	37
0FEZN00201021	60	7.0	37
0FEZN00171021	72	7.0	37
0FEZN00181021	96	7.8	50
0FEZN00401021	144	9.8	76



- | | | |
|----------------------|------------------------|-----------------------------|
| 1. CSM | 5. BINDER TAPE | 9. CORE WRAPPING TAPE |
| 2. FIBRE | 6. FILLING COMPOUND | 10. OUTER P.E. SHEATH BLACK |
| 3. THIXOTROPIC JELLY | 8. IDENTIFICATION TAPE | 11. SHEATH MARKING |
| 4. LOOSE TUBE | | |

DESCRIPTION

Primary coated single mode fiber , filled, loose tubes, assembled around the Central Strength Member (CSM), Dry core, core wrap, non-metallic moisture barrier polyethylene sheathed optical fiber telecommunication cables complying with National and international Standards.

APPLICATION

Single Mode Optical fiber cable generally used for micro-duct installations for telecommunication FTTH projects optimized for blown technology reduced cable outer diameters, reduced cable weight, easy to handle due to dry core and low cost than traditional cables.

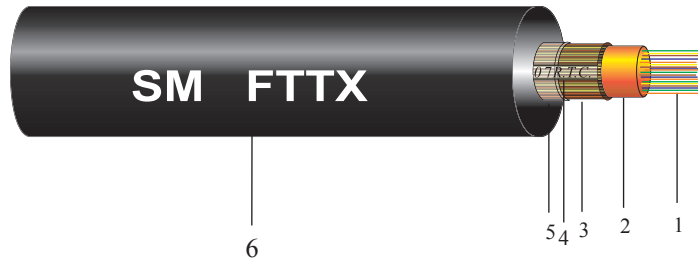
RELEATED SPECIFICATION

IEC-60793
 IEC-60794
 STC TS-2116

STANDARD CABLE DIMENSION

SINGLE MODE FIBER CONFIRMING TO ITU-T- G.657A

RTC Product code	Number of fibers	Outer diameter approx. (mm)	Net Weight Approx. (kg/km)
0FMDN002657A	2	7.0	37
0FMDN004657A	4	7.0	37
0FMDN012657A	12	7.0	37
0FMDN024657A	24	7.0	37
0FMDN036657A	36	7.0	37
0FMDN048657A	48	7.0	37
0FMDN072657A	72	7.0	37
0FMDN084657A	84	7.3	42
0FMDN096657A	96	7.8	50
0FMDN0144657A	144	9.8	76
0FMDN028857A	288	13.9	150



- | | |
|------------------------|-----------------------|
| 1. FIBER | 4. CORE WRAPPING TAPE |
| 2. HIGH STRENGTH YARN | 5. OUTER DE SHEATH |
| 3. IDENTIFICATION TAPE | 6. SHEATH MARKING |

DESCRIPTION

Primary coated single mode fiber , Single filled loose tube, Dry core, core wrap, non-metallic moisture barrier polyethylene sheathed optical fiber telecommunication cables complying with National and international Standards.

APPLICATION

Single Mode Optical fiber cable generally used for micro-duct installations for telecommunication FTTH projects optimized for blown technology reduced cable outer diameters, reduced cable weight, easy to handle due to dry core and low cost than traditional cables.

RELETED SPECIFICATION

IEC-60793

IEC-60794

STC TS-2115

STANDARD CABLE DIMENSION

SINGLE MODE FIBER CONFIRMING TO ITU-T G.657A

RTC Product code	Number of fibers	Outer diameter approx. (mm)	Net Weight Approx. (kg/km)
0FCDN002657A	2	4.0	14.0
0FCDN004657A	4	4.0	19
0FCDN012657A	12	4.0	19
0FCDN024657A	24	4.0	19

