

CABLES



Upcom optical cable assemblies provide the vital connectivity links and patching for your network. Our in-house designed and specified assemblies provide 1 to 288 fibres featuring IEC compliant

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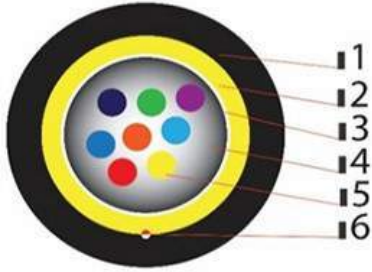
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U-DQ(BN)H



INDOOR LOOSE TUBE 2 TO 12 FIBERS



1. Outer Sheath (HFFR)
2. Glass Yarn
3. Central Loose Tube
4. Filling Material (Thixotropic Jelly)
5. Optical Fibers
6. Rip Cords

DESCRIPTION

U-DQ(BN)H type Loose Tube fiber optic cables are engineered to meet and to exceed (IEC 60794-1-2) requirements and used for General purpose Indoor / Outdoor fiber optic cabling, Networking & Lan Cabling FTTx application, trunk cabling voice or data transmission requirements.

STANDARDS

IEC 60754-1, IEC 61034-1&2, IEC 60332-1, IEC 60794-1&2

FEATURES

- Non-metallic Armoring
- Low Smoke Zero Halogen
- Loose Tube
- Jelly Filled Tube construction
- 4-12 Core
- Anti Rodent
- UV Resistant
- EU CPR certification Class C & Class D available

SPECIFICATION

Fiber Count	2	4	6	8	12	
Loose Tube Diameter	2.8 mm					
Loose Tube Cladding	PBT					
Strength Member	Water Blocking Glass Yarn					
Outer Jacket	LSZH					
Weight (kg/km)	46					
Outer Diameter(mm)	6.0					
Tensile Strength (lt/st)N	800/1200 IEC -60794-1-E1					
Optical Characteristic	MM/OM1	MM/OM2	MM/OM3	MM/OM4	SM G 652D	SM G657A1/A2
Bandwith (nm)	850/1300	850/1300	850/1300	850/1300	1310/1550	1310/1550
Attenuation (dB/km)	3.2/1.2	3.0/1.0	2.8/1.8	2.7/0.7	0.35/.022	0.35/.022
Crush Strength (N)	1500 (IEC 60794-1-2 E3)					
Working Temperature	-30 °C to +70 °C (IEC 60794-1-2 F1)					
Bending Radius	20 x Outer Ø (IEC 60794-1-2 E11)					

Standard Cable Jacket Color, Cable Marking, Packing Length info is available at our website.

A-DQ(BN)2Y

PE JACKET-NON-METALLIC ARMORED LOOSE TUBE 2 TO 12 FIBERS



1. Outer Sheath (PE)
2. Glass Yarn
3. Central Loose Tube
4. Filling Material (Thixotropic Jelly)
5. Optical Fibers
6. Rip Cords



APPLICATION

- Inter Building and Intrabuilding Voice or Data Communication Networks
- General Purpose
- Installed in Ducts & Conduits
- Secondary Distribution
- LAN
- FTTB Cabling,
- Campus Cabling
- Indoor and Outdoor (Universal Use)
- Telecommunication Data Trunk Systems
- Interconnection of Distribution Boxes, Distribution Frames and the Panels at Customer Side

FEATURES

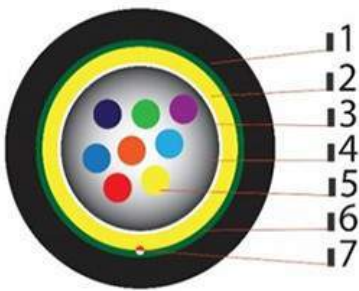
- Compact
- Waterproof
- Non-Metallic Armored
- Loose Tube
- Jelly Filled Tube
- UV- Resistant
- All Dielectric
- Light Weight
- Enforcement with Non-Metallic Strength Members
- Rodent Resistant

SPECIFICATION

Fiber Count	2	4	6	8	12	
Loose Tube Diameter	2.8 mm					
Loose Tube Cladding	PBT					
Strength Member	Water Blocking Glass Yarn					
Outer Jacket	PE					
Weight (kg/km)	42					
Outer Diameter(mm)	6.2					
Tensile Strength (lt/st)N	800/1200 IEC -60794-1-E1					
Optical Characteristic	MM/OM1	MM/OM2	MM/OM3	MM/OM4	SM G 652D	SM G657A1/A2
Bandwith (nm)	850/1300	850/1300	850/1300	850/1300	1310/1550	1310/1550
Attenuation (db/km)	3.2/1.2	3.0/1.0	2.8/1.8	2.7/0.7	0.35/0.22	0.35/0.22
Crush Strength (N)	1500 (IEC 60794-1-2 E3)					
Working Temperature	-30 °C to +70 °C (IEC 60794-1-2 F1)					
Bending Radius	20 x Outer Ø (IEC 60794-1-2 E11)					

