Tehran Siminfar Co. is one of the leading manufacturers of Electric, Telecommunication and specialized Wires and Cables in Iran. We are also experienced in designing and manufacturing products according to customer's requirements and individual needs Tehran Siminfar Co. is a **private company**. our main objective is to achieve the best results in the manufacturing process within a very short period of time. Tehran Siminfar keeps bureaucracy at a minimum because the company is well organized and works efficiently.

Tehran Siminfar Co. has a highly qualified and experienced technical and sales team which works closely with all our customers individually to understand their requirements better. A highly motivated R&D team is continuously upgrading the quality of our products and is at the same time exploring new technologies .

Supported by loyal employees, Tehran Siminfar Co. continues to grow in size and capabilities. A well as the Iranian Telecommunication Companies and Electricity Boards we serve many other markets, and new company names are being added to our list of satisfied old and new customers.

At Tehran Siminfar Co. special care is taken to ensure to produce high quality products copper, which is the main raw material, is of the highest standard. It is supplied by the National Iranian Copper Industries Company. The other required raw materials are carefully selected from top brand suppliers only. Due to the importance of the quality of products, we implement the most advanced apparatus in order to carry out the precise tests, that are stipulated by the Iranian National Standards Authority and International Standards.

Tehran Siminfar Co. obtained ISO 9001 certificate from TUV NORD During 2004.

Also we received the " International World Quality Commitment " by the Business Initiative Directions (BID) in the year 2004 the " Royal Crown to Excellence " by the Worldwide Marketing Organization in the year 2004 and the "Kema Test Certificate" in the year 2007.

The factory is located 75 Km outside Tehran, next to the main motorway which gives good accessibility to other parts of the country. The main office is in Tehran.

Our main products are:

Fiber Optic Cables
Electrical Wire
Power Cables
Control Cables
Instrumentation Cables
Fire Resistance Cables
Halogen Free Cables
Telecommunication Wire
Telecommunication Cables
Coaxial Cables
Railway Signal Cables
Automobile Wire
Composite Cables
Lan Cables

تهران سیمین فر
Tehran Siminfar

KEMA

KEMA Test Certificate

No. 2104263.01	
Issued to:	Tehran Siminfar No. 4 ajoudani street North sohrevardi TEHRAN 16315-991 IRAN
For the product:	Instrumentation cable
Trade name:	TEHRAN SIMINFAR CO.
Type/Model:	2x1.5 SQMM
Ratings:	300/500 V
Manufactured by:	Tehran Siminfar No. 4 ajoudani street North sohrevardi TEHRAN 16315-991 IRAN
Subject:	Test for electrical cables under fire conditions-Circuit integrity.
Requirements:	IEC 60331-21; First edition 1999-04
Remarks:	**The cable provides circuit integrity for 90 min. according to IEC 60331-21(1999).**

This Test Certificate is granted on account of an examination by KEMA, the results of which are laid down in a corresponding KEMA Test Report no. 2104263.01A, dated April 4, 2007

The examination has been carried out on one single specimen of the product, submitted by the manufacturer. The Attestation does not include an assessment of the manufacturer's production. Conformity of his production with the specimen tested by KEMA is not the responsibility of KEMA

KEMA Quality B.V.
Arnhem, April 4, 2007

H.R.M. Barends
Certification Manager

TÜV NORD Iran
Joint Venture Co. (P.J.S)
(Member of TÜV NORD Group)

Apt.4, 5th floor,
Firoozeh Building, #22,
Firoozeh St.,
North Sohravardi St.,
Tehran, 15538, Iran
Tel: +98– 21– 88746014, 16, 19
Fax: +98 – 21 – 88758212
audit.office@tuvnordiran.com
www. tuvnordiran.com

Certification of the Quality Management System

Tehran, 06.09.2010
Number: 324-10/1046

The **Tehran Siminfar Co.** instructed the Certification Body of **TÜV NORD CERT** to audit their quality management system to check the compliance with the requirements of **ISO 9001:2008** in the scope of:

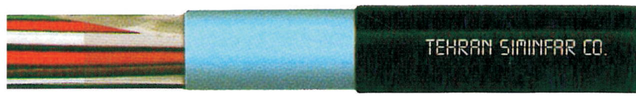
"Design and Production of different kinds of Wire and Cable Including LV Power and Telecommunication Cables"

The objective is the award of the related TÜV NORD CERT certificate.
The Certification Audit was performed successfully in the company.
The audit team has decided unanimously to recommend issuance of the certificate by the head of certification body of TÜV NORD CERT GmbH.

Dr. Kamran REZAIE

Managing Director & Member of Board

AC (A-2Y(st)2Y)



Arial telecommunication cable without suspension

- **According to** : TCI
- **Conductor** : Bare solid annealed copper
- **Insulation :** HDPE
- **Warp :** Mylar polyester tape helically with min 30% overlap
- **Shield(Screen) :** Tinned copper drain wire / Aluminum foil tape helically with min 30% overlap
- **Jacket :** HDPE
- **Nominal conductor diameter :** 0.4, 0.5, 0.60, 0.80, 0.90 mm

Size	Jacket thickness mm	Jacket diameter mm	weight Approx. Kg/km	Max dc resistance At 20°C Ω/km
2x2x0.40	1.0	4.7	20	147
4x2x0.40	1.0	5.5	28	147
6x2x0.40	1.0	6.2	37	147
8x2x0.40	1.0	6.7	45	147
10x2x0.40	1.0	7.1	52	147
20x2x0.40	1.4	9.8	100	139
30x2x0.40	1.4	11.2	140	139
40x2x0.40	1.4	12.4	170	139
50x2x0.40	1.4	13.5	210	139
70x2x0.40	1.4	15.3	280	139
100x2x0.40	1.4	17.8	380	139
2x2x0.60	1.0	5.8	31	65
4x2x0.60	1.0	7.1	49	65
6x2x0.60	1.0	8.0	66	65
8x2x0.60	1.0	8.8	82	65
10x2x0.60	1.0	9.4	97	65
20x2x0.60	1.4	13.0	190	62
30x2x0.60	1.4	15.2	270	62
40x2x0.60	1.4	17.0	340	62
50x2x0.60	1.4	18.6	420	62
70x2x0.60	1.4	21.4	580	62
100x2x0.60	1.8	25.8	820	62

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Drop Wire

- **According to** : TCI
- **Conductor** : Bare Solid annealed copper conductor
- **Normal Conductor Diameter :** 0.5, 0.6, 0.9 mm
- **Suspension Wire :** 0.7, 1.2 mm
- **Jacket Insulation :** Extruded black LDPE according to ASTM D1248

Wire Size	Max Resistance At 20°C	Max Resistance Unbalance	Mutual Capacitance In Dry Condition At 1 Khz	Max Mutual Capacitance In Water Condition	Min Insulation Resistance At 500 V DC	Weight Approx.
mm	Ω/km	%	nF/km	nF/km	MΩ.km	kg/km
1x2x0.6 - 0.7	63	4.5	39 ± 2	78	5000	24
1x2x0.9 - 1.2	29	4.5	39 ± 2	78	5000	38

Jumper Wire

- **According to** : TCI
- **Conductor** : Tinned annealed copper conductor
- **Nominal Conductor Diameter :** 0.4, 0.5, 0.6 mm
- **Insulation :** Extruded PVC
- **Color Of Conductors Insulation :** Conductor A: white & Conductor B: black
- **Application :** Designed to be used as connection wires

Wire Size	Insulation thickness	Max Resistance At 20°C	Max Resistance Unbalance	Min Insulation Resistance At 500 V DC	Weight Approx
mm	mm	Ω/km	%	MΩ.km	kg/km
2x0.5-1.0	0.25	95	4.5	500	5.5
2x0.5-0.9	0.2	95	4.5	500	5
2x0.6-1.1	0.25	65	4.5	500	7

S.S.C (A-2Y(L)2Y-T)

Arial cable with suspension

- **According to** : TCI
- **Conductor** : Bare solid annealed copper
- **Insulation :** HDPE
- **Wrap :** Mylar polyester tape helically with min 25% overlap
- **Shield(Screen) :** Aluminum copolymer tape longitudinally with overlap
- **Outer sheath :** LDPE
- **Suspension :** 7-stranded suspension steel wire
- **Nominal conductor diameter :** 0.4, 0.5, 0.60, 0.80, 0.90 mm

Size	Jacket thickness mm	Suspension Wire Diameter mm	Jacket diameter mm	weight Approx. Kg/km	Max dc resistance At 20°C Ω/km
10x2x0.40	1.4	7x1.2	8.9x17.8	165	139
20x2x0.40	1.4	7x1.2	10.7x19.6	205	139
30x2x0.40	1.4	7x1.2	12.0x20.9	245	139
40x2x0.40	1.4	7x1.2	13.2x22.1	280	139
50x2x0.40	1.4	7x1.2	14.2x23.1	320	139
70x2x0.40	1.4	7x1.2	16.0x24.9	390	139
100x2x0.40	1.4	7x1.2	18.3x27.2	495	139
10x2x0.60	1.4	7x1.2	11.2x20.1	215	62
20x2x0.60	1.4	7x1.2	13.9x22.8	300	62
30x2x0.60	1.4	7x1.2	16.0x24.9	380	62
40x2x0.60	1.4	7x1.2	17.8x26.7	460	62
50x2x0.60	1.4	7x1.2	19.4x28.3	535	62
70x2x0.60	1.4	7x1.2	22.1x31.0	685	62
100x2x0.60	1.4	7x1.2	25.6x35.7	970	62
10x2x0.80	1.4	7x1.2	13.3x22.2	280	35
20x2x0.80	1.4	7x1.2	16.9x25.8	420	35
30x2x0.80	1.4	7x1.2	19.7x28.6	555	35
40x2x0.80	1.4	7x1.2	22.1x31.0	685	35
50x2x0.80	1.4	7x1.2	24.1x33.0	815	35
70x2x0.80	1.4	7x1.6	27.7x37.8	1120	35
100x2x0.80	1.4	7x1.6	32.4x42.5	1510	35

C.U.C (A-2Y(L)2Y)

Conduit unfilled Telecommunication Cable

- **According to** : TCI
- **Conductor** : Bare solid annealed copper
- **Insulation :** HDPE
- **Warp :** Mylar polyester tape helically with min 30% overlap
- **Inner sheath :** LDPE
- **Shield(Screen) :** Aluminum copolymer tape longitudinally with overlap
- **Outer Jacket :** LDPE
- **Nominal conductor diameter :** 0.4, 0.5, 0.60, 0.80, 0.90 mm

Size	Inner Jacket thickness mm	Outer Jacket thickness mm	Jacket diameter mm	weight Approx. Kg/km	Max dc resistance At 20°C Ω/km
100x2x0.40	1.4	1.5	20.9	490	139
150x2x0.40	1.4	1.5	24.0	680	139
200x2x0.40	1.4	1.8	27.2	880	139
300x2x0.40	1.4	1.8	31.6	1200	139
400x2x0.40	1.4	2.0	35.7	1600	139
500x2x0.40	1.4	2.0	39.0	1900	139
600x2x0.40	1.4	2.3	42.0	2300	139
1000x2x0.40	1.4	2.5	52.1	3600	139
1200x2x0.40	1.4	2.5	56.2	4300	139
1800x2x0.40	1.4	2.8	87.4	6200	139
2400x2x0.40	1.4	2.8	76.3	8100	139
100x2x0.60	1.4	1.8	28.9	970	62
150x2x0.60	1.4	1.8	33.6	1400	62
200x2x0.60	1.4	2.0	38.0	1800	62
300x2x0.60	1.4	2.3	45.3	2600	62
400x2x0.60	1.4	2.5	51.4	3300	62
500x2x0.60	1.4	2.5	56.3	4100	62
600x2x0.60	1.4	2.5	60.8	4800	62
1000x2x0.60	1.4	2.8	76.5	7800	62
1200x2x0.60	1.4	2.8	82.9	9200	62

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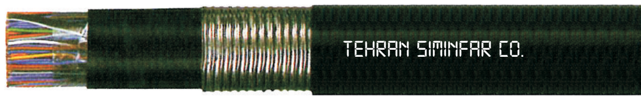
C.F.C (A-2Y(L)2Y)

Conduit jelly filled telecommunication cable

- **According to** : TCI
- **Conductor** : Bare solid annealed copper
- **Insulation :** HDPE
- **Filling :** Jelly compound
- **Warp :** Mylar polyester tape helically with min 30% overlap
- **Shield(Screen) :** Aluminum copolymer tape longitudinally with overlap
- **Jacket :** LDPE
- **Nominal conductor diameter :** 0.4, 0.5, 0.60, 0.80, 0.90 mm

Size	Nominal Jaket Thickness mm	Overall diameter		weight Approx. kg/km	Max dc Resistance At 20°C Ω/km	Mutual Capacitance At1KHz nF/km	Max Attenuation at23°C	
		min mm	max mm				1024 KHz dB/km	1500 KHz dB/km
10x2x0.4	1.4	9.6	10	100	139	52 ± 4	23.5	28
20x2x0.4	1.4	11.6	12	158	139	52 ± 2	23.5	28
30x2x0.4	1.4	12.5	13	205	139	52 ± 2	23.5	28
40x2x0.4	1.6	14.5	15	266	139	52 ± 2	23.5	28
50x2x0.4	1.6	16	16.5	316	139	52 ± 2	23.5	28
70x2x0.4	1.6	17.5	18	407	139	52 ± 2	23.5	28
100x2x0.4	1.8	20.5	21	558	139	52 ± 2	23.5	28
150x2x0.4	2	24	25	794	139	52 ± 2	23.5	28
200x2x0.4	2	27	28	1015	139	52 ± 2	23.5	28
300x2x0.4	2.2	33	34	1511	139	52 ± 2	23.5	28
400x2x0.4	2.3	37	38	1896	139	52 ± 2	23.5	28
500x2x0.4	2.5	42	43	2499	139	52 ± 2	23.5	28
600x2x0.4	2.5	45	46	2755	139	52 ± 2	23.5	28
10x2x0.6	1.4	12.5	13	181	62	52 ± 4	15.2	18.5
20x2x0.6	1.6	16	16.5	304	62	52 ± 2	15.2	18.5
30x2x0.6	1.6	18	18.5	421	62	52 ± 2	15.2	18.5
40x2x0.6	1.8	20.5	21	549	62	52 ± 2	15.2	18.5
50x2x0.6	1.8	22	23	657	62	52 ± 2	15.2	18.5
70x2x0.6	2	25	26	876	62	52 ± 2	15.2	18.5
100x2x0.6	2.2	30	31	1210	62	52 ± 2	15.2	18.5
150x2x0.6	2.3	34.5	36	1727	62	52 ± 2	15.2	18.5
200x2x0.6	2.5	39.5	41	2249	62	52 ± 2	15.2	18.5
300x2x0.6	2.6	47.5	49	3234	62	52 ± 2	15.2	18.5
400x2x0.6	2.7	54.5	56	4248	62	52 ± 2	15.2	18.5
500x2x0.6	2.9	61.5	63	5282	62	52 ± 2	15.2	18.5
600x2x0.6	3	66	68	6233	62	52 ± 2	15.2	18.5

B.F.C (A-2YF(L)2YB2Y)



Buried Jelly filled telecommunication cable

- **According to** : TCI
- **Conductor** : Bare solid annealed copper
- **Insulation** : HDPE
- **Filling** : Jelly compound
- **Warp** : Mylar polyester tape helically with min 30% overlap
- **Shield(Screen)** : Aluminum copolymer tape longitudinally with overlap
- **Inner sheath** : LDPE
- **Armor** : Corrugated tinned plate steel tape longitudinally with overlap
- **Outer sheath** : LDPE
- **Nominal conductor diameter** : 0.4, 0.5, 0.60, 0.80, 0.90 mm