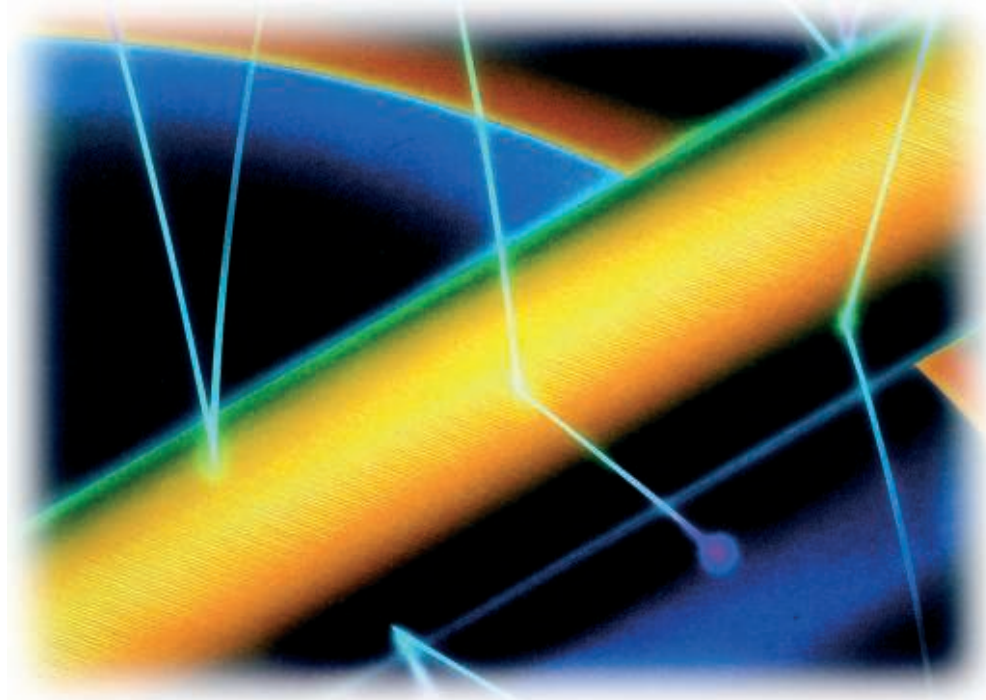
SINGLE MODE FIBER CABLE

Environmental

Relative Humidity	5 to 95 %
Operating temperature	-10°C to +70°C
Storage temperature	-10°C to +70°C
Installation temperature	-10°C to +70°C

FIBERS COMPLYING TO LATEST ITU-T RECOMMENDATION G.657A

FIBER ATTRIBUTES		
Attribute	Details	Values
Mode field diameter	Wavelength	1310nm
	Range of nominal values	8.6 ~ 9.5 μ m
	Tolerance	$\pm$ 0.6 μ m
Cladding diameter	Nominal	125.0 μ m
	Tolerance	$\pm$ 1 μ m
Core concentricity error	Maximum	0.7 μ m
Cladding noncircularity	Maximum	1.0 %
Cable cut-off wavelength	Maximum	1260 nm
Chromatic dispersion coefficient	(λ_0 -zero disp wavelength range)	1300nm ~ 1324 nm
	(S ₀ max.-Max. Zero disp. slope)	$\leq$ 0.092 ps/nm ² x km
	@ 1285~1300nm	$\leq$ 3.5 ps/nm.km
	@ 1550nm	$\leq$ 18.0 ps/nm.km
Attenuation coefficient	Maximum at 1310 nm	$\leq$ 0.36 dB/km
	Maximum at 1550 nm	$\leq$ 0.25 dB/km
PMD Co-efficient	Maximum PMD	$\leq$ 0.20 ps/√km



