

### FIBER OPTIC CABLES, CLAMPS, BOXES FOR OUTDOOR & INDOOR FTTX DEPLOYMENT

### COMPANY PROFILE

JERA LINE is a factory, that produces overhead and underground cable infrastructure. Which transmits information and electricity, via

- Fiber Optic Cable Networks.
- Power Cable Grids.

In the following catalog, we present aerial and indoor products for fiber optics deployment.

Our Mission is to satisfy the market's demands through the development of technology in related business sectors to the hightest technology level by using innovations and know how.

Our Vision is to achieve the possibility of manufacturing a comprehensive and reliable complex of products for construction of telecommunication networks and and power distribution systems.

JERA is operating according to ISO9001, all our products meet the criteria of key regional standards, CE, IEC, EN, CPR. Welcome to cooperate, our intention is committed to build reliable, long-term business relationships.

### **OUR ADVANTAGES**



COMPETITVE PRICE



MANUFACTURER RND



QUALITY GUARANTEE



**COMPLETE SOLUTION** 

### PRODUCTION FACILITY\*



Fiber optic cable workshop



Plastic molding workshop



CNC metals workshop



Press forming Helical wire forming workshop workshop



Products Assembly workshop

### **TESTING FACILITY**



Tensile strength test



Temp & Humi cycling



UV & temperature



Corrosion aging test



Material hardness test

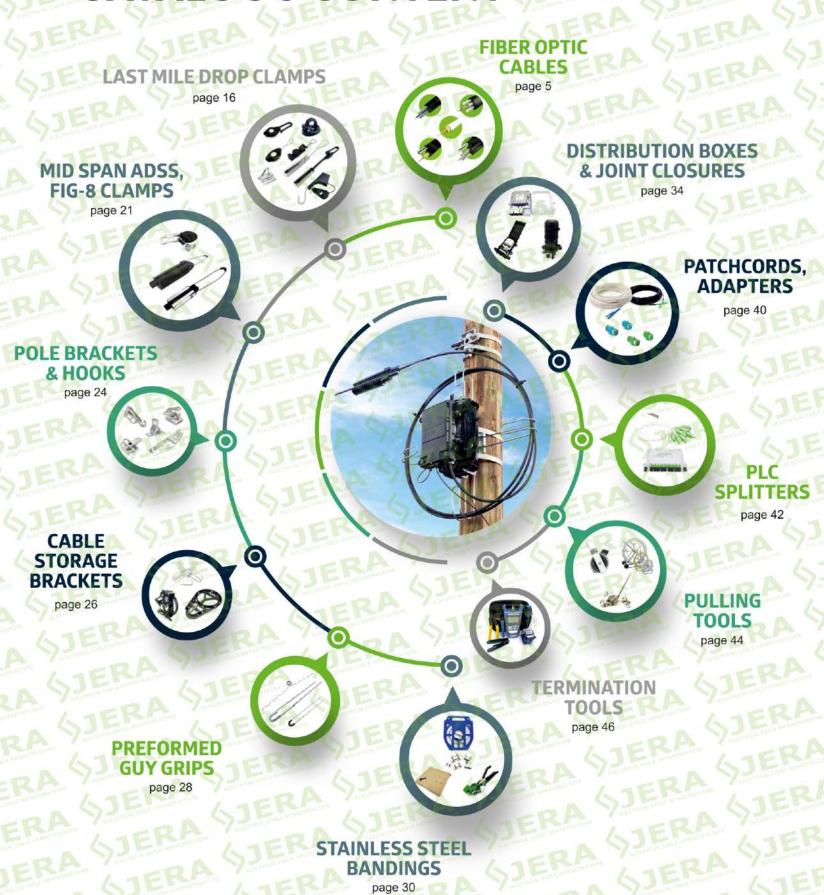


Fire resistance test





### CATALOG'S CONTENT



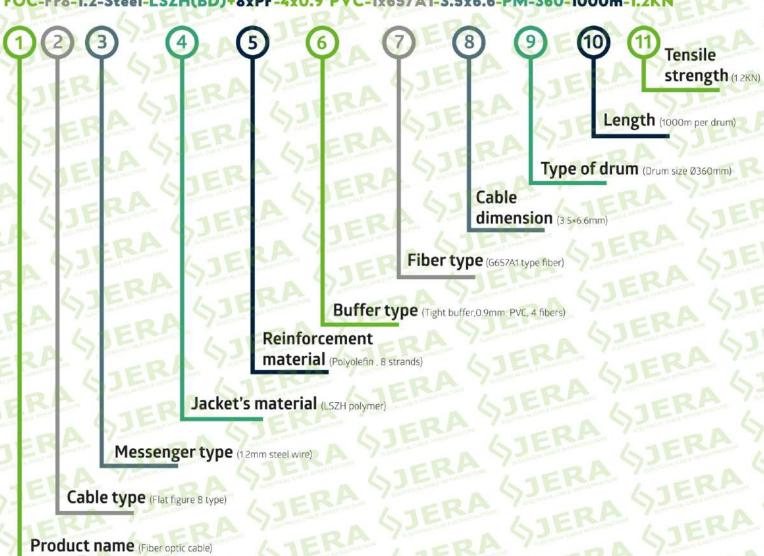




### FIBER OPTIC CABLE NAME CODING

**EXAMPLE:** 

FOC-Fr8-1.2-Steel-LSZH(BD)+8xPF-4x0.9\*PVC-1x657A1-3.5x6.6-PM-360-1000m-1.2KN



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### FIBER OPTIC DROP CABLES FOR FTTX, FLAT-TYPE & FIG8 TYPE

Fiber optic drop cables, flat-type were developed to use in last mile internet connections in FTTx network construction, for outdoor (aerial) and indoor FTTx deployments.