Size	Inner sheath thickness mm	Outer Jacket thickness mm	Overall diameter		weight Approx. kg/km	Max dc Resistance At 20°C Ω/km	Mutual Capacitance At1KHz nF/km	Max Attenuation at23°C	
			min	max				1024 KHz dB/km	1500 KHz dB/km
10x2x0.40	1.4	1.8	14	14.5	227	139	52 ± 4	23.5	28
20x2x0.40	1.4	1.8	16.5	17	318	139	52 ± 2	23.5	28
30x2x0.40	1.4	1.8	18.5	19	380	139	52 ± 2	23.5	28
40x2x0.4	1.4	1.8	20	20.5	449	139	52 ± 2	23.5	28
50x2x0.4	1.4	1.8	21.5	22	517	139	52 ± 2	23.5	28
70x2x0.4	1.4	1.8	23	23.5	611	139	52 ± 2	23.5	28
100x2x0.4	1.4	1.8	25	26	780	139	52 ± 2	23.5	28
150x2x0.4	1.4	2	29	30	1048	139	52 ± 2	23.5	28
200x2x0.4	1.4	2	32.5	33.5	1307	139	52 ± 2	23.5	28
300x2x0.4	1.4	2.2	38	39	1852	139	52 ± 2	23.5	28
400x2x0.4	1.4	2.3	42	43.5	2275	139	52 ± 2	23.5	28
500x2x0.4	1.4	2.5	46	48	2901	139	52 ± 2	23.5	28
600x2x0.4	1.4	2.6	50	52	3224	139	52 ± 2	23.5	28
1000x2x0.4	1.4	2.8	62	65	5090	139	52 ± 2	23.5	28
10x2x0.6	1.4	1.8	17.5	18	335	62	52 ± 4	15.2	18.5
20x2x0.6	1.4	1.8	20.5	21	475	62	52 ± 2	15.2	18.5
30x2x0.6	1.4	1.8	23	23.5	616	62	52 ± 2	15.2	18.5
40x2x0.6	1.4	1.8	25	25.5	745	62	52 ± 2	15.2	18.5
50x2x0.6	1.4	1.8	26.5	27.5	865	62	52 ± 2	15.2	18.5
70x2x0.6	1.4	2	30.5	31.5	1119	62	52 ± 2	15.2	18.5
100x2x0.6	1.4	2	34	35	1457	62	52 ± 2	15.2	18.5
150x2x0.6	1.4	2.3	40	41.5	2027	62	52 ± 2	15.2	18.5
200x2x0.6	1.4	2.5	45	47	2577	62	52 ± 2	15.2	18.5
300x2x0.6	1.4	2.6	54	55.5	3605	62	52 ± 2	15.2	18.5
400x2x0.6	1.4	2.8	60.5	62.5	4667	62	52 ± 2	15.2	18.5
500x2x0.6	1.4	2.9	67	69	5695	62	52 ± 2	15.2	18.5
600x2x0.6	1.4	3	71	73	6665	62	52 ± 2	15.2	18.5

J-2Y(st)Y

Indoor telecommunication cable

- **According to** : TCI
- **Conductor** : Bare solid annealed copper
- **Insulation :** HDPE
- **Warp :** Mylar polyester tape helically with min 30% overlap
- **Shield(Screen) :** Tinned copper drain wire / Aluminum foil tape helically with min 30% overlap
- **Jacket :** PVC
- **Nominal conductor diameter :** 0.4, 0.5, 0.60, 0.80, 0.90 mm

Size	Jacket thickness mm	Jacket diameter mm	weight Approx. Kg/km	Max dc resistance At 20°C Ω/km
2x2x0.40	1.0	4.7	27	139
4x2x0.40	1.0	5.6	38	139
6x2x0.40	1.0	6.2	47	139
8x2x0.40	1.0	6.7	56	139
10x2x0.40	1.0	7.2	64	139
20x2x0.40	1.0	9.0	100	139
30x2x0.40	1.4	11.2	160	139
40x2x0.40	1.4	12.5	200	139
50x2x0.40	1.4	13.5	240	139
70x2x0.40	1.4	15.4	310	139
100x2x0.40	1.4	17.7	420	139
150x2x0.40	1.8	21.7	640	139
200x2x0.40	1.8	24.4	810	139
300x2x0.40	2.1	29.5	1200	139
400x2x0.40	2.1	33.4	1500	139
500x2x0.40	2.3	37.1	1900	139
600x2x0.40	2.5	40.6	2300	139
1000x2x0.40	2.7	51.1	3700	139
2x2x0.60	1.0	5.8	41	62
4x2x0.60	1.0	7.1	61	62
6x2x0.60	1.0	8.1	80	62
8x2x0.60	1.0	8.8	97	62
10x2x0.60	1.0	9.5	110	62
20x2x0.60	1.4	13.1	220	62
30x2x0.60	1.4	15.3	300	62
40x2x0.60	1.4	17.1	380	62
50x2x0.60	1.4	18.7	460	62
70x2x0.60	1.8	22.3	660	62
100x2x0.60	1.8	25.8	900	62
150x2x0.60	2.1	31.3	1300	62
200x2x0.60	2.3	35.7	1700	62
300x2x0.60	2.5	43.0	2500	62
400x2x0.60	2.5	48.8	3300	62
500x2x0.60	2.7	54.3	4100	62
600x2x0.60	2.7	58.9	4800	62

تهران سیمین فر
Tehran Siminfar

MDF (J-Y(st)Y)

Main Distribution Frame

- **According to** : TCI
- **Conductor** : Bare solid annealed copper
- **Insulation :** PVC (or LSZH)
- **Warp :** Mylar polyester tape helically with min 30% overlap
- **Shield(Screen) :** Tinned copper drain wire / Aluminum foil tape helically with min 30% overlap
- **Jacket :** PVC (or LSZH)
- **Nominal conductor diameter :** 0.4, 0.5, 0.60, 0.80, 0.90 mm

Size	Outer Jacket Thickness mm	Max Overall Diameter mm	Weight Approx. Kg/km	Max Resistance At°20C Ω/km	Max Mutual Capacitance At 1 Khz nF/km	Insulation Resistance At 20°C & 500 V DC MΩ/km
100x2x0.50	1.6	21.1	650	90.2	100	500
200x2x0.50	1.8	23.6	1240	90.2	100	500
100x2x0.4	1.6	18	460	139	100	500
200x2x0.4	1.8	23	843	139	100	500
2x2x0.6	1	5	39	62	100	100
4x2x0.6	1	6.3	57	62	100	100
6x2x0.6	1	7.2	75	62	100	100
8x2x0.6	1	8	92	62	100	100
10x2x0.6	1	8.6	112	62	100	100
20x2x0.6	1	11.2	192	62	100	100
30x2x0.6	1.2	13.4	276	62	100	100
40x2x0.6	1.2	15	354	62	100	100
50x2x0.6	1.2	16.4	438	62	100	100
70x2x0.6	1.4	18.7	574	62	100	100
100x2x0.6	1.4	22.5	814	62	100	100
150x2x0.6	1.6	27.4	1232	62	100	100
200x2x0.6	1.8	31.4	1630	62	100	100
2x2x0.8	1	6.2	54	35	100	100
4x2x0.8	1	8.5	96	35	100	100
6x2x0.8	1	10	119	35	100	100
8x2x0.8	1	11.1	140	35	100	100
10x2x0.8	1	12.4	184	35	100	100
20x2x0.8	1.2	17.2	354	35	100	100
30x2x0.8	1.4	20.5	525	35	100	100
40x2x0.8	1.4	23	670	35	100	100
50x2x0.8	1.6	26	840	35	100	100
70x2x0.8	1.8	30.2	1160	35	100	100
100x2x0.8	1.8	36.7	1600	35	100	100

A-2YF(L)2YR2Y

Buried telecommunication cable with wire armor

- **According to** : TCI
- **Conductor** : Bare solid annealed copper
- **Insulation** : HDPE
- **Filling** : Jelly compound
- **Warp** : Mylar polyester tape helically with min 30% overlap
- **Shield(Screen)** : Aluminum copolymer tape longitudinally with overlap
- **Inner sheath** : LDPE
- **Armor** : Galvaniozed steel wire armor
- **Outer sheath** : LDPE (or PVC)
- **Nominal conductor diameter** : 0.4, 0.5, 0.60, 0.80, 0.90 mm

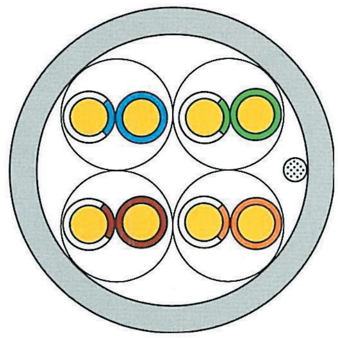
Size	Inner sheath thickness mm	Armor wire diameter mm	Jacket thickness mm	Overall diameter mm	weight Approx. Kg/km	Max dc resistance At 20°C Ω/km
10x2x0.40	1.4	0.9	1.8	14.7	390	139
20x2x0.40	1.4	0.9	1.8	16.8	490	139
30x2x0.40	1.4	0.9	1.8	18.3	580	139
40x2x0.40	1.4	0.9	1.8	19.7	660	139
50x2x0.40	1.4	1.2	1.8	21.5	850	139
70x2x0.40	1.4	1.2	1.8	23.5	990	139
100x2x0.40	1.4	1.2	1.8	26.1	1200	139
150x2x0.40	1.4	1.2	2.1	30.3	1600	139
200x2x0.40	1.4	1.6	2.1	34	2100	139
300x2x0.40	1.4	1.6	2.3	39.5	2800	139
400x2x0.40	1.4	2	2.5	44.9	3700	139
500x2x0.40	1.4	2	2.5	48.6	4300	139
600x2x0.40	1.4	2	2.5	52	4900	139
1000x2x0.40	1.4	2	2.7	63.6	7200	139
10x2x0.60	1.4	0.9	1.8	17.7	540	62
20x2x0.60	1.4	1.2	1.8	21.7	840	62
30x2x0.60	1.4	1.2	1.8	24.2	1000	62
40x2x0.60	1.4	1.2	2.1	26.9	1300	62
50x2x0.60	1.4	1.2	2.1	28.8	1400	62
70x2x0.60	1.4	1.6	2.1	32.9	1900	62
100x2x0.60	1.4	1.6	2.1	37	2400	62
150x2x0.60	1.4	2	2.5	44.4	3500	62
200x2x0.60	1.4	2	2.5	49.2	4300	62
300x2x0.60	1.4	2	2.7	57.6	5700	62
400x2x0.60	1.4	2	2.7	64.4	7000	62
500x2x0.60	1.4	2.5	2.9	71.7	9000	62
600x2x0.60	1.4	2.5	2.9	77.1	10000	62

Lacal Area Network cable (LAN)

Dimensional information

According to .... IEC 11801, TIA/EIA 568
Conductor .... Bare solid annealed copper conductor
24 AWG (0.50 mm)
Insulation .... High Density Poly Ethylene
Identification .... White/Blue , Blue – White / Orange , Orange – White / Green , Green – White / Brown , Brown
Jacket .... PVC or LSFOH
Gray or other Color according to request
Overall diameter .... 5.0 mm
Weight Approx. .... 28 kg/km

Electrical Requirement



Characteristic impedance .... 100±15Ω at (1 – 150) M Hz
Max dc resistance .... Max. 90Ω /km at 20° C
Resistance unbalanced .... Max. 3%
Mutual capacitance .... Max. 56 nF/km at (800 ~ 1000) Hz
Insulation resistance .... Min. 10 MΩ.km
Dielectric strength .... 5000 V DC for 3 sec
Delay skew .... Max. 0.05 μs/100m

Frequency M Hz	Max Attenuation dB	Min Return loss dB	Min NEXT dB	Min PS NEXT dB	Min ELFEXT dB	Min PS ELFEXT dB
1	2.41	17.00	60.29	60.29	57.40	54.40
4	4.55	17.00	50.54	50.54	45.36	42.36
10	7.18	17.00	43.99	43.99	37.40	34.40
16	9.12	17.00	40.59	40.59	33.32	30.32
20	10.24	16.99	38.97	38.97	31.38	28.38
31.25	12.92	15.05	35.71	35.71	27.50	24.50
62.5	18.67	12.04	30.59	30.59	21.48	18.48
100	24.10	10.00	27.08	27.08	17.40	14.40
150	30.14	8.24	24.03	24.03	13.88	10.88

Temperature

Temperature range :
Operating temperature
(-20 ~ +70)°C
Installation temperature
(-10 ~ +50)°C

Optional Requirement

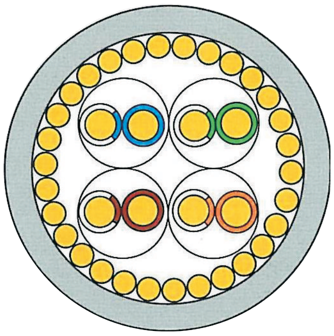
Flame retardant ....Acc. to IEC 60332-1
Fire retardant ....Acc. to IEC 60332-3
Halogen free ....Acc. to IEC 60754
Low smoke ....Acc. to IEC 61034

Local Area Network cable (LAN)

Dimensional information

According to .... IEC 11801, TIA/EIA 568
Conductor .... Bare solid annealed copper conductor
24 AWG (0.50 mm)
Insulation .... High Density Poly Ethylene
Identification .... White/Blue , Blue – White / Orange , Orange – White / Green ,
Green – White / Brown , Brown
Shield(Screen) ...... Aluminum Foil Tape / Bare (or Tinned) Copper wire braid
Jacket .... PVC or LSFOH
Gray or other Color according to request
Overall diameter .... 6.0 mm
Weight Approx. .... 43 kg/km

Electrical Requirement



Characteristic impedance .... 100 ±15Ω at (1 – 150) M Hz
Max dc resistance .... Max. 90Ω /km at 20° C
Resistance unbalanced .... Max. 3%
Mutual capacitance .... Max. 56 nF/km at (800 ~ 1000) Hz
Insulation resistance .... Min. 10 MΩ.km
Dielectric strength .... 5000 V DC for 3 sec
Delay skew .... Max. 0.05µs/100m

Frequency M Hz	Max Attenuation dB	Min Return loss dB	Min NEXT dB	Min PS NEXT dB	Min ELFEXT dB	Min PS ELFEXT dB
1	2.41	17.00	60.29	60.29	57.40	54.40
4	4.55	17.00	50.54	50.54	45.36	42.36
10	7.18	17.00	43.99	43.99	37.40	34.40
16	9.12	17.00	40.59	40.59	33.32	30.32
20	10.24	16.99	38.97	38.97	31.38	28.38
31.25	12.92	15.05	35.71	35.71	27.50	24.50
62.5	18.67	12.04	30.59	30.59	21.48	18.48
100	24.10	10.00	27.08	27.08	17.40	14.40
150	30.14	8.24	24.03	24.03	13.88	10.88

Temperature

Temperature range :
Operating temperature
(-20 ~ +70)°C
Installation temperature
(-10 ~ +50)°C

Optional Requirement

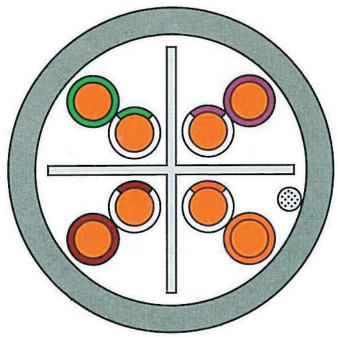
Flame retardant ....Acc. to IEC 60332-1
Fire retardant ....Acc. to IEC 60332-3
Halogen free ....Acc. to IEC 60754
Low smoke ....Acc. to IEC 61034