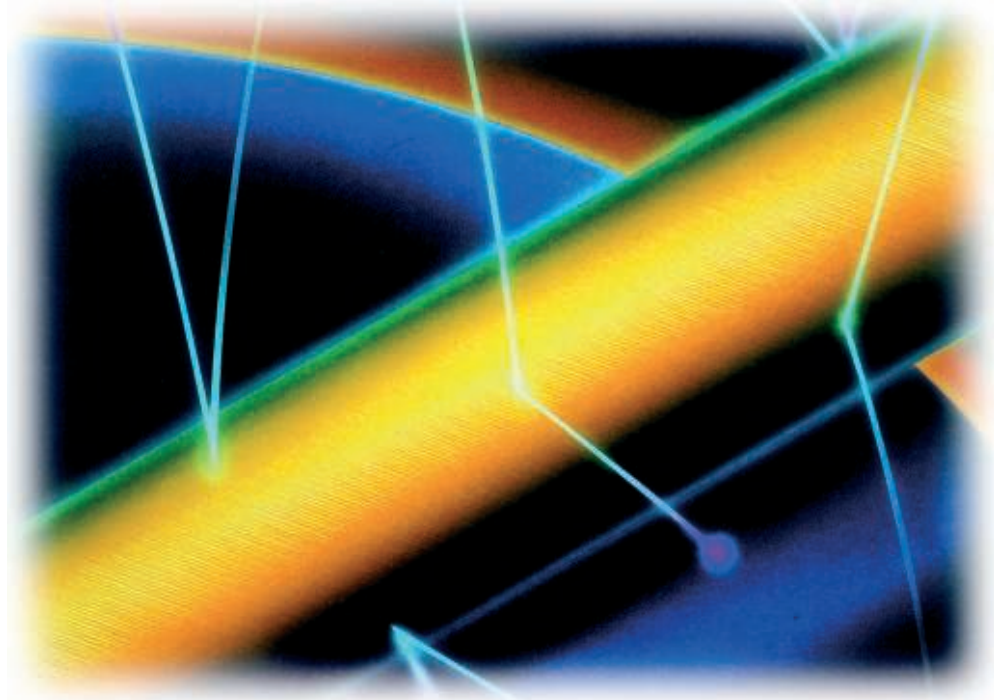
SINGLE MODE FIBER CABLE

Environmental

Relative Humidity	5 to 95 %
Operating temperature	-10°C to +70°C
Storage temperature	-10°C to +70°C
Installation temperature	-10°C to +70°C

FIBERS COMPLYING TO LATEST ITU-T RECOMMENDATION G.652D

FIBER ATTRIBUTES		
Attribute	Details	Values
Mode field diameter	Wavelength	1310nm
	Range of nominal values	8.6 ~ 9.5 μm
	Tolerance	$\pm 0.6 \mu\text{m}$
Cladding diameter	Nominal	125.0 μm
	Tolerance	$\pm 1 \mu\text{m}$
Core concentricity error	Maximum	0.7 μm
Cladding noncircularity	Maximum	1.0 %
Cable cut-off wavelength	Maximum	1260 nm
Chromatic dispersion coefficient	(λ_0 -zero disp wavelength range)	1300nm ~ 1324 nm
	($S_{0\text{max}}$ -Max. Zero disp. slope)	$\leq 0.092 \text{ ps/nm}^2 \times \text{km}$
	@1285~1300nm	$\leq 3.5 \text{ ps/nm.km}$
	@1550nm	$\leq 18.0 \text{ ps/nm.km}$
Attenuation coefficient	Maximum at 1310 nm	$\leq 0.36 \text{ dB/km}$
	Maximum at 1550 nm	$\leq 0.25 \text{ dB/km}$
PMD Co-efficient	Maximum PMD	$\leq 0.20 \text{ ps}/\sqrt{\text{km}}$