A-DQ(BN)(SR)2Y

OUTDOOR-PE JACKET-LOOSE TUBE CABLE 2 TO 12 FIBERS



1. Outer Sheath PE (LSZH as option)
2. Glass Yarn (Aramid as option)
3. Central Loose Tube
4. Filling Material (Thixotropic Jelly)
5. Optical Fibers
6. Corrugated Steel Tape Armor
7. Rip Cord



DESCRIPTION

A-DQ(BN)(SR)2Y/H type Loose Tube fiber optic cables are engineered to meet and to exceed the (IEC 60794-1&2) requirements and used for Heavy Duty Condition Indoor / Outdoor fiber optic cabling, Direct Burial requirements, Networking & Lan Cabling, FTTx applications, trunk cabling voice or data transmission requirements.

STANDARDS

IEC 60794-1&2 - (LSZH: IEC 60754-1, IEC 61034-1&2 - IEC61332-1)

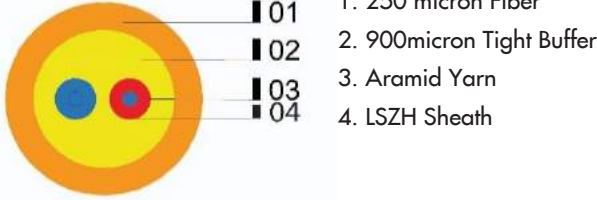
SPECIFICATION

Fiber Count	2	4	6	8	12	
Loose Tube Diameter [^]	2.8 mm					
Loose Tube Cladding	PBT					
Strength Member	Water Blocking Glass Yarn (Aramid is available)					
Outer Jacket	HDPE (LSZH Optional)					
Armor	Corrugated Steel Tape					
Weight (kg/km)	62					
Outer Diameter(mm)	7,5					
Tensile Strength (lt/st)N	1200/1600 IEC – 60794-1-E1					
Optical Characteristic	MM/OM1	MM/OM2	MM/OM3	MM/OM4	SM G 652D	SM G657.A1/A2
Bandwith (nm)	850/1300	850/1300	850/1300	850/1300	1310/1550	1310/1550
Attenuation (db/km)	3.2/1.2	3.0/1.0	2.8/1.8	2.7/0.7	0.35/.022	0.35/0.22
Crush Strength (N)	2000 (IEC 60794-1-2 E3)					
Working Temperature	-30 °C to +70 °C (IEC 60794-1-2 F1)					
Bending Radius	20 x Outer Ø (IEC 60794-1-2 E11)					

Standard Cable Jacket Color, Cable Marking, Packing Length info is available at our website.

I-V(ZN)H

INDOOR DROP CABLE 1 TO 4 FIBERS



DESCRIPTION

I-V(ZN)H type tight buffered fiber optic cables are engineered to meet and to exceed the (IEC 60794-1-2) requirements and used for Drop Cabling for FTTx applications, direct connection to terminal equipments, riser cabling, voice or data transmission requirements.

STANDARDS

DIN VDE 0888 Part 6; IEC 61034; IEC 60332-2; IEC 60754-2; IEC 60794-1&2

FEATURES

- Easy to Strip
- Direct Termination
- Enforced with Non-Metallic Strength Members
- Complete Dry Design
- All Dielectric
- Halogen Free Fire Retardant / Low Smoke Zero
- Flexible
- Small Diameter
- Light Weight

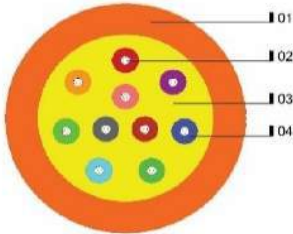
SPECIFICATION

Fiber Count	1	2	4
Strength Member		Aramid Yarns	
Tight Jacket		HFFR	
Outer Jacket		HFFR	
Tight Buffer Jacket ϕ (μ)		900 \pm 50	
Optical Characteristic	9/125 G.652-D	9/125 G.657A1	9/125 G.657A.2
Bandwith (nm)	1310/1550	1310/1550	1310/1550
Attenuation (max dB/km)	0.35/0.25	0.35/0.22	0.35/0.22
Weight (Kg/km)	4.4	9.5	13.5
Outer ϕ (mm)	2.40	3.00	3.5
Tensile Load Perm / Inst (N)	150/300	200/400	300/600
Crush Strength (N/10cm)		200 (IEC 60794-1-2 E3)	
Temperature Range		-10 °C to +60 °C (IEC 60794-1-2 F1)	
Min. Bending Radius		20 x Outer ϕ (IEC 60794-1-2 E11) - (10x Outer for G657)	

Standard Cable Jacket Color, Cable Marking, Packing Length info is available at our website.