Cat 6 UTP , 4pair AWG 23

Local Area Network cable (LAN)

According to .... IEC 11801, TIA/EIA 568
Conductor .... Bare solid annealed copper conductor
23 AWG (0.58 mm)
Insulation .... High Density Poly Ethylene
Identification .... White/Blue , Blue – White / Orange , Orange – White / Green ,
Green – White / Brown , Brown
Jacket .... PVC or LSFOH
Gray or other Color according to request
Overall diameter .... 6.0 mm
Weight Approx. .... 43 kg/km

Electrical Requirement



Characteristic impedance .... 100 ±15Ω at (1 – 250) M Hz
Max dc resistance .... Max. 62Ω /km at 20° C
Resistance unbalanced .... Max. 3%
Mutual capacitance .... Max. 56 nF/km at (800 ~ 1000) Hz
Insulation resistance .... Min. 10 MΩ.km
Dielectric strength .... 5000 V DC for 3 sec
Delay skew .... Max. 0.05μs/100m

Frequency M Hz	Max Attenuation dB	Min Return loss dB	Min NEXT dB	Min PS NEXT dB	Min ELFEXT dB	Min PS ELFEXT dB
1	2.27	19.00	72.67	70.29	63.26	60.26
4	4.18	19.00	63.04	60.54	51.22	48.22
10	6.56	19.00	56.58	53.99	43.26	40.26
16	8.31	17.98	53.23	50.59	39.17	36.17
20	9.32	17.49	51.63	48.97	37.24	34.24
31.25	11.73	16.53	48.42	45.71	33.36	30.36
62.5	16.88	14.04	43.38	40.59	27.34	24.34
100	21.71	12.00	39.93	37.08	23.26	20.26
155	27.56	10.10	36.68	33.78	19.45	16.45
200	31.72	8.99	34.78	31.85	17.24	14.24
250	35.93	8.02	33.11	30.15	15.30	12.30

Temperature

Temperature range :
Operating temperature
(-20 ~ +70)°C
Installation temperature
(-10 ~ +50)°C

Optional Requirement

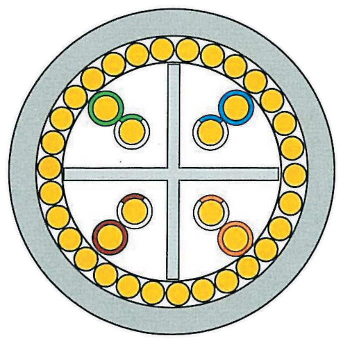
Flame retardant ....Acc. to IEC 60332-1
Fire retardant ....Acc. to IEC 60332-3
Halogen free ....Acc. to IEC 60754
Low smoke ....Acc. to IEC 61034

Lacal Area Network cable (LAN)

Dimensional information

According to .... IEC 11801, TIA/EIA 568
Conductor .... Bare solid annealed copper conductor
23 AWG (0.58 mm)
Insulation .... High Density Poly Ethylene
Identification .... White/Blue , Blue – White / Orange , Orange – White / Green ,
Green – White / Brown , Brown
Shield(Screen) ...... Aluminum Foil Tape / Bare (or Tinned) Copper wire braid
Jacket .... PVC or LSFOH
Gray or other Color according to request
Overall diameter .... 7.0 mm
Weight Approx. .... 58 kg/km

Electrical Requirement



Characteristic impedance .... 100±15Ω at (1 – 250) M Hz
Max dc resistance .... Max. 62Ω /km at 20° C
Resistance unbalanced .... Max. 3%
Mutual capacitance .... Max. 56 nF/km at (800 ~ 1000) Hz
Insulation resistance .... Min. 10 MΩ.km
Dielectric strength .... 5000 V DC for 3 sec
Delay skew .... Max. 0.05μs/100m

Frequency M Hz	Max Attenuation dB	Min Return loss dB	Min NEXT dB	Min PS NEXT dB	Min ELFEXT dB	Min PS ELFEXT dB
1	2.27	19.00	72.67	70.29	63.26	60.26
4	4.18	19.00	63.04	60.54	51.22	48.22
10	6.56	19.00	56.58	53.99	43.26	40.26
16	8.31	17.98	53.23	50.59	39.17	36.17
20	9.32	17.49	51.63	48.97	37.24	34.24
31.25	11.73	16.53	48.42	45.71	33.36	30.36
62.5	16.88	14.04	43.38	40.59	27.34	24.34
100	21.71	12.00	39.93	37.08	23.26	20.26
155	27.56	10.10	36.68	33.78	19.45	16.45
200	31.72	8.99	34.78	31.85	17.24	14.24
250	35.93	8.02	33.11	30.15	15.30	12.30

Temperature

Temperature range :
Operating temperature
(-20 ~ +70)°C
Installation temperature
(-10 ~ +50)°C

Optional Requirement

Flame retardant ....Acc. to IEC 60332-1
Fire retardant ....Acc. to IEC 60332-3
Halogen free ....Acc. to IEC 60754
Low smoke ....Acc. to IEC 61034

- **Acc. to** : MIL
- **Conductor :** Bare (or Tinned) annealed solid (or stranded or flexible stranded) copper conductor or Copper clad Aluminum (CCA)
- **Insulation :** Extruded PE or FPE (foam PE)
- **screen 1 :** Bare (or Tinned) annealed copper wire braid (May be with Al foil tape acc. to request)
- **screen 2 :** Bare (or Tinned) annealed copper wire braid (If required)
- **Jacket :** PVC or PE or LSZH

Type	Conductor		Insulation mm		Inner shield mm			Outer shield mm			Jacket mm		Impedance Ω/km	Capacitance nF/km	Attenuation dB/km
RG-5/U	1	1.29	BC	4.7	16	9	0.16	16	9	0.16	8.4	PVC	52.5	93.5	85
RG-7/U	1	0.924	BC	6.35	24	7	0.18				9.4	PVC	94.5	41	66
RG-8/U	7	0.724	BC	7.24	24	8	0.18				10.3	PVC	52	96.8	69
RG-8A/U	7	0.724	BC	7.24	24	8	0.18				10.3	PVC	52	96.8	69
RG-11/U	7	0.404	TC	7.24	24	8	0.18				10.3	PVC	75	67.3	76
RG-11A/U	7	0.404	TC	7.24	24	8	0.18				10.3	PVC	75	67.3	76
RG-13/U	7	0.404	TC	7.11	24	9	0.16	24	8	0.16	10.7	PVC	74	67.3	76
RG-13A/U	7	0.404	TC	7.11	24	9	0.16	24	8	0.16	10.7	PVC	74	67.3	76
RG-14/U	1	2.59	BC	9.4	24	10	0.18	24	8	0.18	13.8	PVC	52	96.8	46
RG-14A/U	1	2.59	BC	9.4	24	10	0.18	24	8	0.18	13.8	PVC	52	96.8	46
RG-15/U	1	1.45	CCA	9.4	24	10	0.18	24	8	0.18	13.8	PVC	76	65.6	49
RG-17/U	1	4.76	BC	17.3	24	14	0.26				22.1	PVC	52	96.8	28
RG-17A/U	1	4.78	BC	17.3	24	14	0.26				22.1	PVC	52	96.8	28
RG-19/U	1	6.35	BC	23.1	36	12	0.26				28.5	PVC	52	96.8	22
RG-19A/U	1	6.35	BC	23.1	36	12	0.26				28.5	PVC	52	96.8	22
RG-22/U	7	0.386	BC	7.24	24	8	0.18				10.3	PVC	95	52.5	118
RG-22A/U	7	0.386	BC	7.24	24	8	0.16	24	8	0.16	10.7	PVC	95	52.5	118
RG-22B/U	7	0.386	BC	7.24	24	8	0.16	24	8	0.16	10.7	PVC	95	52.5	118
RG-29/U	1	0.813	BC	2.95	16	7	0.127				4.7	PVC	53.5	93.5	138
RG-34/U	7	0.724	BC	11.6	24	9	0.16				15.9	PVC	71	70.5	46
RG-34B/U	7	0.632	BC	11.7	24	10	0.18				16	PVC	75	67	48
RG-54A/U	7	0.385	BC	4.52	16	9	0.16				6.1	PVC	58	85.5	187
RG-55/U	1	0.813	BC	2.9	16	7	0.127	16	7	0.127	5	PVC	53.5	93.6	138
RG-58/U	1	0.813	BC	2.95	16	7	0.127				4.95	PVC	53.5	93.5	138
RG-58A/U	19	0.18	TC	2.95	16	7	0.127				4.95	PVC	50	93.5	174
RG-58C/U	19	0.18	TC	2.95	16	7	0.127				4.95	PVC	50	93.5	174
RG-59/U	1	0.643	CCA	3.71	16	7	0.16				6.15	PVC	73	68.9	125
RG-59A/U	1	0.643	CCA	3.71	16	7	0.16				6.15	PVC	73	68.9	125
RG-59B/U	1	0.584	CCA	3.71	16	7	0.16				6.15	PVC	75	68.9	112
RG-62/U	1	0.643	CCA	3.71	16	7	0.16				6.15	PVC	93	44.3	102
RG-62A/U	1	0.643	CCA	3.71	16	7	0.16				6.15	PVC	93	44.3	102
RG-63/U	1	0.643	CCA	7.24	24	8	0.18				10.3	PVC	125	32.8	66
RG-63B/U	1	0.643	CCA	7.24	24	8	0.18				10.3	PVC	125	32.8	66
RG-71/U	1	0.643	CCA	3.71	16	7	0.16	16	9	0.127	6.4	PVC	93	44.3	102
RG-89/U	1	0.643	CCA	7.24	16	12	0.18				16	PVC	125	32.8	66
RG-108/U	7	0.32	TC	1.84	16	6	0.127				6.2	PVC	78	74.3	-
RG-108A/U	7	0.32	TC	2.01	16	6	0.127				5.97	PVC	78	74.3	-
RG-122/U	27	0.127	TC	2.44	16	6	0.127				4.06	PVC	50	105	195
RG-130/U	7	0.724	BC	12	24	8	0.26				15.9	PVC	95	56	99
RG-133/U	1	0.645	BC	7.2	24	8	0.18				10.3	PVC	95	53	76
RG-164/U	1	2.65	BC	17.3	24	14	0.26				22.1	PVC	75	67	30
RG-213/U	7	0.752	BC	7.24	24	8	0.18				10.3	PVC	50	100	69
RG-216/U	7	0.404	TC	7.24	24	9	0.16				10.8	PVC	75	67	88
RG-217/U	1	2.69	BC	9.4	24	10	0.18				13.8	PVC	50	100	50

تهران سیمین فر
Tehran Siminfar

Coaxial cable

- **Acc. to** : JIS
- **Impedance** : 50 or 75Ω
- **Inner conductor :** Bare annealed solid (or stranded) copper conductor or Copper clad Aluminum(CCA)
- **Insulation :** Extruded PE , diameter acc. to table
- **screen 1 :** Bare annealed copper wire braid
- **screen 2 :** Bare annealed copper wire braid (If required)
- **Jacket :** PVC outer sheath

Type	Conductor mm	Insulation Diameter mm	shield1	shield2	sheath Thickness mm	Standard Diameter mm	Overall Diameter mm	Max Resistance of Conductor At 20°C Ω/km	Capacitance 1KHZ nF/km	Standard Attenuation 10 MHz dB/km	Approximate Weight Kg/km
0.8D - 2V	1/0.26	0.8	16/3/0.10		0.35	2	2.0 + 0.4	968	102 ± 8	180	8
1.5D - 2V	7/0.18	1.6	16/5/0.10		0.4	2.9	2.9 + 0.4	110	104 ± 5	85	11
2.5D - 2V	1/0.8	2.7	16/7/0.12		0.5	4.3	4.3 + 0.5	35.9	100 ± 5	45	35
3D - 2V	7/0.32	3	24/5/0.14		0.8	5.3	5.3 + 0.5	33.3	100 ± 4	47	44
5D - 2V	1/1.4	4.8	24/7/0.14		0.9	7.3	7.3 + 0.5	11.7	100 ± 4	27	80
5D - 2W	1/1.4	4.8	24/7/0.14	24/7/0.14	0.9	8	8.0 + 0.5	11.7	100 ± 4	27	110
8D - 2V	7/0.8	7.8	24/8/0.18		1.2	11.1	11.1+ 0.6	5.13	100 ± 4	20	180
10D - 2V	1/2.9	9.7	24/10/0.20		1.2	13.1	13.1+ 0.6	2.67	102 ± 4	14	260
1.5C - 2V	1//0.26	1.6	16/5/0.10		0.4	2.9	2.9 + 0.4	968	69 ± 4	69	13
2.5C - 2V	1/0.4	2.4	16/6/0.12		0.5	4	4.0 + 0.5	145	69 ± 4	52	25
3C - 2V	1/0.5	3.1	24/5/0.14		0.8	5.4	5.4 + 0.5	91.4	67 ± 3	42	42
3C - 2VCS	1/0.5	3.1	24/5/0.14		0.8	5.4	5.4 + 0.5	256	67 ± 3	42	42
3C - 2VS	7/0.18	3.1	24/5/0.14		0.8	5.4	5.4 + 0.5	100	67 ± 3	48	42
5C - 2V	1/0.8	4.9	24/7/0.14		0.9	7.4	7.4 + 0.5	35.9	67 ± 3	27	74
5C - 2W	1/0.8	4.9	24/7/0.14	24/7/0.14	1	8.3	8.3 + 0.5	35.9	67 ± 3	27	120
7C - 2V	7/0.4	7.3	24/8/0.18		1.1	10.4	10.4 + 0.	20.7	67 ± 3	22	140
10C - 2V	7/0.5	9.4	24/10/0.20		1.3	13	13.0 + 0.6	13.1	67 ± 3	18	220

تهران سیمین فر

Tehran Siminfar

Fiber Optic Cables

Fiber optic cables designed by Tehran Siminfar according to TCI or international standard to use at distance and local telecommunication networks are produced using the most updated technology. Tehran Siminfar can produce up to 288 fibers cable with Loose Tube technology and also tight or semi tight coated buffer cables. Single mode (SM) or Non Zero Desperation (NZ) or Multi mode (MM) fiber cables are produced for duct, direct buried or aerial installation in accordance with the specifications or customer requirements.

Optic fiber is colored by UV technology then placed in buffer tubes, up to 12 fibers in a tube, filled with thixotropic jelly. Buffer tubes are stranded around a central strength member to form cable core. The interstices between the tubes and central strength member is filled with petroleum jelly or wrapping water swell able tape helically to prevent water penetration. Cable core may be covered by aramid yarn or aluminum tape as moisture barrier then cable core is sheathed. Armoured core is sheathed by an HDPE outer jacket. Finished cable is packed in standard or specific lengths as per customer request and shipped after final inspection tests. All raw materials, semi finished and finished products are tested at every stage of production.