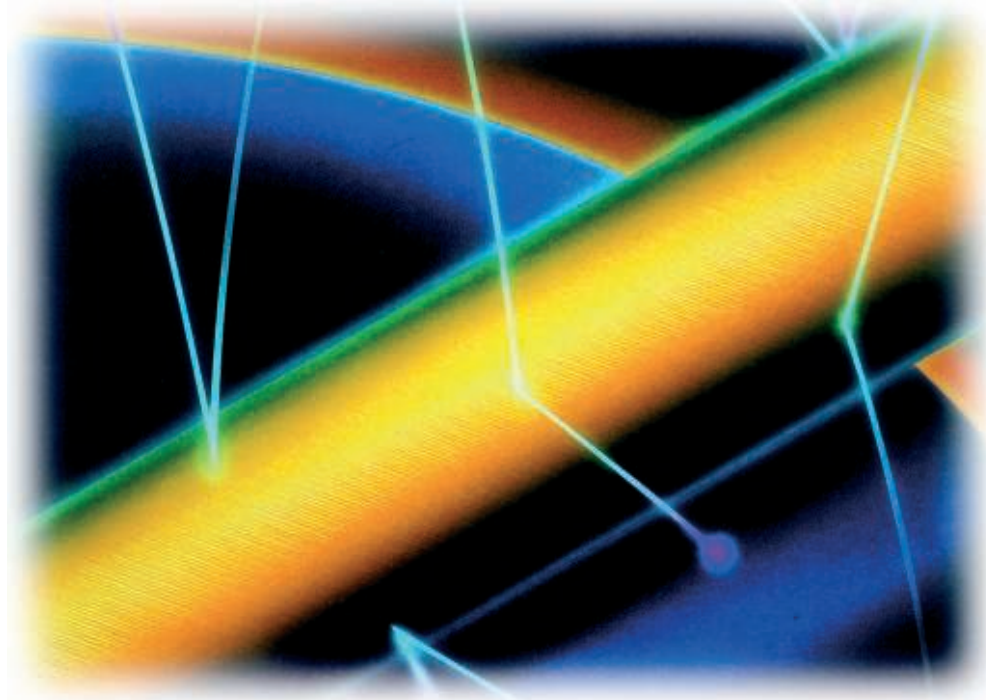
SINGLE MODE FIBER CABLE

Environmental

Relative Humidity	5 to 95 %
Operating temperature	-10°C to +70°C
Storage temperature	-10°C to +70°C
Installation temperature	-10°C to +70°C

FIBERS COMPLYING TO LATEST ITU-T RECOMMENDATION G.656

FIBER ATTRIBUTES		
Attribute	Details	Values
Mode field diameter	Wavelength	1550nm
	Range of nominal values	7.0 ~ 11.0 μm
	Tolerance	$\pm 0.7 \mu\text{m}$
Cladding diameter	Nominal	125.0 μm
	Tolerance	$\pm 1 \mu\text{m}$
Core concentricity error	Maximum	0.8 μm
Cladding noncircularity	Maximum	2.0 %
Cable cut-off wavelength	Maximum	1450 nm
Chromatic dispersion coefficient	Minimum value of D_{min}	5.5 ps/nm.km
Wavelength range: 1530-1565nm	Maximum value of D_{max}	8.9 ps/nm.km
Chromatic dispersion coefficient	Minimum value of D_{min}	6.9 ps/nm.km
Wavelength range: 1565-1625nm	Maximum value of D_{max}	11.4 ps/nm.km
Attenuation coefficient	Maximum at 1550 nm	$\leq 0.25 \text{ dB/km}$
	Maximum at 1625 nm	$\leq 0.30 \text{ dB/km}$
PMD Co-efficient	Maximum PMD	$\leq 0.20 \text{ ps}/\sqrt{\text{km}}$



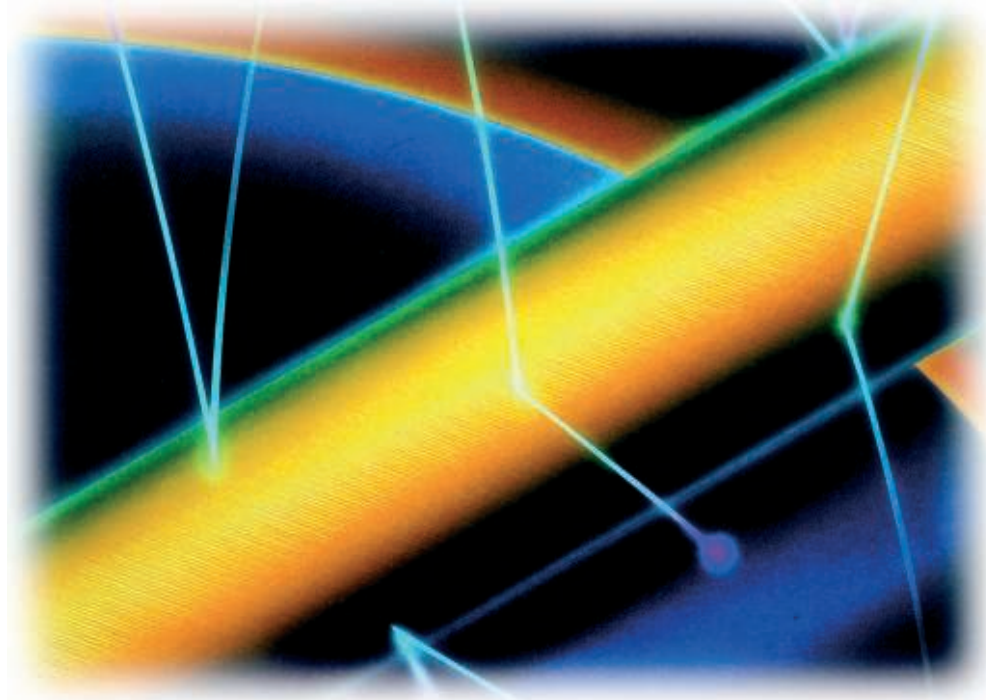
MULTI MODE FIBER OUTDOOR & INDOOR (LOOSE TUBE DESIGN) CABLE