I-V(ZN)H MINI

MINI BREAKOUT CABLE WITH ARAMID YARN STRENGTH MEMBER



1. Outer Sheath
 2. Optical Fiber
 3. Aramid Yarn
 4. 900 micron Tight Buffer
- * Rip Cord on both side will be applied



DESCRIPTION

I-V(ZN)H Mini fiber optic cables are engineered to meet and to exceed the (IEC 60794-1-2) requirements and used for General purpose Indoor fiber optic cabling, Networking & Lan Cabling, FTTx applications, Interconnection of Distribution Boxes, Distribution Frames and Customer Equipment and between the floors.

STANDARDS

DIN VDE 0888 Part 6; IEC 61034; IEC 60332-2; IEC 60754-2; IEC 60794-1&2

FEATURES

- Easy to Strip
- Direct Termination
- Enforced with Non-Metallic Strength Members
- Complete Dry Design
- All Dielectric
- Halogen Free Fire Retardant & Low Smoke Zero Halogen
- Flexible
- Low Installation Cost

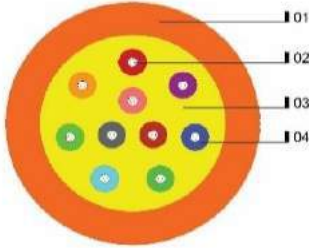
SPECIFICATION

Fiber Count	2	4	6	8	12	16	24
Strength Member	Aramid Yarns						
Tight Buffer \varnothing (μ)	900 \pm 50						
Tight Buffer Jacket	LSZH						
Identification	Color coded up to 12 and black ring coded 13-24 Fibers						
Outer Jacket	LSZH						
Weight (kg/Km)	26	31	42	48	54	67	85
Outer \varnothing (mm)	4.5	5.5	6.0	6.8	7.2	8.0	8.6
Tensile Load Perm / Inst (N)	400/600	400/600	600/1000	600/1000	800/1200	800/1200	1000/1600
Optical Characteristic	62,5/125 OM1		50/125 OM2	50/125 OM3	50/125 OM4	9/125 G.652-D	9/125 G.657A
Bandwith (nm)	850/1300		850/1300	850/1300	850/1300	1310/1550	1310/1550
Attenuation (max dB/km)	3.2/1.2		3.0/1.0	2.8/0.8	2.7/0.7	0.35/0.22	0.35/0.22
Weight (Kg/km)	4.4			9.5		13.5	
Crush Strength (N/10cm)	1000 (IEC 60794-1-2 E3)						
Temperature Range	-20 °C to +60 °C (IEC 60794-1-2 F1)						
Min. Bending Radius	20 x Outer \varnothing (IEC 60794-1-2 E11) (10x Outer for G657)						

Standard Cable Jacket Color, Cable Marking, Packing Length info is available at our website.

I-V(BN)H MINI

MINI BREAKOUT CABLE WITH GLASS YARN STRENGTH MEMBER



1. Outer Sheath
 2. Optical Fiber
 3. Glass Yarn
 4. 900 micron Tight Buffer
- * Rip Cord on both side will be applied



DESCRIPTION

I-V(BN)H mini fiber optic cables are engineered to meet and to exceed the (IEC 60794-1-2) requirements and used for General purpose Indoor fiber optic cabling, Networking & Lan Cabling, FTTx applications, Interconnection of Distribution Boxes, Distribution Frames and Customer Equipment and between the floors.

STANDARDS

DIN VDE 0888 Part 6; IEC 61034; IEC 60332-2; IEC 60754-2; IEC 60794-1&2

FEATURES

- Easy to Strip
- Direct Termination
- Enforced with Non-Metallic Strength Members
- Complete Dry Design
- All Dielectric
- Halogen Free Flame Retardant & Low Smoke Zero Halogen
- Flexible
- Low Installation Cost
- Non Metallic Design

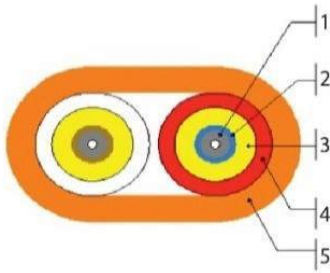
SPECIFICATION

Fiber Count	2	4	6	8	12	16	24
Strength Member	Glass Yarns						
Tight Buffer \varnothing (μ)	900 \pm 50						
Tight Buffer Jacket	LSZH						
Identification	Color coded up to 12 and black ring coded 13-24 Fibers						
Outer Jacket	LSZH						
Weight (kg/Km)	26	31	42	48	54	67	85
Outer \varnothing (mm)	4.5	5.5	6.0	6.8	7.2	8.0	8.6
Tensile Load Perm / Inst (N)	400/600	400/600	600/1000	600/1000	600/1000	600/1000	600/1000
Optical Characteristic	62.5/125 OM1		50/125 OM2	50/125 OM3	50/125 OM4	9/125 G.652-D	
Bandwith (nm)	850/1300		850/1300	850/1300	850/1300	1310/1550	
Attenuation (max dB/km)	3.2/1.2		3.0/1.0	2.8/0.8	2.7/0.7	0.34/0.25	
Crush Strength (N/10cm)	1000 (IEC 60794-1-2 E3)						
Temperature Range	-20 °C to +60 °C (IEC 60794-1-2 F1)						
Min. Bending Radius	20 x Outer \varnothing (IEC 60794-1-2 E11) - 10 x Outer for G657						