تهران سیمین فر
Tehran Siminfar

OBUC-SM/NZ

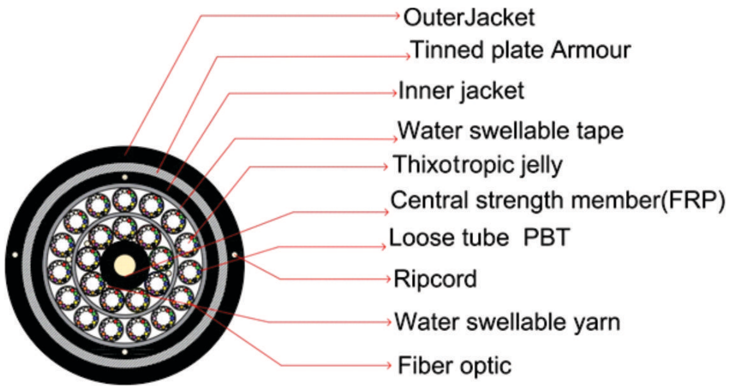
Optical Buried Unfilled Cable
OBUC

Cable construction :

- **Standard** TCI, IEC, TIA/EIA
- **Fiber optic :** SM type acc. to ITU T G 652 type D or NZ type acc. to ITU T G 655
  - Core diameter : 8.3 ± 0.5 μm
  - Clad diameter : 125± 0.7 μm
  - Coating diameter : 245± 5 μm
- **Central strength member :** non metalic FRP
- **Water swellable yarn :** over central strength member
- **Loose tube :** PBT compound , group 1, class 2, grade 1 of TPES acc. to ASTM D4507
- **Identification :** Fiber optic and loose tube color acc. to TCI or IEC
- **Thixotropic jelly :** Inside of loose tube
- **Stranding :** Loose tube with filler stranding around FRP
- **Wrap :** Water swellable tape longitudinally whit min 3mm overlap
- **Ripcord** : 2 Diametrically opposed ripcords for strip jacket
- **First jacket :** LDPE compound type I, class C, category 4 or 5 and grade J3 acc. to ASTM D1248
- **Armour :**One layer of corrugated tinned plate steel tape (or copolymer coated steel tape) longitudinally applied over first jacket
- **Ripcord** : 2 Diametrically opposed ripcords for strip jacket
- **Jacket :** HDPE compound , type III class C category 4 or 5 grade J3 acc. to ASTM D1248

SM Fiber optic specification :

- **Attenuation :** acc. to ANSI/TIA-455-78-B
  - < 0.35 dB/km at 1310 nm
  - < 0.25 dB/km at 1550 nm
- **Dispersion :** acc. to TIA/EIA-455-175-B
  - < 3.2 ps/nm.Km
  - < 18.0 ps/nm.Km
- **Water Peak Attenuation**: acc. to TIA-455-78-B
  - < 0.31 dB/Km at 1383±3nm
- **Mode Field Diametr** : acc. to IEC 60793-1-45
  - 9.2±0.4 µm at 1310 nm
  - 10.4±0.8 µm at 1550 nm
- **Cut off Wavelength** : acc. to IEC 60793-1-44
  - < 1260 nm
- **Loose tube & Fiber optic color :** acc. to TCI
  - White , Red , Green , Blue , Yellow , Black , Brown , Violet , Orange , Pink , Gray , Natural



NZ Fiber optic specification :

- **Attenuation :** acc. to ANSI/TIA-455-78
  - < 0.22 dB/km at 1550 nm
  - < 0.24 dB/km at 1625 nm
- **Chromatic Dispersion :** acc. to TIA/EIA
  - < 2.0 – 6.0 ps/nm.Km
  - < 4.5-11.0 ps/nm.Km
- **Mode Field Diametr** : acc. to IEC 60793
  - 9.6±0.4 μm at 1550 nm
- **Cut off Wavelength** : acc. to IEC 6097
  - < 1450 nm
- **Loose tube & Fiber optic color :** acc. to TCI
  - White , Red , Green , Blue , Yellow , Black , Brown , Violet , Orange , Pink , Gray , Natural

Size	Number of loose tube	Number of Fiber in loose tube	Jacket thickness mm	Overall diameter mm	weight Approx. kg/km
1x2	1	2	1.4 / 2.0	17.0	240
1x4	1	4	1.4 / 2.0	17.0	240
2x4	2	4	1.4 / 2.0	17.0	240
3x4	3	4	1.4 / 2.0	17.0	240
1x6	1	6	1.4 / 2.0	17.0	240
2x6	2	6	1.4 / 2.0	17.0	240
4x6	4	6	1.4 / 2.0	17.0	240
8x6	8	6	1.4 / 2.0	18.5	290
12x6	12	6	1.4 / 2.0	22.0	360
9x12	9	12	1.4 / 2.0	19.5	310
12x12	12	12	1.4 / 2.0	22.0	370
24x12	24	12	1.4 / 2.0	25.6	555

Tehran Siminfar company can produce all other size acc. to request .

- **Temperature range:**

  Transportation & Storage Temperature
  (-30 ~ 70) °C
  Installation Temperature Range
  (-10 ~ 50) °C

OBFC-SM/NZ

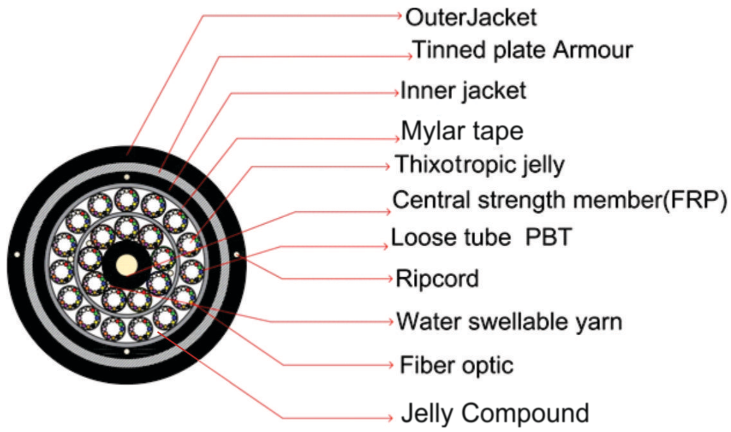
Optical Buried filled Cable
OBFC

Cable construction :

- **Standard**   TCI, IEC, TIA/EIA
- **Fiber optic :** SM type acc. to ITU T G 652 type D or NZ type acc. to ITU T G 655
  - Core diameter : 8.3 $\pm$ 0.5 μm
  - Clad diameter : 125$\pm$ 0.7 μm
  - Coating diameter : 245$\pm$ 5 μm
- **Central strength member :** non metalic FRP
- **Water swellable yarn :** over central strength member
- **Loose tube :** PBT compound , group 1, class 2, grade 1 of TPES acc. to ASTM D4507
- **Identification :** Fiber optic and loose tube color acc. to TCI or IEC
- **Thixotropic jelly :** Inside of loose tube
- **Stranding :** Loose tube with filler stranding around FRP
- **Filling :** Jelly compound
- **Wrap :** Mylar tape longitudinally whit min 3mm overlap
- **Ripcord** : 2 Diametrically opposed ripcords for strip jacket
- **First jacket :** LDPE compound type I, class C, category 4 or 5 and grade J3 acc. to ASTM D1248
- **Armour :**One layer of corrugated tinned plate steel tape (or copolymer coated steel tape) longitudinally applied over first jacket
- **Ripcord** : 2 Diametrically opposed ripcords for strip jacket
- **Jacket :** HDPE compound , type III class C category 4 or 5 grade J3 acc. to ASTM D1248

SM Fiber optic specification :

- **Attenuation :** acc. to ANSI/TIA-455-78-B
  - $<$ 0.35 dB/km at 1310 nm
  - $<$ 0.25 dB/km at 1550 nm
- **Dispersion :** acc. to TIA/EIA-455-175-B
  - $<$ 3.2 ps/nm.Km
  - $<$ 18.0 ps/nm.Km
- **Water Peak Attenuation**: acc. to TIA-455-78-B
  - $<$ 0.31 dB/Km at 1383$\pm$3nm
- **Mode Field Diametr** : acc. to IEC 60793-1-45
  - 9.2$\pm$0.4 µm at 1310 nm
  - 10.4$\pm$0.8 µm at 1550 nm
- **Cut off Wavelength** : acc. to IEC 60793-1-44
  - $<$ 1260 nm
- **Loose tube & Fiber optic color :** acc. to TCI
  - White , Red , Green , Blue , Yellow , Black , Brown , Violet , Orange , Pink , Gray , Natural



NZ Fiber optic specification :

- **Attenuation :** acc. to ANSI/TIA-455-78
  - < 0.22 dB/km at 1550 nm
  - < 0.24 dB/km at 1625 nm
- **Chromatic Dispersion :** acc. to TIA/EIA
  - < 2.0 – 6.0 ps/nm.Km
  - < 4.5-11.0 ps/nm.Km
- **Mode Field Diametr** : acc. to IEC 60793
  - 9.6±0.4 μm at 1550 nm
- **Cut off Wavelength** : acc. to IEC 6097
  - < 1450 nm
- **Loose tube & Fiber optic color :** acc. to TCI
  - White , Red , Green , Blue , Yellow , Black , Brown , Violet , Orange , Pink , Gray , Natural

Size	Number of loose tube	Number of Fiber in loose tube	Jacket thickness mm	Overall diameter mm	weight Approx. kg/km
1x2	1	2	1.4 / 2.0	17.0	240
1x4	1	4	1.4 / 2.0	17.0	240
2x4	2	4	1.4 / 2.0	17.0	240
3x4	3	4	1.4 / 2.0	17.0	240
1x6	1	6	1.4 / 2.0	17.0	240
2x6	2	6	1.4 / 2.0	17.0	240
4x6	4	6	1.4 / 2.0	17.0	240
8x6	8	6	1.4 / 2.0	18.5	290
12x6	12	6	1.4 / 2.0	22.0	360
9x12	9	12	1.4 / 2.0	19.5	310
12x12	12	12	1.4 / 2.0	22.0	370
24x12	24	12	1.4 / 2.0	25.6	555

Tehran Siminfar company can produce all other size acc. to request .

- **Temperature range:**

  Transportation & Storage Temperature
  (-30 ~ 70) °C
  Installation Temperature Range
  (-10 ~ 50) °C

OBUC-SM/NZ (SWA)

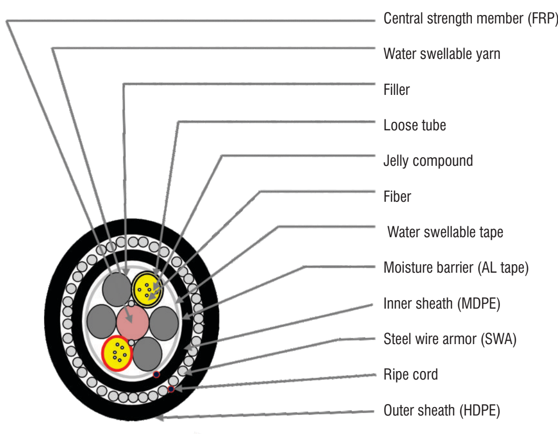
OPTICAL BURIED ALL DRY STEEL WIRE ARMORED CABLE

Cable construction :

- **Standard** TCI , IEC
- **Fiber optic** : SM type aac. To ITU T G 652 type D or NZ type acc. to ITU T G 655
  - Core diameter : 8.3 ± 0.5 μm
  - Clad diameter : 125± 0.7 μm
  - Coating diameter : 245± 5 μm
- **Central Strength Member:** Non metallic FRP
- **Water Swelling Yarn:** over central strength member
- **Loose Tube :** PBT compound , group 1, class 2, grade 1 of TPES ass. To ASTM D4507
- **Identification :** fiber optic and loose tube color acc. to TCI or IEC
- **Thixotropic jelly:** inside of loose tube
- **Stranding :** Loose tube with filler stranding around FRP
- **Wrap :** Water swellable tape longitudinally whit min 3mm overlap
- **Ripcord:** 2 Diametrically opposed ripcords for strip jacket
- **Aluminum Tape (moisture barrier):** Aluminum copolymer tape longitudinally with overlap
- **First jacket:** MDPE compound type II, class C, category 4 or 5 and grade J3a acc. to ASTM D1248
- **Armor**: Steel Wire as protection against rodents and mechanical damages
- **Ripcord:** 2 Diametrically opposed ripcords for strip jacket
- **Jacket** : HDPE compound , type III class C category 4 or 5 grade J3 acc.to ASTM D1248

SM Fiber optic specification :

- **Attenuation** :Acc. to ANSI/TIA-455-78-B
  - <0.35 dB /km at 1310 nm
  - <0.25 dB /km at 1550 nm
- **Dispersion :** acc. to TIA/EIA-455-175-B
  - < 3.2 ps/nm.km
  - < 18.0 ps/nm.km
- **Water peak Attenuation :** acc. to TIA-455-78-B
  - <0.31 dB /km at 1383 ± 3 nm
- **Mode Field Diameter :** ass. To IEC 60793-1-45
  - 9.2 ±0.4 μm at 1310 nm
  - 10.4 ±0.8 μm at 1550 nm
- **Cut off Wavelength :** acc.to IEC 60793-1-44
  - < 1260 nm
- **Loose tube & Fiber optic color:** acc.to TCI or IEC
  white, Red, Green ,Blue , Yellow, Black, Brown, Violet, Orange ,Pink ,Gray , Natural



Tehran Siminfar

NZ Fiber optic specification :

- **Attenuation :** acc. to ANSI/TIA-455-78
    - < 0.22 dB/km at 1550 nm
    - < 0.24 dB/km at 1625 nm
- **Chromatic Dispersion :** acc. to TIA/EIA
    - < 2.0 – 6.0 ps/nm.Km
    - < 4.5-11.0 ps/nm.Km
- **Mode Field Diametr** : acc. to IEC 60793
    - 9.6±0.4 μm at 1550 nm
- **Cut off Wavelength** : acc. to IEC 6097
    - < 1450 nm
- **Loose tube & Fiber optic color :** acc. to TCI
    - White , Red , Green , Blue , Yellow , Black , Brown , Violet , Orange , Pink , Gray , Natural

Size	Number of loose tube	Number of Fiber in loose tube	Jacket thickness mm	Overall diameter mm	weight Approx. kg/km
1×2	1	2	1.4/ 2.0	17.0	370
1×4	1	4	1.4/ 2.0	17.0	370
2×4	2	4	1.4/ 2.0	17.0	370
3×4	3	4	1.4/ 2.0	17.0	370
1×6	1	6	1.4/ 2.0	17.0	370
2×6	2	6	1.4/ 2.0	17.0	370
4×6	4	6	1.4/ 2.0	17.0	370
8×6	8	6	1.4/ 2.0	18.5	440
12×6	12	6	1.4/ 2.0	22.0	440
9×12	9	12	1.4/ 2.0	19.5	440
12×12	12	12	1.4/ 2.0	22	440
24×12	24	12	1.4/ 2.0	25.6	650

Tehran Siminfar company can produce all other size acc. to request .