Environmental

Relative Humidity	5 to 95%
Operating temperature	-10°C to +70°C
Storage temperature	-10°C to +70°C
Installation temperature	-10°C to +60°C

MULTIMODE FIBER (50/125/250microns)

Fiber Attributes		
Attribute	Details	Values
Core	Material	Ge-doped silica glass
	Diameter	50 μm
	Tolerance	$\pm 3 \mu\text{m}$
	Non circularity	< 6%
Cladding diameter	Material	Silica glass
	Nominal	125.0 μm
	Tolerance	$\pm 3 \mu\text{m}$
	Non circularity	< 2%
Coating diameter (Uncoloured Fiber)	Material	Dual U.V. Acrylate
	Nominal	250 μm
	Tolerance	$\pm 15 \mu\text{m}$
	Concentricity Error	12.5 μm
Attenuation coefficient	Maximum at 850 nm	$\leq 3.4 \text{ dB/km}$
	Average at 850 nm	$\leq 3.0 \text{ dB/km}$
	Maximum at 1300 nm	$\leq 1.5 \text{ dB/km}$
	Average at 1300 nm	$\leq 1.0 \text{ dB/km}$
Numerical Aperture	Fiber supplier certificate	0.20 ± 0.02
Bandwidth @ 850nm	Fiber supplier certificate	$\geq 400 \text{ Mhz/km}$
Bandwidth @ 1300nm	Fiber supplier certificate	$\geq 500 \text{ Mhz/km}$



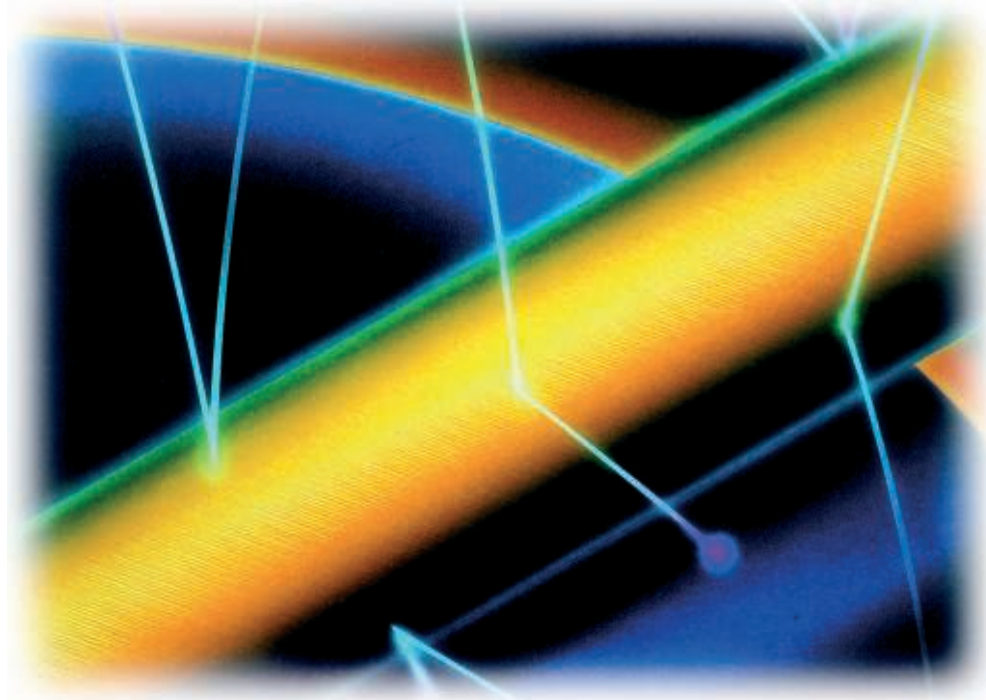
MULTI MODE FIBER OUTDOOR & INDOOR (LOOSE TUBE DESIGN) CABLE