Standard Cable Jacket Color, Cable Marking, Packing Length info is available at our website.

I-V(ZN)HH 2x1

FLAT DUBLEX



1. Optical Fiber
2. 900 mic Tight Buffer
3. Aramid Yarn
4. Sub-Unit (Simplex)
5. Outer Sheath

DESCRIPTION

I-V(ZN)HH 2x1 BREAKOUT CABLE fiber optic cables are engineered to meet and to exceed the (IEC 60794-1-2) requirements and used for patch & break-out connections, LAN applications, FAN OUT and FTTx cabling applications.

STANDARDS

DIN VDE 0888 Part 6; IEC 61034; IEC 60332-1&2; IEC 60754-2; IEC 60794-1&2

FEATURES

- Easy to Strip
- Direct Termination
- Enforced with Non-Metallic Strength Members
- Complete Dry Design
- All Dielectric
- Halogen Free Fire Retardant Low Smoke Zero Halogen
- Flexible

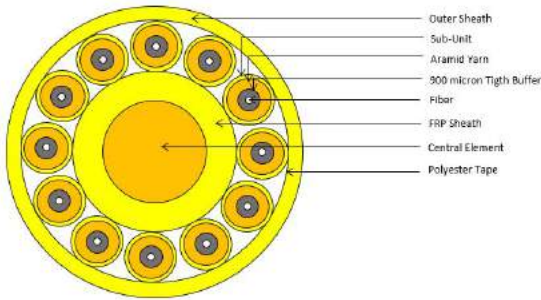
SPECIFICATION

Fiber Count	2					
Strength Member	Aramid Yarn					
Subcable Jacket	LSZH					
Outer Jacket	LSZH					
Subcables Ø (mm)	2.0			2.8		
Weight (kg/Km)	24			32		
Outer Ø (mm)	3.0x6.0			3.8x7.6		
Tensile Load Perm / Inst (N)	300/500			400/700		
Optical Characteristic	62,5/125 OM1	50/125 OM2	50/125 OM3	50/125 OM4	9/125 G.652-D	9/125 G.657A
Bandwidth (nm)	850/1300	850/1300	850/1300	850/1300	1310/1550	1310/1550
Attenuation (max dB/km)	3.2/1.2	3.0/1.0	2.8/0.8	2.7/0.7	0.35/0.22	0.35/0.22
Crush Strength (N/10cm)	600 (IEC 60794-1-2 E3)					
Temperature Range	-20 °C to +60 °C (IEC 60794-1-2 F1)					
Min. Bending Radius	20 x Outer Ø (IEC 60794-1-2 E11) - 10 x Outer for G657					

Standard Cable Jacket Color, Cable Marking, Packing Length info is available at our website.

I-V(ZN)HH

Breakout - Tight Buffer - 2.0mm - Simplex
SZ Stranded - HFFR Jacket



DESCRIPTION

I-V(ZN)HH BREAKOUT CABLE fiber optic cables are engineered to meet and to exceed the (IEC 60794-1-2) requirements, to be installed into ducts and conduits and used for FTTx cabling, Vertical Riser and General Horizontal Applications, Inter Building and Intrabuilding Voice or Data Communication Networks and Breakout Design Permitting Routing to Different Locations and Direct Termination of the Fibers in the Field. The individual 2.0 mm-breakout elements consist of 900 μ m tight buffers surrounded by aramid yarn.

STANDARDS

DIN VDE 0888 Part 6; IEC 61034; IEC 60332-1&2; IEC 60754-2; IEC 60794-1&2

I-V(ZN)HH

FEATURES

- Easy to Strip
- Direct Termination
- Reduced Diameter
- Complete Dry Design
- All Dielectric
- Halogen Free Flame Retardant
- Flexible
- Rodent Resistant and Termit Protection can be applied.
- Enforcement with Non-Metallic Strength Members
- Non Metallic Design
- Low Cast