- **Temperature range:**

    Transportation & Storage Temperature
    (-30 ~ 70) °C
    Installation Temperature Range
    (-10 ~ 50) °C

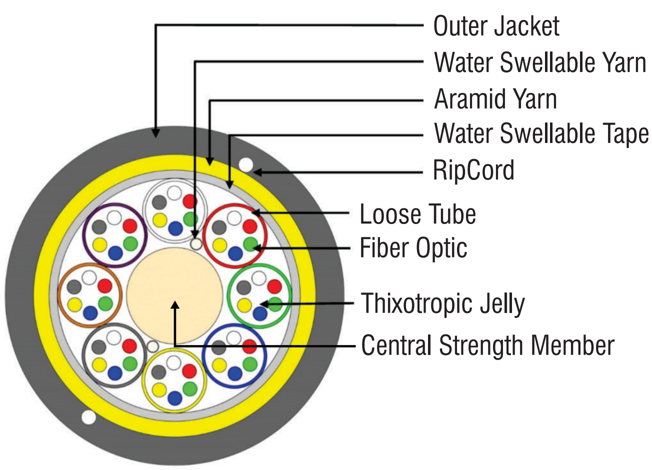
OCUC-SM/NZ

Optical Buried Unfilled Cable
OCUC

Cable construction :

- **Standard :** TCI, IEC, TIA/EIA
- **Fiber optic :** SM type acc. to ITU-T G 652 type D or NZ type acc. to ITU T G 655
  - Core diameter : 8.3 ± 0.5 µm
  - Clad diameter : 125± 0.7 µm
  - Coating diameter : 245± 5 µm
- **Central strength member :** non metalic FRP
- **Water swellable yarn :** over central strength member
- **Loose tube :** PBT compound , group 1, class 2, grade 1 of TPES acc. to ASTM D4507
- **Identification :** Fiber optic and loose tube color acc. to TCI or IEC
- **Thixotropic jelly :** Inside of loose tube
- **Stranding :** Loose tube with filler stranding around FRP
- **Wrap :** Water swellable tape longitudinally whit min 3mm overlap
- **Intermediate strength member :** a layer of aramid yarn over wrap
- **Ripcord** : 2 Diametrically opposed ripcords for strip jacket
- **Jacket :** HDPE compound , type III class C category 4 or 5 grade J3 acc. to ASTM D1248

SM Fiber optic specification :



- **Attenuation :** acc. to ANSI/TIA-455-78-B
  - < 0.35 dB/km at 1310 nm
  - < 0.25 dB/km at 1550 nm
- **Dispersion :** acc. to TIA/EIA-455-175-B
  - < 3.2ps/nm.Km
  - < 18.0ps/nm.Km
- **Water Peak Attenuation**: acc. to TIA-455-78-B
  - < 0.31dB/Km at 1383±3nm
- **Mode Field Diametr** : acc. to IEC 60793-1-45
  - 9.2±0.4µm at 1310 nm
  - 10.4±0.8µm at 1550 nm
- **Cut off Wavelength** : acc. to IEC 60793 1 44
  - < 1260nm
- **Loose tube & Fiber optic color :** acc. to TCI
  - White , Red , Green , Blue , Yellow , Black , Brown , Violet , Orange , Pink , Gray , Natural

NZ Fiber optic specification :

- **Attenuation :** acc. to ANSI/TIA-455-78
  - < 0.22 dB/km at 1550 nm
  - < 0.24 dB/km at 1625 nm
- **Chromatic Dispersion :** acc. to TIA/EIA
  - < 2.0 – 6.0 ps/nm.Km
  - < 4.5-11.0 ps/nm.Km
- **Mode Field Diametr** : acc. to IEC 60793
  - 9.6±0.4 μm at 1550 nm
- **Cut off Wavelength** : acc. to IEC 6097
  - < 1450 nm
- **Loose tube & Fiber optic color :** acc. to TCI
  - White , Red , Green , Blue , Yellow , Black , Brown , Violet , Orange , Pink , Gray , Natural

Size	Number of loose tube	Number of Fiber in loose tube	Jacket thickness mm	Overall diameter mm	weight Approx. kg/km
1x2	1	2	2.0	12.5	110
1x4	1	4	2.0	12.5	110
2x4	2	4	2.0	12.5	110
3x4	3	4	2.0	12.5	110
1x6	1	6	2.0	12.5	110
2x6	2	6	2.0	12.5	110
4x6	4	6	2.0	12.5	110
8x6	8	6	2.0	14.0	150
12x6	12	6	2.0	17.5	220
9x12	9	12	2.0	15.8	180
12x12	12	12	2.0	18.4	240
24x12	24	12	2.0	21.7	340

Tehran Siminfar company can produce all other size acc. to request .

- **Temperature range:**

  Transportation & Storage Temperature
  (-30 ~ 70) °C
  Installation Temperature Range
  (-10 ~ 50) °C

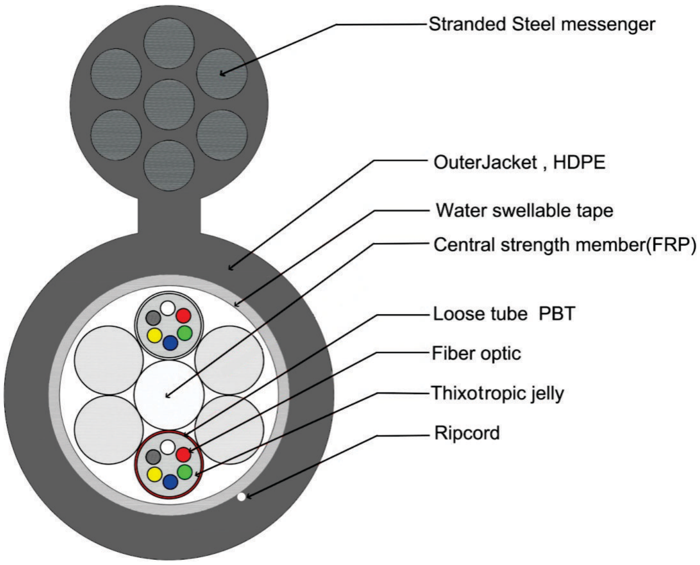
OSSC-SJ-SM/NZ

Optical Self Supporting Cable (Single Jacket)
OSSC

Cable construction :

- **Standard :** TCI, IEC, TIA/EIA
- **Fiber optic :** SM type acc. to ITU-T G 652 type D or NZ type acc. to ITU T G 655
  - Core diameter : 8.3 ± 0.5 μm
  - Clad diameter : 125± 0.7 μm
  - Coating diameter : 245± 5 μm
- **Central strength member :** non metalic FRP
- **Water swellable yarn :** over central strength member
- **Loose tube** PBT compound , group 1, class 2, grade 1 of TPES acc. to ASTM D4507
- **Identification :** Fiber optic and loose tube color acc. to TCI or IEC
- **Thixotropic jelly :** Inside of loose tube
- **Stranding :** Loose tube with filler stranding around FRP
- **Wrap :** Water swellable tape longitudinally whit min 3mm overlap
- **Ripcord** : 2 Diametrically opposed ripcords for strip jacket
- **Messenger** : 7-stranded suspension steel wire
- **Jacket :** HDPE compound , type III class C category 4 or 5 grade E8 acc. to ASTM D1248

SM Fiber optic specification :



- **Attenuation :** acc. to ANSI/TIA 455 78 B
  - < 0.35 dB/km at 1310 nm
  - < 0.25 dB/km at 1550 nm
- **Dispersion :** acc. to TIA/EIA-455-175-B
  - < 3.2 ps/nm.Km
  - < 18.0 ps/nm.Km
- **Water Peak Attenuation**: acc. to TIA-455-78-B
  - < 0.31 dB/Km at 1383±3nm
- **Mode Field Diametr** : acc. to IEC 60793 1 45
  - 9.2±0.4 μm at 1310 nm
  - 10.4±0.8 μm at 1550 nm
- **Cut off Wavelength** : acc. to IEC 60793-1-44
  - < 1260 nm
- **Loose tube & Fiber optic color :** acc. to TCI
  - White , Red , Green , Blue , Yellow , Black , Brown , Violet , Orange , Pink , Gray , Natural

تهران سیمین فر
Tehran Siminfar

NZ Fiber optic specification :

- **Attenuation :** acc. to ANSI/TIA-455-78
  - < 0.22 dB/km at 1550 nm
  - < 0.24 dB/km at 1625 nm
- **Chromatic Dispersion :** acc. to TIA/EIA
  - < 2.0 – 6.0 ps/nm.Km
  - < 4.5-11.0 ps/nm.Km
- **Mode Field Diametr** : acc. to IEC 60793
  - 9.6±0.4 μm at 1550 nm
- **Cut off Wavelength** : acc. to IEC 6097
  - < 1450 nm
- **Loose tube & Fiber optic color :** acc. to TCI
  - White , Red , Green , Blue , Yellow , Black , Brown , Violet , Orange , Pink , Gray , Natural

Size	Number of loose tube	Number of Fiber in loose tube	Jacket thickness mm	Overall diameter mm	weight Approx. kg/km
1x2	1	2	1.2 / 1.8	12.0 x 22.0	200
1x4	1	4	1.2 / 1.8	12.0 x 22.0	200
2x4	2	4	1.2 / 1.8	12.0 x 22.0	200
3x4	3	4	1.2 / 1.8	12.0 x 22.0	200
1x6	1	6	1.2 / 1.8	12.0 x 22.0	200
2x6	2	6	1.2 / 1.8	12.0 x 22.0	200
4x6	4	6	1.2 / 1.8	12.0 x 22.0	200
8x6	8	6	1.2 / 1.8	13.5 x 23.5	230
12x6	12	6	1.2 / 1.8	17.0 x 27.0	270
9x12	9	12	1.2 / 1.8	14.5 x 24.5	240
12x12	12	12	1.2 / 1.8	17.0 x 27.0	280
24x12	24	12	1.2 / 1.8	10.9 x 30.2	384

Tehran Siminfar company can produce all other size acc. to request .

- **Temperature range:**

  Transportation & Storage Temperature
  (-30 ~ 70) °C
  Installation Temperature Range
  (-10 ~ 50) °C

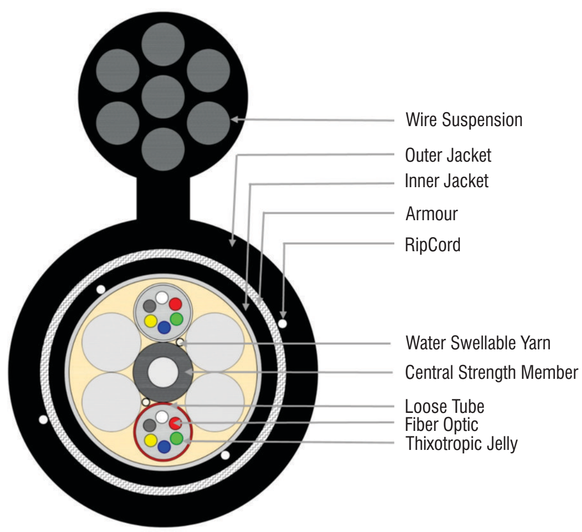
OSSC-DJ-SM/NZ

Optical Self Supporting Cable (Double Jacket)
OSSC

Cable construction :

- **Standard :** TCI, IEC, TIA/EIA
- **Fiber optic :** SM type acc. to ITU-T G 652 type D or NZ type acc. to ITU T G 655
  - Core diameter : 8.3 ± 0.5 μm
  - Clad diameter : 125± 0.7 μm
  - Coating diameter : 245± 5 μm
- **Central strength member :** non metalic FRP
- **Water swellable yarn :** over central strength member
- **Loose tube :** PBT compound , group 1, class 2, grade 1 of TPES acc. to ASTM D4507
- **Identification :** Fiber optic and loose tube color acc. to TCI or IEC
- **Thixotropic jelly :** Inside of loose tube
- **Stranding :** Loose tube with filler stranding around FRP
- **Wrap :** Water swellable tape longitudinally whit min 3mm overlap
- **Ripcord** : 2 Diametrically opposed ripcords for strip jacket
- **First jacket :** LDPE compound type I, class C, category 4 or 5 and grade J3 acc. to ASTM D1248
- **Armour :**One layer of corrugated tinned plate steel tape (or copolymer coated steel tape) longitudinally applied over first jacket
- **Ripcord** : 2 Diametrically opposed ripcords for strip jacket
- **Messenger** : 7-stranded suspension steel wire
- **Jacket :** HDPE compound , type III class C category 4 or 5 grade E8 acc. to ASTM D1248

SM Fiber optic specification :



- **Attenuation :** acc. to ANSI/TIA-455-78-B
  - < 0.35 dB/km at 1310 nm
  - < 0.25 dB/km at 1550 nm
- **Dispersion :** acc. to TIA/EIA-455-175-B
  - < 3.2 ps/nm.Km
  - < 18.0 ps/nm.Km
- **Water Peak Attenuation**: acc. to TIA-455-78-B
  - < 0.31 dB/Km at 1383±3nm
- **Mode Field Diametr** : acc. to IEC 60793-1-45
  - 9.2±0.4 μm at 1310 nm
  - 10.4±0.8 μm at 1550 nm
- **Cut off Wavelength** : acc. to IEC 60793-1-44
  - < 1260 nm
- **Loose tube & Fiber optic color :** acc. to TCI
  - White , Red , Green , Blue , Yellow , Black , Brown , Violet , Orange , Pink , Gray , Natural

تهران سیمین فر
Tehran Siminfar

NZ Fiber optic specification :

- **Attenuation :** acc. to ANSI/TIA-455-78
  - < 0.22 dB/km at 1550 nm
  - < 0.24 dB/km at 1625 nm
- **Chromatic Dispersion :** acc. to TIA/EIA
  - < 2.0 – 6.0 ps/nm.Km
  - < 4.5-11.0 ps/nm.Km
- **Mode Field Diametr** : acc. to IEC 60793
  - 9.6±0.4 μm at 1550 nm
- **Cut off Wavelength** : acc. to IEC 6097
  - < 1450 nm
- **Loose tube & Fiber optic color :** acc. to TCI
  - White , Red , Green , Blue , Yellow , Black , Brown , Violet , Orange , Pink , Gray , Natural

Size	Number of loose tube	Number of Fiber in loose tube	Jacket thickness mm	Overall diameter mm	weight Approx. kg/km
1x2	1	2	1.2 / 1.8	15.1 x 25.3	330
1x4	1	4	1.2 / 1.8	15.1 x 25.3	330
2x4	2	4	1.2 / 1.8	15.1 x 25.3	330
3x4	3	4	1.2 / 1.8	15.1 x 25.3	330
1x6	1	6	1.2 / 1.8	15.1 x 25.3	330
2x6	2	6	1.2 / 1.8	15.1 x 25.3	330
4x6	4	6	1.2 / 1.8	15.1 x 25.3	340
8x6	8	6	1.2 / 1.8	16.8 x 27.0	390
12x6	12	6	1.2 / 1.8	19.9 x 30.1	490
9x12	9	12	1.2 / 1.8	18.3 x 28.5	430
12x12	12	12	1.2 / 1.8	20.9 x 31.1	520
24x12	24	12	1.2 / 1.8	24.9 x 35.1	620

Tehran Siminfar company can produce all other size acc. to request .