Our fiber optic FTTx cables are made of G657A1,A2, G652D fiber core, FRP, steel wire, aramid yarn, PBT loose tube materials, weather and UV resistant LSZH TPU plastic.

Flat and fig8 type fiber optic drop cables meet the criteria of key regional standards RoHS, CE. IEC-60794-1-21.









### FIBER OPTIC DROP CABLE FLAT-TYPE. 1, 2, 4 CORES,

REINFORCED BY STEEL/FRP RODS FOR INDOOR & OUTDOOR DEPLOYMENT

### **Cable Description**



- MESSENGER WIRE: STEEL/FRP
- OPTICAL FIBER
- OUTER JACKET: BLACK LSZH



- MESSENGER WIRE: STEEL/FRP
- OPTICAL FIBER
- OUTER JACKET: WHITE LSZH



### **Applications**



Applied outdoor, for installation on the telecommunication supports, between the buildings and industrial constructions.



Applied indoor, for cable tray distribution networks of fiber optics. It is allowed to lay cable on the outdoor facade of a building.

### **Features**



Perfect for indoor distribution networks of fiber optics



High connecting usability, easy access to the fiber core



Reliability. Reinforced by steel strength member.



High flexibility design



Fiber redundant protection (Up to request)



UV radiation protection



Appropriate tensile performance



Appropriate crushing load



Technical Data			
Item 6JE	Value (N)	-ERA Y	TA SIE
ERA	1 fiber	2 fibers	4 fibers
Messenger type	Steel wire/FRP	Steel wire/FRP	Steel wire/FRP
Messenger diameter (mm)	0.40/0.50	0.40/0.50	0.40/0.50
Jacket's material	LSZH	LSZH	LSZH
Jacket's thickness (mm)	≥0.40	≥0,40	≥0.40
Fiber type		G.657.A1/A2 or G.652.D	
Cable dimension (mm)	2.0×3.0(±0.1)	2.0×3.0(±0.1)	2.0×3.0(±0.1)
Tensile strength (N)	200/80	200/80	200/80





### FIBER OPTIC DROP CABLE FLAT, FIGURE-8 TYPE. 1, 2, 4, 6 CORES

WITH STEEL/FRP MESSENGER, REINFORCED BY STEEL/FRP RODS FOR OUTDOOR(AERIAL) DEPLOYMENT

### **Cable Description**



MESSENGER WIRE STEEL WIRE/FRP

REINFORCEMENT MATERIAL: STEEL WIRE/FRP OPTICAL FIBER

OUTER JACKET: BLACK LSZH





Applied outdoor, for installation on the telecommunication supports, between the buildings and industrial constructions.