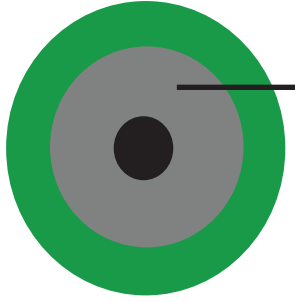
SPECIFICATION

Fiber Count	2	4	6	8	12	16	24
Strength members	Aramid Yarn						
Subcables Ø (mm)	2.0 mm						
Subcables jacket	LSZH						
Identification	Number Coded (Color Code option is available upon request)						
Outer jacket	LSZH						
Weight (Kg/Km)	45	52	70	90	115	125	140
Outer Ø (mm)	6.6	6.8	9.0	10.5	11.5	13.0	14.0
Tensile Load Perm / Inst (N)	600/1000	800/1350	1200/2050	1600/2700	2400/3500	3200/3500	3500/4500
Optical Characteristic	62,5/125 OM1		50/125 OM2	50/125 OM3	50/125 OM4	9/125 G.652-D	9/125 G.657A
Bandwith (nm)	850/1300		850/1300	850/1300	850/1300	1310/1550	1310/1550
Attenuation (max dB/km)	3.2/1.2		3.0/1.0	2.8/0.8	2.7/0.7	0.35/0.22	0.35/0.22
Crush (N)	2000 (IEC 60794-1-2 E3)						
Temperature Range	-20 °C to +60 °C (IEC 60794-1-2 F1)						
Min. Bending Radius	20 x Outer Ø (IEC 60794-1-2 E11) - 10 x Outer for G657						

Standard Cable Jacket Color, Cable Marking, Packing Length info is available at our website.

J-VH PIGTAIL

Pigtail - Tight Buffer - LSZH Insulation



01

1. 900 micron LSZH Sheath

02

2. 250 mic. Optical Fiber Coating and Color

03

3. 9/50/62,5 micron Optical Fiber Core



DESCRIPTION

J-VH type (pigtail) fiber optic cables are used for pigtail & Jumper connections, indoor interconnect and patch applications.

STANDARDS

DIN VDE 0888 Part 2; IEC 61034; IEC 60332-1; IEC 60754-2

FEATURES

- Easy to Strip
- Easy and Direct Termination
- Low Installation Cost
- Dry Design
- All Dielectric
- LSZH Jacket

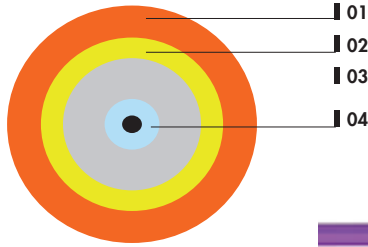
SPECIFICATION

Fibers	1
Outer Jacket	LSZH
Colour	Orange (OM1) / Blue (OM2) / Aqua (OM3) / Violet (OM4) / Yellow (SM)
Weight (kg/km)	0,9
Outer Ø (mm)	900 ±50
Tensile Load Perm./Inst(N)	10
Max. Length (m)	8000
Temperature Range	-10 °C to +60 °C (IEC 60794-1-2 F1)
Min. Bending Radius	20 x Outer Ø (IEC 60794-1-2 E11)

Standard Cable Jacket Color, Cable Marking, Packing Length info is available at our website.

J-V(ZN)H 1x1

Simplex Zipcord Patch Cable



1. LSZH Sheath
2. Aramid Yarn
3. 900 micron Tight Buffer
4. Optical Fiber



DESCRIPTION

J-V(ZN)H 1x1 Simplex Zipcord Patch fiber optic cables are used for pigtail and jumper connections, patching applications, direct connection to terminal equipments, Drop & FTTx cabling, ODF cabling.

STANDARDS

DIN VDE 0888 Part 4; IEC 61034; IEC 60332-1&2; IEC 60754-2; IEC 60794-1&2

FEATURES

- Easy to Strip
- Direct Termination
- Small Diameter
- Complete Dry Design
- All Dielectric
- Halogen Free Fire Retardant / Low Smoke Zero Halogen
- Flexible
- Enforced with Non-Metallic Strength Members