- **Temperature range:**

  Transportation & Storage Temperature
  (-30 ~ 70) °C
  Installation Temperature Range
  (-10 ~ 50) °C

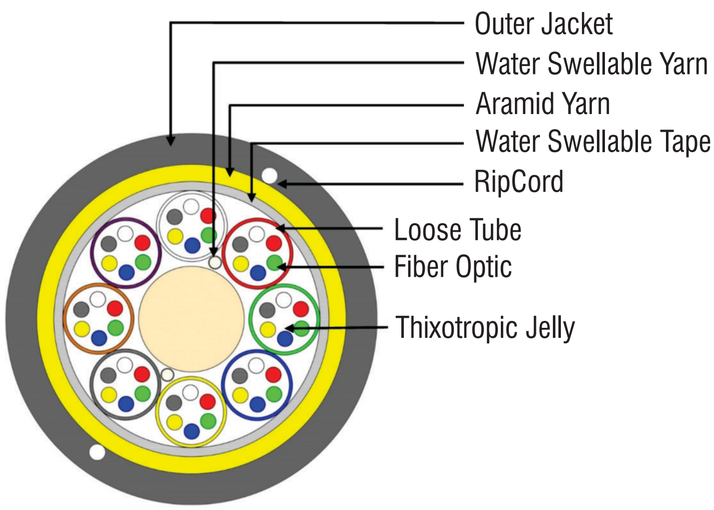
ADSS-SM/NZ

ALL DIELECTRIC SELF SUPPORTING

Cable construction :

- **Standard:** TCT or IEC
- **Fiber optic :** SM type acc. to ITU-T G 652 type D or NZ type acc. to ITU T G 655
  - Core diameter : 8.3 ± 0.5 μm
  - Clad diameter : 125± 0.7 μm
  - Coating diameter : 245± 5 μm
- **Central Strength Member:** Non metallic FRP
- **Water Swelling Yarn:** over central strength member
- **Loose Tube :** PBT compound , group 1, class 2, grade 1 of TPES ass. To ASTM D4507
- **Identification :** fiber optic and loose tube color acc. to TCI or IEC
- **Thixotropic jelly:** inside of loose tube
- **Stranding :** Loose tube with filler stranding around FRP
- **Wrap :** Water swellable tape longitudinally whit min 3mm overlap
- **Intermediate strength member :** a layer of aramid yarn over wrap
- **Ripcord** : 2 Diametrically opposed ripcords for strip jacket
- **Jacket :** HDPE compound , type III class C category 4 or 5 grade E8 acc. to ASTM D1248

SM Fiber optic specification :



- **Attenuation :** acc. to ANSI/TIA-455-78-B
  - < 0.35 dB/km at 1310 nm
  - < 0.25 dB/km at 1550 nm
- **Dispersion :** acc. to TIA/EIA-455-175-B
  - < 3.2ps/nm.Km
  - < 18.0ps/nm.Km
- **Water Peak Attenuation**: acc. to TIA-455-78-B
  - < 0.31dB/Km at 1383±3nm
- **Mode Field Diametr** : acc. to IEC 60793-1-45
  - 9.2±0.4μm at 1310 nm
  - 10.4±0.8μm at 1550 nm
- **Cut off Wavelength** : acc. to IEC 60793 1 44
  - < 1260nm
- **Loose tube & Fiber optic color :** acc. to TCI
  White , Red , Green , Blue , Yellow , Black , Brown , Violet , Orange , Pink , Gray , Natural

Span: 30 to 100 (m)
All span sizes are available upon request.

NZ Fiber optic specification :

- **Attenuation :** acc. to ANSI/TIA-455-78
  - < 0.22 dB/km at 1550 nm
  - < 0.24 dB/km at 1625 nm
- **Chromatic Dispersion :** acc. to TIA/EIA
  - < 2.0 – 6.0 ps/nm.Km
  - < 4.5-11.0 ps/nm.Km
- **Mode Field Diametr** : acc. to IEC 60793
  - 9.6±0.4 μm at 1550 nm
- **Cut off Wavelength** : acc. to IEC 6097
  - < 1450 nm
- **Loose tube & Fiber optic color :** acc. to TCI
  - White , Red , Green , Blue , Yellow , Black , Brown , Violet , Orange , Pink , Gray , Natural

Size	Number of loose tube	Number of Fiber in loose tube	Jacket thickness mm	Overall diameter mm	weight Approx. kg/km
1x2	1	2	2	12.6	110
1x4	1	4	2	12.6	110
2x4	2	4	2	12.6	110
3x4	3	4	2	12.6	110
1x6	1	6	2	12.6	110
2x6	2	6	2	12.6	110
4x6	3	6	2	12.6	110
8x6	4	6	2	14.3	150
12x6	12	6	2	17.4	220
9x12	9	12	2	15.8	180
12x12	12	12	2	18.4	240
24x12	24	12	2	21.7	340

Tehran Siminfar company can produce all other size acc. to request .

- **Temperature range:**

  Transportation & Storage Temperature
  (-30 ~ 70) °C
  Installation Temperature Range
  (-10 ~ 50) °C

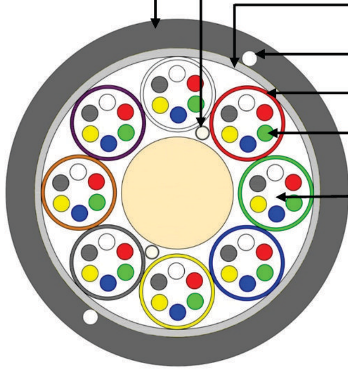
MICRO CABLE SM/NZ

OPTICAL MICRO CABLE

Cable construction :

- **Standard** IEC, TCI, TIA/EIA
- **Fiber optic :** SM type acc. to ITU-T G 652 type D or NZ type acc. to ITU T G 655
  - Core diameter : 8.3 ± 0.5 μm
  - Clad diameter : 125± 0.7 μm
  - Coating diameter : 245± 5 μm
- **Central Strength Member:** Non metallic FRP
- **Water Swelling Yarn:** over central strength member
- **Loose Tube :** PBT compound , group 1, class 2, grade 1 of TPES ass. To ASTM D4507
- **Identification :** fiber optic and loose tube color acc. to TCI or IEC
- **Thixotropic jelly:** inside of loose tube
- **Stranding :** Loose tube with filler stranding around FRP
- **Wrap :** Water swellable tape longitudinally whit min 3mm overlap
- **Ripcord:** 2 Diametrically opposed ripcords for strip jacket
- **Jacket** : HDPE compound , type III class C category 4 or 5 grade J3 acc.to ASTM D1248

SM Fiber optic specification :



- **Attenuation :** acc. to ANSI/TIA-455-78-B
  - < 0.35 dB/km at 1310 nm
  - < 0.25 dB/km at 1550 nm
- **Dispersion :** acc. to TIA/EIA-455-175-B
  - < 3.2ps/nm.Km
  - < 18.0ps/nm.Km
- **Water Peak Attenuation**: acc. to TIA-455-78-B
  - < 0.31dB/Km at 1383±3nm
- **Mode Field Diametr** : acc. to IEC 60793-1-45
  - 9.2±0.4µm at 1310 nm
  - 10.4±0.8µm at 1550 nm
- **Cut off Wavelength** : acc. to IEC 60793-1-44
  - < 1260nm
- **Loose tube & Fiber optic color :** acc. to TCI or IEC
  White , Red , Green , Blue , Yellow , Black , Brown , Violet , Orange , Pink , Gray , Natural

NZ Fiber optic specification :

- **Attenuation :** acc. to ANSI/TIA-455-78
  - < 0.22 dB/km at 1550 nm
  - < 0.24 dB/km at 1625 nm
- **Chromatic Dispersion :** acc. to TIA/EIA
  - < 2.0 – 6.0 ps/nm.Km
  - < 4.5-11.0 ps/nm.Km
- **Mode Field Diametr** : acc. to IEC 60793
  - 9.6±0.4 μm at 1550 nm
- **Cut off Wavelength** : acc. to IEC 6097
  - < 1450 nm
- **Loose tube & Fiber optic color :** acc. to TCI
  - White , Red , Green , Blue , Yellow , Black , Brown , Violet , Orange , Pink , Gray , Natural

Cable Type	Tube/Fiber	Nominal diameter mm	Max duct I.D mm	Nominal weight Kg/Km	Max Tensile load(N)		Min bending radius Cm
					installation	operation	
OMUC 12	2/6	76	10	46	1000	400	16
OMUC 24	2/12	76	10	46	1000	400	16
OMUC 36	3/12	76	10	48	1000	400	16
OMUC 48	4/12	76	10	49	1000	400	16
OMUC 72	6/12	76	10	51	1000	400	16
OMUC 96	8/12	96	12	55	1200	500	20

Tehran Siminfar company can produce all other size acc. to request .

- **Temperature range:**

  Transportation & Storage Temperature
  (-30 ~ 70) °C
  Installation Temperature Range
  (-10 ~ 50) °C

Composite cable SM/NZ

Composite Copper/Fiber Cable

Cable construction :

- **Fiber optic :** SM type acc. to ITU T G 652 type D or NZ type acc. to ITU T G 655
  - Core diameter : 8.3 ± 0.5 μm
  - Clad diameter : 125± 0.7 μm
  - Coating diameter : 245± 5 μm

Electrical wire:

- **Conductor:** Bare flexible annealed copper conductor class 5
- **Insulation**: PVC
- **Identification**: Black , Blue , Brown

Fiber optic:

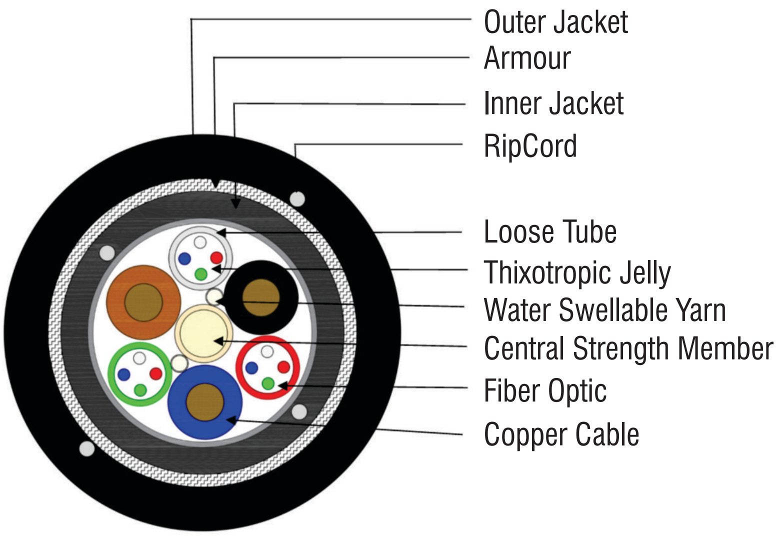
- **Loose tube :** PBT compound , group 1, class 2, grade 1 of TPES acc. to ASTM D4507
- **Thixotropic jelly :** Inside of loose tube
- **Loose tube Number:** 3
- **Fiber in loose tube:**12
- **Fiber type:** SM/NZ
- **Loose tube & Fiber optic color :** acc. to TCI or IEC
- White , Red , Green , Blue , Yellow , Black , Brown , Violet , Orange , Pink , Gray , Natural
- **Central strength member :** non metallic FRP With PE Jacket
- **Core**: 3 insulated wire + 3 loose tube stranding over central strength member
- **Water blocking:** Water sewllable yarn over central strength member & Water swellable tape over core
- **Ripcord** : 2 Diametrically opposed ripcords for strip jacket
- **First jacket :** A flame retardant PVC compound
- **Armour :**One layer of corrugated tinned plate steel tape (or copolymer coated steel tape) longitudinally
- **Ripcord** : 2 Diametrically opposed ripcords for strip jacket
- **Jacket :** HDPE compound , type III class C category 4 or 5 grade J3 acc. to ASTM D1248

SM Fiber Optic Specification:

- **Attenuation :** acc. to ANSI/TIA-455-78-B
  - < 0.35 dB/km at 1310 nm
  - < 0.25 dB/km at 1550 nm
- **Mode Field Diametr** : acc. to IEC 60793-1-45
  - 9.2±0.4 µm at 1310 nm
  - 10.4±0.8 µm at 1550 nm

Pulling tension (N):

- **Operation:**2600 & **Installation**:4200
- **Max conductor Resistance :** 7.41 Ω/km at 20 °C



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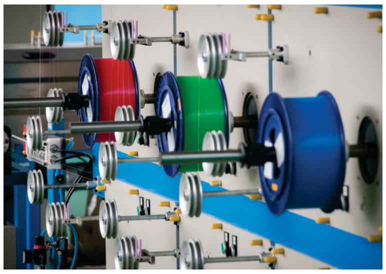
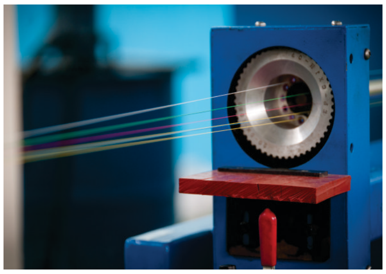
NZ Fiber optic specification :

- **Attenuation :** acc. to ANSI/TIA-455-78
  - < 0.22 dB/km at 1550 nm
  - < 0.24 dB/km at 1625 nm
- **Chromatic Dispersion :** acc. to TIA/EIA
  - < 2.0 – 6.0 ps/nm.Km
  - < 4.5-11.0 ps/nm.Km
- **Mode Field Diametr** : acc. to IEC 60793
  - 9.6±0.4 µm at 1550 nm
- **Cut off Wavelength** : acc. to IEC 6097
  - < 1450 nm
- **Loose tube & Fiber optic color :** acc. to TCI
  - White , Red , Green , Blue , Yellow , Black , Brown , Violet , Orange , Pink , Gray , Natural
- **Temperature range:**

  Transportation & Storage Temperature
  (-30 ~ 70) °C
  Installation Temperature Range
  (-10 ~ 50) °C





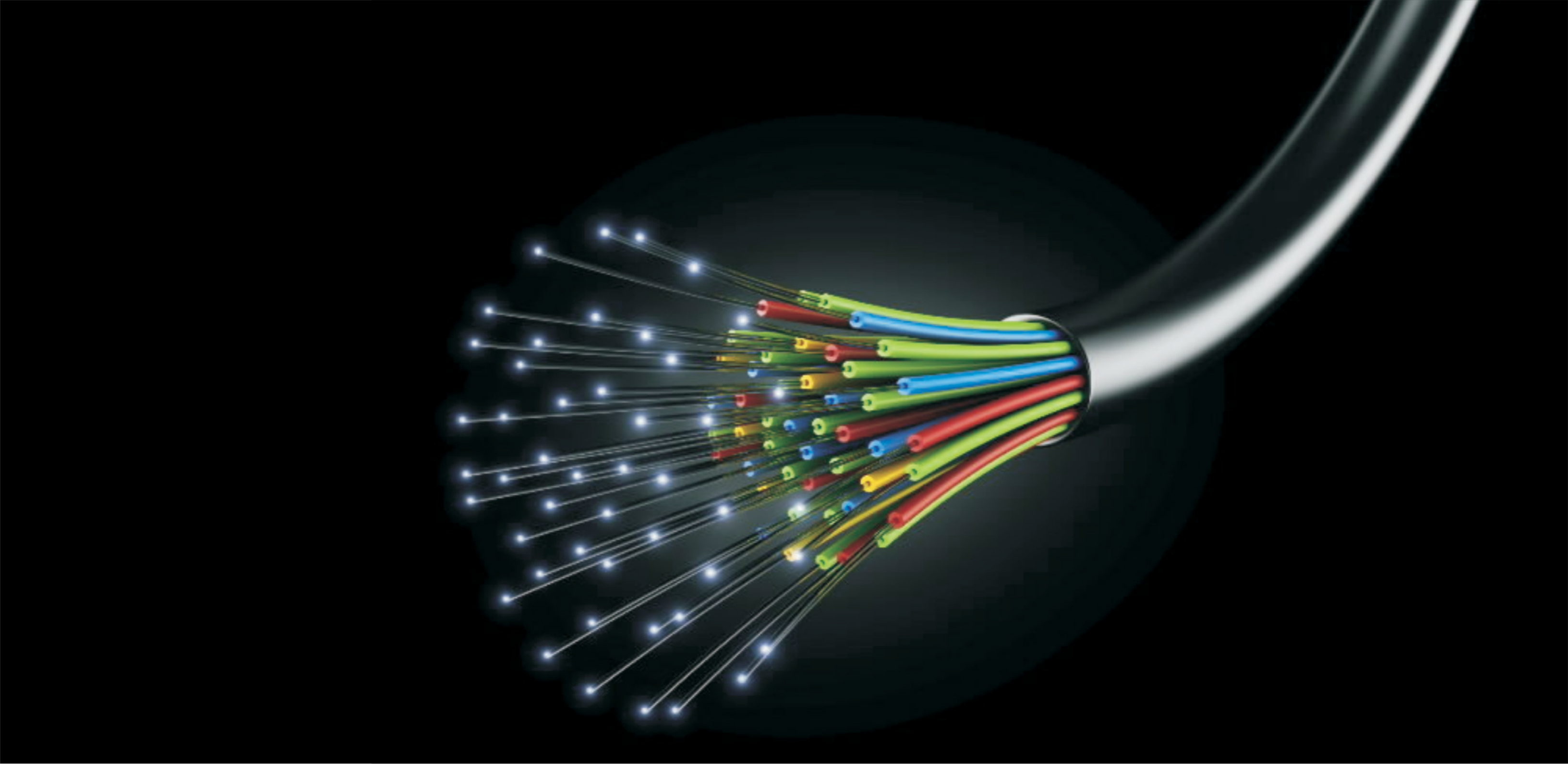
Tehran Siminfar Co.