Environmental

Relative Humidity	5 to 95%
Operating temperature	-10°C to +70°C
Storage temperature	-10°C to +70°C
Installation temperature	-10°C to +60°C

MULTIMODE FIBER (62.5/125/250microns)

Fiber Attributes		
Attribute	Details	Values
Core	Material	Ge-doped silica glass
	Diameter	62.5 μm
	Tolerance	$\pm 3 \mu\text{m}$
	Non circularity	< 6%
Cladding diameter	Material	Silica glass
	Nominal	125.0 μm
	Tolerance	$\pm 3 \mu\text{m}$
	Non circularity	< 2%
Coating diameter (Uncoloured Fiber)	Material	Dual U.V. Acrylate
	Nominal	250 μm
	Tolerance	$\pm 15 \mu\text{m}$
	Concentricity Error	12.5 μm
Attenuation coefficient	Maximum at 850 nm	$\leq 3.4 \text{ dB/km}$
	Average at 850 nm	$\leq 3.0 \text{ dB/km}$
	Maximum at 1300 nm	$\leq 1.5 \text{ dB/km}$
	Average at 1300 nm	$\leq 1.0 \text{ dB/km}$
Numerical Aperture	Fiber supplier certificate	0.275 ± 0.015
Bandwidth @ 850nm	Fiber supplier certificate	$\geq 200 \text{ Mhz/km}$
Bandwidth @ 1300nm	Fiber supplier certificate	$\geq 600 \text{ Mhz/km}$



SINGLE MODE FIBER CABLE

Environmental

Relative Humidity	5 to 95 %
Operating temperature	-10°C to +70°C
Storage temperature	-10°C to +70°C
Installation temperature	-10°C to +70°C

SINGLE FIBER COMPLYING WITH ITU-T G.655 NON-ZERO DISPERSION SHIFTED FIBERS

FIBER ATTRIBUTES		
Attribute	Details	Values
Mode field diameter	Wavelength	1550nm
	Range of nominal values	8.0 ~ 11.0 μm
	Tolerance	$\pm 0.7 \mu\text{m}$
Cladding diameter	Nominal	125.0 μm
	Tolerance	$\pm 1 \mu\text{m}$
Core concentricity error	Maximum	0.8 μm
Cladding noncircularity	Maximum	2.0 %
Cut-off wavelength	Maximum	1450 nm
Chromatic dispersion coefficient	Minimum value of D_{min}	2.0 ps/nm.km
Wavelength range: 1530-1565nm	Maximum value of D_{max}	6.0 ps/nm.km
Chromatic dispersion coefficient	Minimum value of D_{min}	4.5 ps/nm.km
Wavelength range: 1565-1625nm	Maximum value of D_{max}	11.2 ps/nm.km
Attenuation coefficient	Maximum at 1550 nm	$\leq 0.25 \text{ dB/km}$
	Maximum at 1625 nm	$\leq 0.30 \text{ dB/km}$
PMD Co-efficient	Maximum PMD	$\leq 0.20 \text{ ps}/\sqrt{\text{km}}$





CERTIFICATE **TÜV NORD**

Management system as per
DIN EN ISO 9001 : 2008

In accordance with TÜV NORD CERT procedures, it is hereby certified that

SAUDI MODERN CO. FOR METALS, CABLES & PLASTIC IND. LTD.
Trading as RIYADH CABLES GROUP OF COMPANIES
New Second Industrial Area, P. O. Box 26862, Riyadh 11496
Kingdom of Saudi Arabia

with the locations

Saudi Modern Co. for Cables Industries Ltd. Trading as Riyadh Cables Co.
New Second Industrial Area, P. O. Box 26862, Riyadh 11496, Saudi Arabia

Saudi Modern Co. for Metals, Cables & Plastic Ind. Ltd. Trading as Riyadh Cables & Metals Co.
New Second Industrial Area, P. O. Box 26862, Riyadh 11496, Saudi Arabia