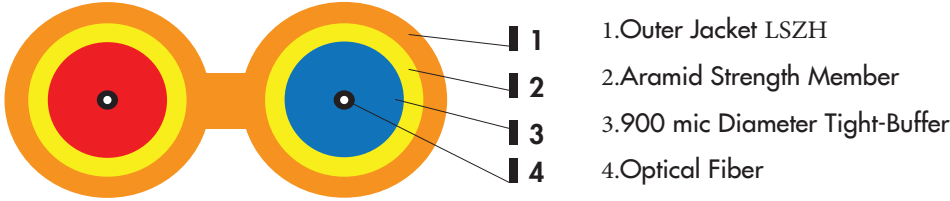
SPECIFICATION

Fiber Count	1					
Strength members	Aramid Yarns					
Tight jacket	LSZH					
Outer jacket	LSZH					
Tight Buffer Jacket Ø (µ)	650±50			900±50		
Optical Characretistic	62,5/125 OM1	50/125 OM2	50/125 OM3	50/125 OM4	9/125 G.652-D	9/125 G.657A
Bandwith (nm)	850/1300	850/1300	850/1300	2.7/0.7	1310/1550	1310/1550
Attenuation (max dB/km)	3.2/1.2	3.0/1.0	2.8/0.8	2.8/0.8	0.35/0.22	0.35/0.22
Weight (Kg/Km)	2,8	3,3	4,2	5,8	8,4	9,5
Outer Ø (mm)	1,6	1,8	2	2,4	2,8	3
Tensile load Perm/Inst (N)	60/110	60/110	75/150	75/150	100/220	100/220
Crush (N/10cm)	100 (IEC 60794-1-2 E3)					
Temperature Range	-10 °C to +60 °C (IEC 60794-1-2 F1)					
Min. Bending Radius	20 x Outer Ø (IEC 60794-1-2 E11)					

Standard Cable Jacket Color, Cable Marking, Packing Length info is available at our website.

J-V(ZN)H 2x1

Dublex Zipcord Patch Cable



DESCRIPTION

J-V(ZN)H 2x1 Dublex Zipcord Patch fiber optic cables are used for pigtail and jumper connections, patching applications, direct connection to terminal equipments, Drop & FTTx cabling, ODF cabling.

STANDARDS

DIN VDE 0888 Part 4; IEC 61034; IEC 60332-1&2; IEC 60754-2; IEC 60794-1&2

FEATURES

- Easy to Strip
- Direct Termination
- Small Diameter
- Complete Dry Design
- All Dielectric
- Halogen Free Fire Retardant / Low Smoke Zero Halogen
- Flexible
- Enforced with Non-Metallic Strength Members

J-V(ZN)H 2x1

Dublex Zipcord Patch Cable

SPECIFICATION

Fiber Count	2					
Strength Member	Aramid Yarn					
Subcable Jacket	LSZH					
Outer Jacket	LSZH					
Tight Buffer Jacket Ø (µ)	650±50			900±50		
Weight (kg/Km)	5.5	6.5	8.4	11.5	16.0	19.0
Outer Ø (mm)	1.6x3.2	1.8x3.6	2.0x4.1	2.4x4.9	2.8x5.9	3.0x6.2
Tensile Load Perm / Inst (N)	100/200	100/200	150/300	150/300	200/400	200/400
Optical Characteristic	62,5/125 OM1	50/125 OM2	50/125 OM3	50/125 OM4	9/125 G.652D	9/125 G.657A
Bandwith (nm)	850/1300	850/1300	850/1300	850/1300	1310/1550	1310/1550
Attenuation (max dB/km)	3.2/1.2	3.0/1.0	2.8/0.8	2.7/0.7	0.35/0.22	0.35/0.22
Crush Strength (N/10cm)	200 (IEC 60794-1-2 E3)					
Temperature Range	-20 °C to +60 °C (IEC 60794-1-2 F1)					
Min. Bending Radius	20 x Outer Ø (IEC 60794-1-2 E11) - 10 x Outer for G657					

Standard Cable Jacket Color, Cable Marking, Packing Length info is available at our website.

I-N(ZM)H w FRP (Drop)

INDOOR DROP CABLE WITH FRP STRENGTH MEMBER



1. LSZH Outer Sheath
2. Optical Fiber
3. FRP Strength Member

APPLICATION

- FTTx Applications
- Aerial (Lashed)
- Direct Connection to Terminal Equipments
- LAN
- Drop Cabling
- WAN
- Interbuilding and Intrabuilding Voice or Data Communication Networks
- Indoor and Outdoor Interconnect and Patchcord Applications

I-N(ZM)H w FRP (Drop)

INDOOR DROP CABLE WITH FRP STRENGTH MEMBER

FEATURES

- Easy to Strip
- Easy and Direct Termination
- Enforced with Non-Metallic Strength Members
- Complete Dry Design
- Small Diameter
- Low Cost
- Perfect Solution for Subscriber Cabling
- Halogen Free Fire Retardant / Low Smoke Zero Halogen

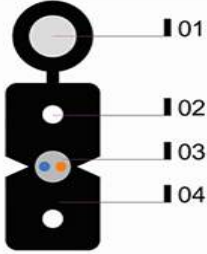
EN 50173-1, IEC 60754-2, IEC 60794-1&2, IEC 60793-1&2, IEC 60332-1 & 2

SPECIFICATION

Fiber	1	2	4
Strength members	0.5mm FRP Strength Member / Steel Strength Member is optional		
Outer jacket	LSZH		
Jacket Ø (mm)	3.2x2.0		
Optical Characretistic	9/125 G.652-D	9/125 G.657.A1	9/125 G.657.A2
Bandwith (nm)	1310/1550	1310/1550	1310/1550
Attenuation (max dB/km)	0.35/0.25	0.35/0.22	0.35/0.22
Weight (Kg/Km)	9	9	9
Tensile Load Perm / Inst (N)	100/200	100/200	100/200
Crush (N/10cm)	200 (IEC 60794-1-2 E3)		
Temperature Range	-10 °C to +60 °C (IEC 60794-1-2 F1)		
Min. Bending Radius	15 x Outer Ø	10 x Outer Ø	