Tehran Siminfar has been an established and popular company with an excellent track record for the best customer satisfaction. T.S.F. was among the first companies to realize the potential of fiber optics through designing and manufacturing some of the most reliable, rugged and innovative cable products in Iran .

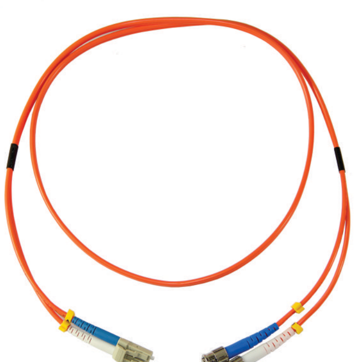
T.S.F. has evolved into a High-class provider of a complete line of fiber optic and copper cables and connectivity products to a broad customer base. We have never compromised on the quality and the services provided to the customer. We believe in keeping the customers happy and providing them with products at a very competent price. We have an excellent staffs who will guide you with their best ideas by keeping in constant touch with all companies and informing about the market trends.

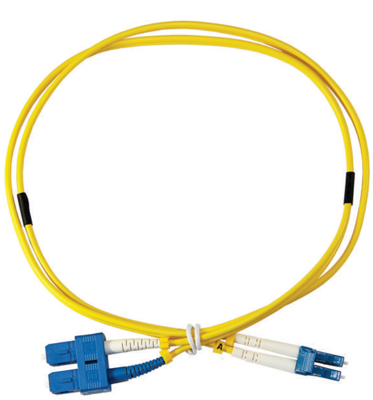
تهران سیمین فر

Tehran Siminfar



Drop Cables





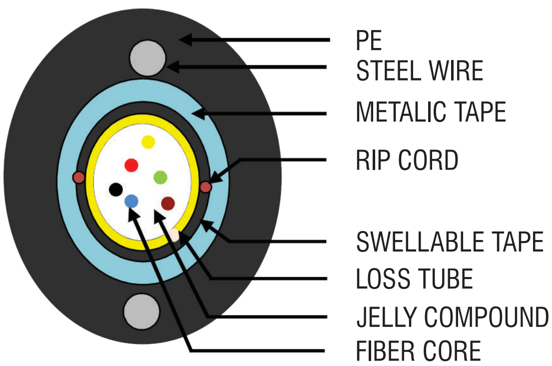
ODSWC – Aerial and direct buried Cable

- **OPTICAL FIBER CHARACTERISTICS**
  Optical Fibre Characteristics is according to ITU-T recommendation G652 D for outdoor and G657 for indoor usage.

- **Fiber Identification:**
  Fibers in this type cable are identified by the following colors:

Fiber NO	1	2	3	4	5	6	7	8	9	10	11	12
Color	white	red	green	blue	yellow	black	brown	violet	orange	pink	gray	aqua

- **CABLE COMPONENTE**
  The Cable Components is As Follows:



- **Jacket:**
  Cable sheathed with high density polyethylene conforming to ASTM D1248 type III class C category 4 or 5 grade J3 applied over the strength members and loss tube.
  (For indoor usage the LSZH compound is recommended).

- Mechanical Data

Cable type	Fiber count	Cable diameter	Cable weight	Tensile strength long/short term	Crush resistant long/short term	Bending radius
OSDC	1 -12	8.5 mm	100 Kg/Km	600/1300 N	125/220 N/Cm	18 Cm

- Fully water blocking, UV resistant cable, special Access cable for aerial and direct buried usage.
- Loose tube design provided stable and highly reliable transmission parameters for voice, data, video and imaging application.
- Compact design for limited conduit space.
- The cables are well suited for campus-type environments in and between buildings.

CHARACTERISTICS	PROPERTISE	UNIT
Product group	Aerial,Direct buried	
Type and count of fiber	SM 1*1/1*2 /1*4/1*6/1*8/1*10/1*12	
Standardization	IEC 60793 , 60794	
Optical fiber standard	ITU-T G652.D	
Fully water resistant	Yes	
Strain relief	Yes	
UV resistant	Yes	
Outer sheath material	HDPE	
Tensile load (short term/long term)	150 / 100	N
Crash resistant (short term/long term)	2200/1000	N/10 Cm
Cable outer diameter	8.5 - 9.0	mm
Weight Approx.	100	Kg/Km
Transportation and storage temperature	-30/70	°C
Installation temperature range	-10/50	°C

SSDROP-SM

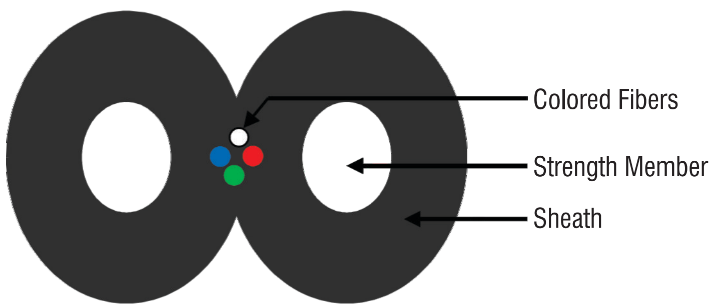
SSDROP – Indoor, Outdoor Access Cable

- **OPTICAL FIBER CHARACTERISTICS**
  Optical Fibre Characteristics is according to ITU-T recommendation G652 D for outdoor and G657 for indoor usage.

- **Fiber Identification:**
  Fibers in this type cable are identified by the following colors:

Fiber NO	1	2	3	4
Color	white	red	green	blue

- **CABLE COMPONENTE**
  The Cable Components is As Follows:



- **Jacket:**
  Cable sheathed with high density polyethylene conforming to ASTM D1248 type III class C category 4 or 5 grade J3 applied over the strength members and loss tube.
  (For indoor usage the LSZH compound is recommended).

Mechanical Data

Cable type	Fiber count	Cable diameter	Cable weight	Tensile strength long/short term	Crush resistant long/short term	Bending radius
SSDROP	1 – 4	2*3.1 mm	10Kg/Km	50/100 N	100/2000 N/100 mm	8 Cm

Drop installation cable, special Access cable for indoor usage with low bending radius low water peak G657 fibers.
Ruggedized construction with excellent installation performance, easy strippable for installation.
This cable solves some outdoor and all in-house installation.

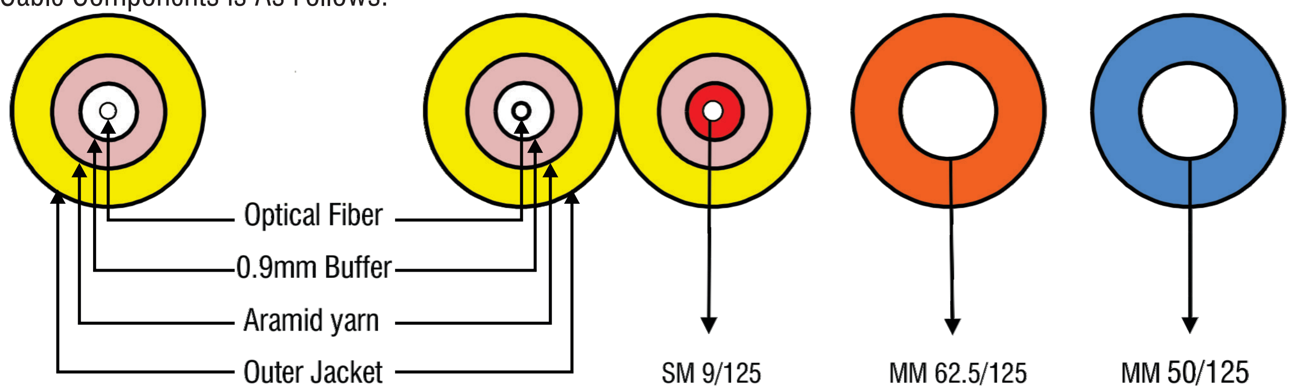
CHARACTERISTICS	PROPERTISE	UNIT
Product group	Indoor, Outdoor	
Type and count of fiber	SM 1-4	
Standardization	IEC 60794-1-2	
Optical fiber standard	ITU-T G652.D, G657	
Halogen free for indoor	Yes	
Strain relief	Yes	
UV resistant	Yes	
Outer sheath material	HDPE , LSZH	
Tensile load (short term/long term)	150 / 100	N
Crash resistant (short term/long term)	2200/1000	N/10 Cm
Weight Approx.	10	Kg/Km
Transportation and storage temperature	-30/70	°C
Installation temperature range	-10/50	°C

Simplex & Duplex-SM/MM

Optical Simplex & Duplex Tight Buffered

- **OPTICAL FIBER CHARACTERISTICS**
  Optical Fibre Characteristics is according to ITU-T recommendation G652 D and G657 for Single Mode and ITU-T G653 for Multi Mode.

- **CABLE COMPONENTE**
  The Cable Components is As Follows:



- **Buffer**
  Buffer with PVC or LSZH compound applied over the fiber as semi or tight and colored as below.
  Simplex buffer: white or natural
  Duplex buffers: white and green

- **Jacket:**
  Core jacketed with high quality material PVC or LSZH and the color of jacket for different type of fibers is as below:
  Single Mode: yellow -
  MM 62.5/125 μm 1Gbe: orange-
  MM 50/125 μm 1Gbe:orange-
  MM 50/125 μm 10 Gbe: blue -

- **Mechanical Data**

Core type	Outer Diameter	Buffer outer diameter	Weight Approx.	Tensile strength long/short term	Crush resistant long/short term	Minimum bending radius
Simplex	2 mm 2.4 mm 2.8 mm	900 μm	10Kg/Km	65/130 N 150/300 N 150/300 N	15/35 N/10 Cm	20 mm 24 mm 28 mm

Core type	Outer Diameter	Buffer outer diameter	Weight Approx.	Tensile strength long/short term	Crush resistant long/short term	Minimum bending radius
Duplex	2 /4 mm 2.4/4.8 mm 2.8/5.6 mm	900 μm	10Kg/Km	100/200 N 250/500 N 250/500 N	15/35 N/10 Cm	20 mm 24 mm 28 mm

Simplex & Duplex cord are specifically designed for :

- Patch cords , Pigtails and Jumpers
- Equipment interconnects
- Short Run Office and Computer Cabling
- OFNR(riser rated),OFNP(plenum rated) or LSZH(low smoke zero halogen rated)

Simplex Cord:

CHARACTERISTICS	PROPERTISE	UNIT
Product group	Riser and plenum rated	
Type and count of fiber	SM / MM , 1	
Standardization	IEC 60794-1-2	
Optical fiber standard	ITU-T G652.D, G651. 62.5/125 & 50/125	
Halogen free	Yes	
Strain relief	Yes	
UV resistant	Yes	
Outer sheath material	PVC , LSZH	
Tensile load (short term/long term)	100 / 150	N
Crash resistant (short term/long term)	35	N/10 Cm
Cord dimension	2 , 2.4 , 2.8	mm
Weight Approx.	10	Kg/Km
Buffer dimention	900	µm
Transportation and storage temperature	-30/70	°C
Installation temperature range	-10/50	°C

Duplex Cord:

CHARACTERISTICS	PROPERTISE	UNIT
Product group	Riser and plenum rated	
Type and count of fiber	SM / MM , 2	
Standardization	IEC 60794-1-2	
Optical fiber standard	ITU-T G652.D, G651. 62.5/125 & 50/125	
Halogen free	Yes	
Strain relief	Yes	
UV resistant	Yes	
Outer sheath material	PVC , LSZH	
Tensile load (short term/long term)	100 / 150	N
Crash resistant (short term/long term)	35	N/10 Cm
Cord dimension	2/4 , 2.4/4.8 , 2.8/5.6	mm
Weight Approx.	19	Kg/Km
Buffer dimention	900	µm
Transportation and storage temperature	-30/70	°C
Installation temperature range	-10/50	°C

OPTICAL CENTRAL TUBE CABLE

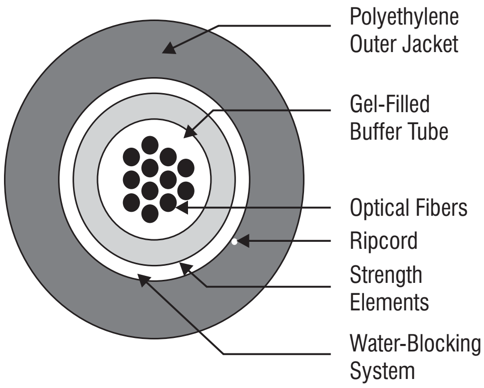
- **OPTICAL FIBER CHARACTERISTICS**
  Optical Fibre Characteristics is according to ITU-T recommendation G652 D usage.

- **Fiber Identification:**
  Fibers in this type cable are identified by the following colors:

Fiber NO	1	2	3	4	5	6	7	8	9	10	11	12
Color	white	red	green	blue	yellow	black	brown	violet	orange	pink	gray	aqua

- **Loos tube**
  The loose tube compound is PBT and it filled by thixotropic gel , the nominal loos tube outer diameter is 3 mm and its inside diameter is 65% of outer diameter.

- **CABLE COMPONENTE**
  The Cable Components is As Follows:



- **Outer Jacket:**
  Cable sheathed with high density polyethylene conforming to ASTM D1248 type III class C category 4 or 5 grade J3 applied over the dielectric strength members and loss tube.
  (For indoor usage the LSZH compound is recommended).

- **Outer diameters**
  Nominal outer diameter of central tube is 6 mm.

- **Temperature range:**
  Transportation & Storage Temperature
  (-30 ~ 70) °C
  Installation Temperature Range
  (-10 ~ 50) °C

Tehran Siminfar

OPTICAL FLAT DROP CABLE

- **OPTICAL FIBER CHARACTERISTICS**

  Optical Fibre Characteristics is according to ITU-T recommendation
  G652 D for outdoor and G657 for indoor usage.

- **Fiber Identification:**

  Fibers in this type cable are identified by the following colors:

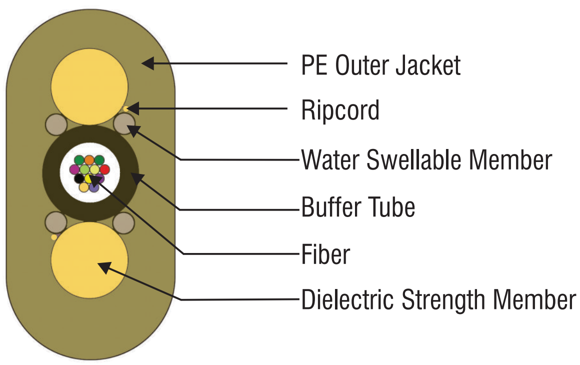
Fiber NO	1	2	3	4	5	6	7	8	9	10	11	12
Color	white	red	green	blue	yellow	black	brown	violet	orange	pink	gray	aqua

- **Loos tube**

  The loose tube compound is PBT and it filled by thixotropic gel , the nominal loos tube outer diameter is 3 mm and its inside diameter is 65% of outer diameter.