Saudi Modern Co. for Special Electric Wires & Cables Ind. Ltd. Trading as Riyadh Electric Wires Co.
New Second Industrial Area, P. O. Box 26862, Riyadh 11496, Saudi Arabia

Saudi Modern Co. for Telephone Industries Ltd. Trading as Riyadh Telephone Cables Co.
New Second Industrial Area, P. O. Box 26862, Riyadh 11496, Saudi Arabia

applies a management system in line with the above standard for the following scope

Design, Development, Manufacture and Supply of: 1) Low Voltage Cables, 2) Medium Voltage Cables up to 69 KV, 3) High Voltage Cables up to 230 KV, 4) Electric Wires & Wiring Cables, Control Cables and Service Drop Cables, 5) Overhead Conductors up to 500 KV, 6) Telephone Cables up to 2700 Pairs and Fiber Optic Cables, 7) 8.00 mm Diameter Copper Rod and 8) PVC Compounds According to IEC/AEIC/BS/DIN/ASTM/SASO/ITU/VDE/CSA/VDR/REA and Customer Specifications

Certificate Registration No. 44 100 940529
Audit Report No. 5700 0343

Valid until 2017-04-19
Initial certification 1994



Certification Body
at TÜV NORD CERT GmbH

Dammam, 2014-05-04

This certification was conducted in accordance with the TÜV NORD CERT auditing and certification procedures and is subject to regular surveillance audits.

TÜV NORD CERT GmbH

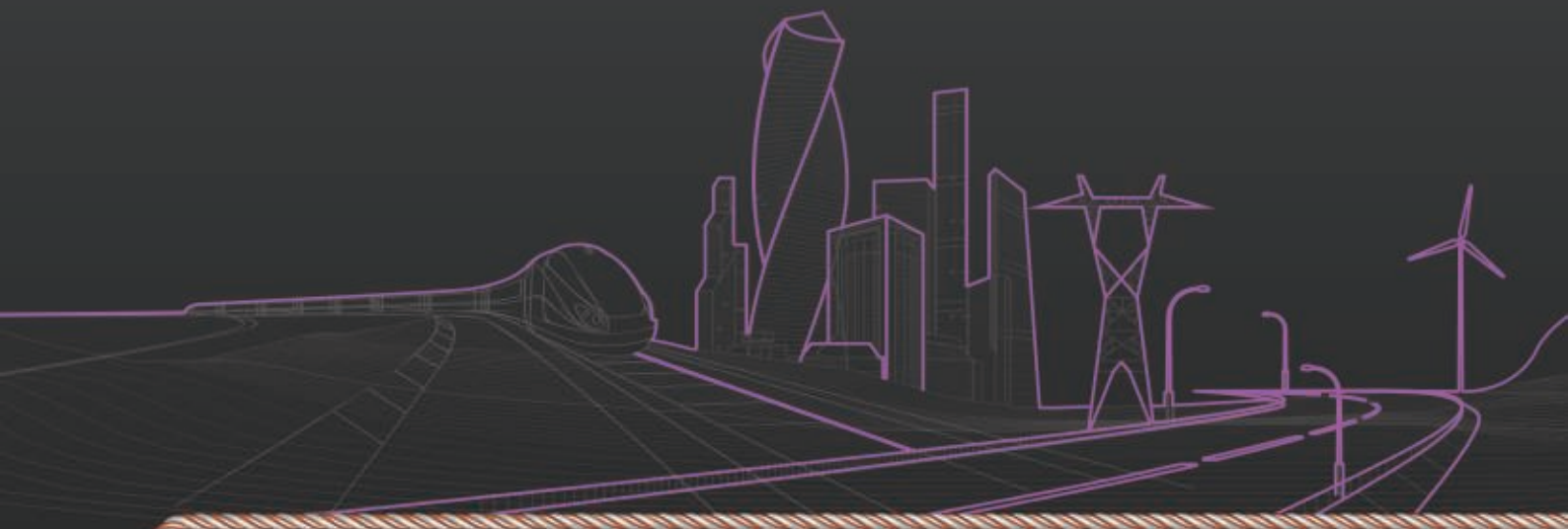
Langemarckstrasse 20

45141 Essen

www.tuev-nord-cert.com



TGA-ZM-07-06-00



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E-mail:rcgc@riyadh-cables.com | www.riyadh-cables.com