A-N(ZM)H-SH

INDOOR DROP CABLE WITH FRP STRENGTH MEMBER



1. 1.00mm FRP Messenger Wire
2. Strength Member (0.5mm FRP Strength Member)
3. Optical Fiber
4. LSZH Outer Sheath



FEATURES

- Easy to Strip
- Easy and Direct Termination
- Enforced with Non-Metallic Strength Members
- Complete Dry Design
- Small Diameter
- Low Cost
- Perfect Solution for Subscriber Cabling
- Halogen Free Fire Retardant / Low Smoke Zero Halogen

EN 50173-1, IEC 60754-2, IEC 60794-1&2, IEC 60793-1&2, IEC 60332-1 & 2

SPECIFICATION

Fiber	1	2	4
Strength members	0.5mm FRP Strength Member / Steel Strength Member is optional		
Outer jacket	LSZH		
Jacket Ø (mm)	5.2x2.0		
Optical Characteristic	9/125 G.652-D	9/125 G.657.A1	9/125 G.657.A2
Bandwith (nm)	1310/1550	1310/1550	1310/1550
Attenuation (max dB/km)	0.35/0.25	0.35/0.22	0.35/0.22
Weight (Kg/Km)	21	21	21
Tensile Load Perm / Inst (N)	400/600	400/600	400/600
Crush (N/10cm)	200 (IEC 60794-1-2 E3)		
Temperature Range	-10 °C to +60 °C (IEC 60794-1-2 F1)		
Min. Bending Radius	15 x Outer Ø	10 x Outer Ø	

OPTICAL FIBER SPECIFICATIONS

G.657 A1

ITU-T recommendation G.657.A Bending intensive Single Mode;
IEC 60793-2-50 type B1.3

Geometric/mechanical properties	Units	Specified Values
Cladding diameter	(μm)	125 ± 0.7
Cladding non-circularity	(%)	≤ 0.7
Coating diameter	(μm)	242 ± 7
Coating-cladding concentricity error	(%)	≤ 12.0
Coating non-circularity	(%)	≤ 5.0
Core non-circularity	(μm)	≤ 5.0
Core/cladding concentricity error	(μm)	≤ 0.5
Fiber Curl (radius)	m	≥ 4

Macro-Bend induced attenuation	dB	≤ 0.25	10 turns around a mandrel of 15 mm Diameter; 1550nm
	dB	≤ 0.75	1 turn around a mandrel of 10 mm Diameter; 1550nm
	dB	≤ 1.5	1 turn around a mandrel of 10mm Diameter; 1625nm
Proof test	N	≥ 0.7	100 kpsi; 1% strain equivalent
Coating Strip Force	N	$\geq 1 \leq 3$	typical average force
	N	$\geq 1.2 \leq 8.9$	Peak strip force
Temperature Cycling	dB/km	≤ 0.05	1310nm, 1550nm, 1625nm; -60°C to +85 °C

Optical Characteristics	Units	Specified Values		
Wavelength	(nm)	1310	1550	1625
Attenuation max.	(dB/km)	≤ 0.35	≤ 0.21	≤ 0.23
Mode Field Diameter	(μm)	9.0 ± 0.4	10.1 ± 0.5	
Effective Group Index of Refraction		1.467	1.468	1.468

OPTICAL FIBER SPECIFICATIONS

G.657.A2

ITU-T recommendation G.657.A2 BendBright Single Mode; IEC 60793-2-50 type B1.3

Geometric/mechanical properties	Units	Specified Values
Cladding diameter	(μm)	125 ± 0.7
Cladding non-circularity	(%)	≤ 0.7
Coating diameter	(μm)	242 ± 7
Coating-cladding concentricity error	(μm)	≤ 12.0
Core non-circularity	(%)	≤ 5.0
Core non-circularity	(%)	≤ 5.0
Core/cladding concentricity error	(μm)	≤ 0.5
Fiber Curl (radius)	m	≥ 4

Macro-Bend induced attenuation	dB	≤ 0.03	10 turns around a mandrel of 15 mm Diameter; 1550nm
	dB	≤ 0.1	1 turn around a mandrel of 10 mm Diameter; 1550nm
	dB	≤ 0.5	1 turn around a mandrel of 7.5mm Diameter; 1550nm
Proof test	N	≥ 0.7	100 kpsi; 1% strain equivalent
Coating Strip Force	N	$\geq 1 \leq 3$	typical average force
	N	$\geq 1.2 \leq 8.9$	Peak strip force
Temperature Cycling	dB/km	≤ 0.05	1310nm, 1550nm, 1625nm; -60°C to +85°C