- **CABLE COMPONENTE**

  The Cable Components is As Follows:



- **Outer Jacket:**

  Cable sheathed with high density polyethylene conforming to ASTM D1248 type III class C category 4 or 5 grade J3 applied over the dielectric strength members and loss tube.
  (For indoor usage the LSZH compound is recommended).

- **Outer diameters**

  Drop cable has nominal major and minor axis diameters of 8.5 mm and 5 mm, respectively.

- **Temperature range:**

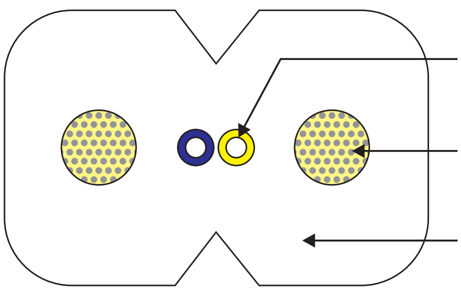
  Transportation & Storage Temperature
  (-30 ~ 70) °C
  Installation Temperature Range
  (-10 ~ 50) °C

OPTICAL ACCESS CABLE

- **OPTICAL FIBER CHARACTERISTICS**
  The optical fibre characteristic is according to ITU-T recommendation G657usage.
  The number of fibres is according to customer requirement 1 or2.

- **Fiber Identification:**
  Fiber color 1 – white 2 – red

- **CABLE COMPONENTE**
  The Cable Components is As Follows:



- **Outer Jacket:**
  Cable sheathed with high quality LSZH compound with white or gray color and easy strip with double sided rip seam.

- **Outer diameters**
  Nominal outer diameter (height – width)of cable is 2.0/3.2mm.

- **Temperature range:**
  Transportation & Storage Temperature
  (-30 ~ 70) °C
  Installation Temperature Range
  (-10 ~ 50) °C

Fiber Optical Access Cable
Self-supporting Figure 8 Center Tube

The GYXTC8Y figure 8 fiber cable is a self-supporting structure that integrates the fiber cable core portion and the steel wire suspension into an "8" shaped PE jacket. This optical cable is 2cores to 24cores type available
There is no need to erect hanging wires and hooks during the laying process, and the operation efficiency is high and the laying cost is low. The figure 8 fiber cable is very easily laid overhead between poles and poles, between poles and buildings, between buildings and buildings.

Features:

- Full section water blocking structure ensures good water and moisture resistance
- Loose sleeve filled with special ointment for critical fiber protection
- 8-shaped self-supporting structure with high tensile strength, easy to lay overhead, low installation cost
- The loose tube is located in the physical center of the cable, convenient for construction and operation
- Longitudinal cladding steel strip gives better cable resistance to lateral pressure
- Polyethylene sheath makes the cable have good UV resistance
- Product life more than 30 years

Application:

- Core Network, Metropolitan Area Network, and Access Network Outdoor Optical Cable
- Laying method: overhead, pipeline
- Working temperature: -40℃～+60℃
- Bend radius: Static 12.5 times the cable diameter
- Dynamic 25 times optical cable diameter

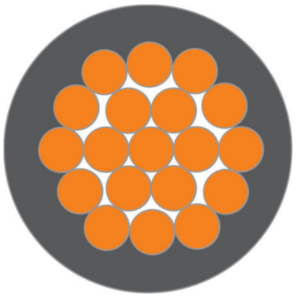
No. of cable		12
Fiber Model		G.652D
Loose Tube	Material	PBT
	Diameter （±0.06） mm	2.0
	Thickness （±0.03） mm	0.32
	The Max.Core NO./Tube	12
Water Blocking (Material)		Swelling Tape
Moisture barrier (Material)		Al With copolymer coating
Ripcord （Material）		Nylon
Outer Sheath	Material	MDPE or HDPE
	Thickness （±0.1） mm	1.2
Web	Material	MDPE or HDPE
	Size （±0.1） mm	2.0*1.5
Messenger Wire	Material	Galvanized steelwire
	Size （±0.1） mm	2
Cable Diameter （±0.2） mm(W×H)		5.3x12.5
Cable Weight （±10） kg/km		82
Attenuation	1310 nm	£0.35
	1550 nm	£0.21
Min. bending radius	Without Tension	10×Cable-φ
	Under Maximum Tension	20×Cable-φ
Temperature range （℃）	Installation	-20～+60
	Transport&Storage	-40～+70
	Operation	-40～+70

Tehran Siminfar

تهران سیمین فر

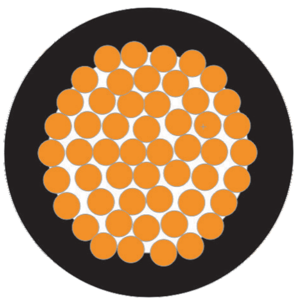
Tehran
Siminfar

T.S.F.



NYA

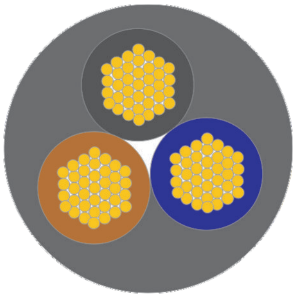
- **According to** : ISIRI 607 (or VDE 0250 or BS 6004 or IEC 60227)
- **Conductor** : Bare (or Tinned) Stranded (or Solid) Copper
- **Insulation** : PVC
- **Rated voltage** : 450/750 V
- **Nominal Cross Section** : 0.5 to 1000 mm^2
- **Flame retaredant** : Acc.to IEC 60332-1



NYAF

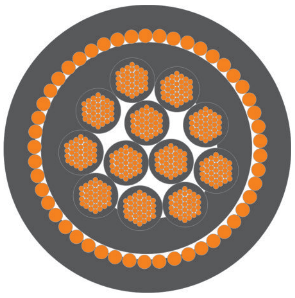
- **According to** : ISIRI 607 (or VDE 0250 or BS 6004 or IEC 60227)
- **Conductor** : Bare (or Tinned) Flexible Copper , class 5
- **Insulation** : PVC
- **Rated voltage** : 450/750 V
- **Nominal Cross Section** : 0.5 to 1000 mm^2
- **Flame retaredant** : Acc.to IEC 60332-1

NYSLY



- **According to** : VDE 0250 (or IEC 60227 , or ISIRI 607 or BS 6004)
- **Conductor** : Bare (or tinned) flexible annealed copper
- **Insulation :** PVC
- **Jacket :** PVC
- **Nominal Cross-Section area :** 0.5 to 2.5 mm^2
- **Rated voltage :** 300/500 V
- **Number of wire :** 2 – 61 core
- **Flame retardant :** Acc.to IEC 60332-1

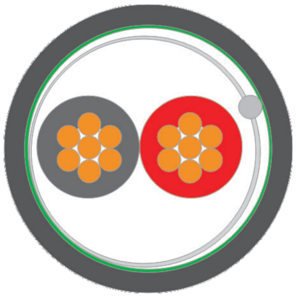
NYSLYCY



- **According to** : VDE 0250 (or IEC 60227 , BS 6500 , ISIRI 607)
- **Conductor** : Bare (or tinned) flexible copper , class 5
- **Insulation :** PVC
- **Bedding :** PVC (or Mylar polyester tape similar to Lighting cable)
- **Screen :** Bare (or Tinned) Copper wire braid screen
- **Jacket :** PVC
- **Rated voltage :** 300/500 V
- **Nominal Cross Section :** 0.5 to 2.5 mm2 (and more)
- **Number of wire :** 2 – 61 wire

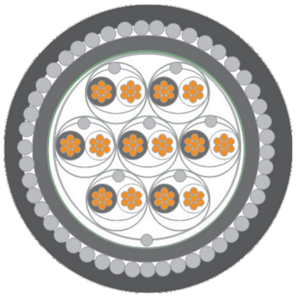
تهران سیمین فر
Tehran Siminfar

Y(st)Y



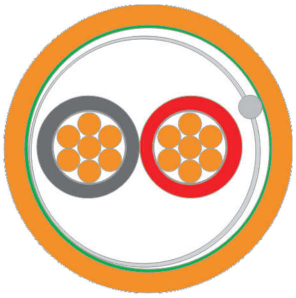
- **According to** : BS 5308
- **Conductor** : Bare (or tinned) Stranded (or Solid or flexible) annealed copper
- **Insulation** : PVC
- **Screen** : Aluminum foil screen with min 25% overlap with tinned copper drain wire
- **Jacket** : PVC
- **Nominal Cross-Section area** : 0.5 to 1.5 mm^2
- **Rated voltage** : 300/500 V
- **Flame retardant** : Acc.to IEC 60332-1

Y(st)YRY-PIMF



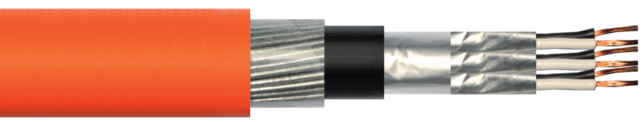
- **According to** : BS 5308
- **Conductor** : Bare (or tinned) Stranded (or Solid or flexible) annealed copper
- **Insulation** : PVC
- **Individual Screen** : Aluminum foil screen with min 25% overlap with tinned copper drain wire
- **Overall Screen** : Aluminum foil screen with min 25% overlap with tinned copper drain wire
- **Bedding** : PVC
- **Armour** : Galvanized steel wire
- **Jacket** : PVC
- **Nominal Cross-Section area** : 0.5 to 1.5 mm^2
- **Rated voltage** : 300/500 V
- **Flame retardant** : Acc.to IEC 60332-1

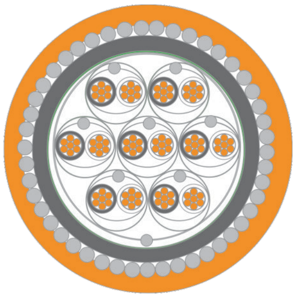
2X(st)H fr



- **According to** : BS 5308
- **Conductor** : Bare Stranded (or Solid or flexible) annealed copper
- **Fire barrier** : MGT tape
- **Insulation** : XLPE
- **Screen** : Aluminum foil screen with min 25% overlap with tinned copper drain wire
- **Jacket** : LSFOH
- **Nominal Cross-Section area** : 0.5 to 1.5 mm^2
- **Rated voltage** : 300/500 V
- **Fire resistance** : Acc.to IEC 60331
- **Halogen free** : Acc.to IEC 60754
- **Low smoke** : Acc.to IEC 61034
- **Flame retardant** : Acc.to IEC 60332-1

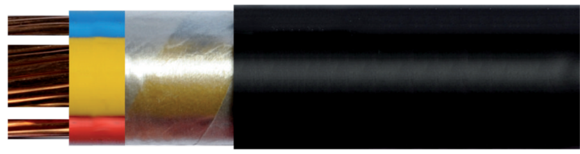
2X(st)HRH-PIMF fr



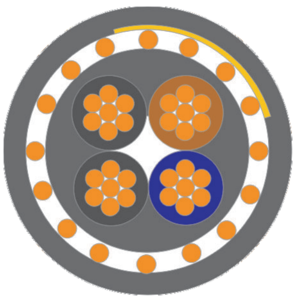


- **According to** : BS 5308
- **Conductor** : Bare Stranded (or Solid or flexible) annealed copper
- **Fire barrier** : MGT tape
- **Insulation** : XLPE
- **Individual Screen** : Aluminum foil screen with min 25% overlap with tinned copper drain wire
- **Overall Screen** : Aluminum foil screen with min 25% overlap with tinned copper drain wire
- **Bedding** : LSFOH
- **Armour** : Galvanized steel wire
- **Jacket** : LSFOH
- **Nominal Cross-Section area** : 0.5 to 1.5 mm^2
- **Rated voltage** : 300/500 V
- **Fire resistance** : Acc.to IEC 60331
- **Halogen free** : Acc.to IEC 60754
- **Low smoke** : Acc.to IEC 61034
- **Flame retardant** : Acc.to IEC 60332-1

NYY



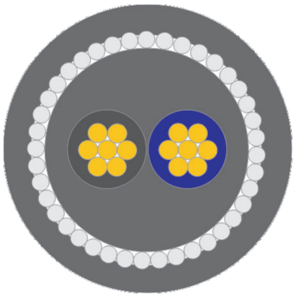
- **According to** : Acc. to IEC 60502-1 (or BS 6346 or VDE 0271)
- **Conductor** : Bare (or tinned) Stranded (or Solid or flexible) annealed copper
- **Insulation :** PVC
- **Inner covering** : PVC
- **Jacket** : PVC
- **Nominal Cross-Section area :** 1.5 to 1000 mm^2
- **Rated voltage :** 0.6/1.0 KV
- **Flame retardant :** Acc.to IEC 60332-1
- **Fire retardant :** Acc.to IEC 60332-3 (optinal)



NYCY

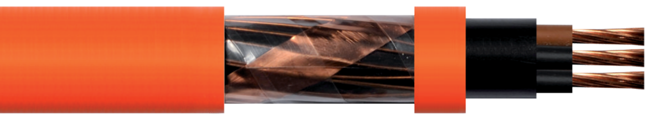
- **According to** : Acc. to IEC 60502-1 (or BS 5467 or VDE 0271)
- **Conductor** : Bare (or tinned) Stranded (or Solid or flexible) annealed copper
- **Insulation :** PVC
- **Inner covering** : PVC
- **Screen :** Concentric copper wire screen with copper tape counter helix
- **Jacket** : PVC
- **Nominal Cross-Section area :** 1.5 to 1000 mm^2
- **Rated voltage :** 0.6/1.0 KV
- **Flame retardan** : Acc.to IEC 60331
- **Fire retardant :** Acc.to IEC 60332-3 (optinal)

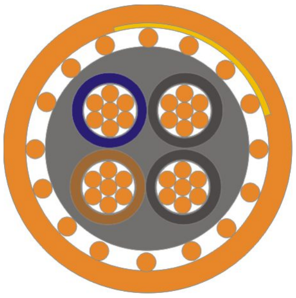
N2XRY



- **According to** : Acc. to IEC 60502-1 (or BS 5467 or VDE 0271)
- **Conductor** : Bare (or tinned) Stranded (or Solid or flexible) annealed copper
- **Insulation** : XLPE
- **Inner covering** : PVC
- **Armour** : Galvanized steel wire armour for multi core & Aluminum wire armour for single core
- **Jacket** : PVC
- **Nominal Cross-Section area** : 1.5 to 1000 mm^2
- **Rated voltage** : 0.6/1.0 KV
- **Flame retardant** : Acc.to IEC 60332-1
- **Fire retardant** : Acc.to IEC 60332-3 (optional)

N2XCH fr





- **According to** : Acc. to IEC 60502-1 (or BS 5467 or VDE 0271)
- **Conductor** : Bare (or tinned) Stranded (or Solid or flexible) annealed copper
- **Fire barrier** : MGT tape
- **Insulation** : XLPE
- **Inner covering** : LSFOH
- **Screen** : copper wire concentric screen with copper tape counter helix
- **Jacket** : LSFOH
- **Nominal Cross-Section area** : 0.5 to 1000 mm^2
- **Rated voltage** : 0.6/1.0 KV
- **Fire resistance** : Acc.to IEC 60331
- **Halogen free** : Acc.to IEC 60754
- **Low smoke** : Acc.to IEC 61034
- **Flame retardant** : Acc.to IEC 60332-1
- **Fire retardant** : Acc.to IEC 60332-3 (optional)