Optical Characteristics	Units	Specified Values		
Wavelength	(nm)	1310	1550	1625
Attenuation max.	(dB/km)	≤ 0.35	≤ 0.20	≤ 0.21
Mode Field Diameter	(μm)	8.8 ± 0.4	9.8 ± 0.5	
Effective Group Index of Refraction		1.467	1.467	1.468

OPTICAL FIBER SPECIFICATIONS

G.652-D

ITU-T recommendation G.652D Single Mode; IEC 60793-2-50 type B1.3

Geometric/mechanical properties	Units	Specified Values
Cladding diameter	(μm)	125 ± 0.7
Cladding non-circularity	(%)	≤ 0.7
Coating diameter	(μm)	242 ± 5
Coating-cladding concentricity error	(μm)	≤ 12.0
Cladding non-circularity	(%)	≤ 6.0
Core non-circularity	(%)	≤ 1.0
Core/cladding concentricity error	(μm)	≤ 0.5
Fiber Curl (radius)	m	≥ 4

Macro-Bend induced attenuation	dB	≤ 0.05	1 turns around a mandrel of 32 mm Diameter; 1550nm
	dB	≤ 0.05	100 turn around a mandrel of 50 mm Diameter; 1310&1550nm
	dB	≤ 0.05	100 turn around a mandrel of 60mm Diameter; 1625nm
Proof test	N	1.7	100 kpsi; 1% strain equivalent
Coating Strip Force			
	N	≥ 1.3 ≤ 8.9	Peak strip force
Temperature Cycling	dB/km	≤ 0.05	1310nm, 1550nm, 1625nm; -60°C to +85°C

Optical Characteristics	Units	Specified Values		
Wavelength	(nm)	1310	1550	1625
Attenuation max.	(dB/km)	≤ 0.33	≤ 0.19	
Dispersion coefficient	($\mu\text{ps}^2/\text{km}$)	≤ 3.5	≤ 17	≤ 0.22
Mode Field Diameter		8.6~9.6	9.9~10.9	
Effective Group Index of Refraction		1.466	1.467	

OPTICAL FIBER SPECIFICATIONS

OM3

G50/125 OM3 Multimode Fiber (IEC 60793-2-10 type A1a)

Geometric/mechanical properties	Units	Specified Values
Core diameter	(μm)	50 ± 2
Cladding diameter	(μm)	125 ± 1.0
Coating diameter	(μm)	242 ± 5
Core non-circularity	(%)	≤ 5
Cladding non-circularity	(%)	≤ 0.7
Core/cladding concentricity error	(μm)	≤ 1.0
Coating-cladding concentricity error	(μm)	≤ 10
Proof test	Gpa	>0.7 Off line
Coating Strip Force	N	1 to 3 Average strip force, unaged and aged
	N	1.3 to 8.9 Peak strip force, unaged and aged
Temperature Cycling	dB/km	850nm, 1300nm; -60°C to ≤ 0.1 $+85^{\circ}\text{C}$

Transmission properties	Units	OM3	
Wavelength	(nm)	850	1300
Attenuation max.	(dB/km)	≤ 2.3	≤ 0.6
Fiber Capacity 10GBASE-SX	mt	≤ 300	
Bandwidth min. OFL	(MHz · km)	≥ 1500	≥ 500
Group Index of Refraction (Typical)		1.482	1.472
Numerical Aperture		0.200 \pm 0.015	

OPTICAL FIBER SPECIFICATIONS

OM1

G62.5/125 OM1 Multimode Fiber (IEC 60793-2-10 type A1b)

Geometric/mechanical properties	Units	Specified Values
Core diameter	(μm)	62.5 ± 2.5
Cladding diameter	(μm)	125 ± 1.0
Coating diameter	(μm)	242 ± 5
Core non-circularity	(%)	≤ 5
Cladding non-circularity	(%)	≤ 0.7
Core/cladding concentricity error	(μm)	≤ 1.0
Coating-cladding concentricity error	(μm)	≤ 10
Proof test	Gpa	>0.7 Off line
Coating Strip Force	N	1 to 3 Average strip force, unaged and aged
	N	1.3 to 8.9 Peak strip force, unaged and aged
Temperature Cycling	dB/km	850nm, 1300nm; -60°C to ≤ 0.1 $+85^{\circ}\text{C}$

Transmission properties	Units	OM1	
Wavelength	(nm)	850	1300
Attenuation max.	(dB/km)	≤ 2.7	≤ 0.6
Fiber Capacity 10GBASE-SR	mt	≤ 33	
Bandwidth min. OFL	(MHz · km)	≥ 200	≥ 500
Group Index of Refraction (Typical)		1.496	1.491
Numerical Aperture		0.275 ± 0.015	