Applied indoor, for cable tray distribution networks of fiber optics. It is allowed to lay cable on the outdoor

### **Features**



Perfect for indoor distribution networks of fiber optics



High connecting usability, easy access to the fiber core



Reliability. Reinforced by steel strength member



High flexibility design



Fiber redundant protection (Up to request)



UV radiation protection



Appropriate tensile performance



Appropriate crushing load



Technical Data				
Item 43E	Value (N)	-PA	27	GJE
TERA /	1 fiber	2 fibers	4 fibers	6 fibers
Messenger type	Steel wire/FRP	Steel wire/FRP	Steel wire/FRP	Steel wire/FRF
Messenger diameter (mm)	1.0/1.2/7×0.33	1.0/1.2/7×0.33	1.0/1.2/7×0.33	1.0/1.2/7×0.33
Jacket's material	LSZH	LSZH	LSZH	LSZH
Jacket's thickness (mm)	≥0.40	≥0.40	≥0.40	≥0,40
Reinforcement material	Steel wire/FRP	Steel wire/FRP	Steel wire/FRP	Steel wire/FRP
Reinforcement diameter (mm)	0.40/0.50	0.40/0.50	0.40/0.50	0.40/0.50
Fiber type	JEN- AT	G.657.A1/A2	or G.652.D	-0 A S
Cable dimension (mm)	2.0 × 5.2(±0.1)	2.0 × 5.2(±0.1)	2.0 × 5.2(±0.1)	2.0 × 5.2(±0.1)
Tensile strength (N)	1800/2000	1800/2000	1800/2000	1800/2000





### FIBER OPTIC DROP CABLE, FIGURE-8 TYPE. 1, 2, 4 CORES

WITH STEEL MESSENGER, REINFORCED BY ARAMID YARN FOR OUTDOOR (AERIAL) DEPLOYMENT

### **Cable Description**



MESSENGER WIRE: GALVANIZED STEEL WIRE OUTER JACKET



ARAMID YARN OPTICAL FIBER JELLY COPOUND LOOSE TUBE



MESSENGER WIRE: STRANDED STEEL WIRE OUTER JACKET



ARAMID YARN OPTICAL FIBER JELLY COPOUND LOOSE TUBE



### **Applications**



Applied outdoor, for installation on the telecommunication supports, between the buildings and industrial constructions.



Applied indoor, for cable tray distribution networks of fiber optics. It is allowed to lay cable on the outdoor facade of a building.

### **Features**



Perfect for indoor distribution networks of fiber optics



High connecting usability, easy access to the fiber core



Reliability. Reinforced by steel strength member



High flexibility design



Fiber redundant protection (Up to request)



UV radiation protection



Appropriate tensile performance



Appropriate crushing load



Technical Data			
Item GJEK	Value (N)	-BA 93	V PIE
RA	1 fiber	2 fibers	4 fibers
Messenger type	Glvanized steel wire/ steel wire strand	Glvanized steel wire/ steel wire strand	Glvanized steel wire/ steel wire strand
Messenger diameter (mm)	1.2/0.33*7	1.2/0.33*7	1.2/0.33*7
Jacket's material	LSZH/TPU	LSZH/TPU	LSZH/TPU
Reinforcement material	Aramid yarn	Aramid yarn	Aramid yarn
Loose tube material	PBT	PBT	PBT
Loose tube diameter (mm)	1.2 (±0.02) mm	1.2 (±0.02) mm	1.2 (±0.02) mm
Fiber type	AJEKA	G.657.A1/A2 or G.652.D	TOA 9
Cable dimension (mm)	3.5*6.6(±0.1)	3.5*6.6(±0.1)	3.5*6.6(±0.1)
Tensile strength (N)	1000	1000	1000

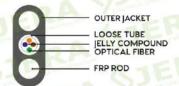




### SINGLE MODULE ADSS FIBER OPTIC CABLE FLAT TYPE. 1-12 CORES

REINFORCED BY GLASS YARNS, PBT JELLY TUBE FOR OUTDOOR (AERIAL) DEPLOYMENT

### **Cable Description**





### **Applications**



Applied outdoor, for installation on the telecommunication supports, between the buildings and industrial constructions.



Applied indoor, for cable tray distribution networks of fiber optics. It is allowed to lay cable on the outdoor facade of a building.

### **Features**



Perfect for indoor distribution networks of fiber optics



High connecting usability, easy access to the fiber core



Full dielectric design



High flexibility design



Fiber redundant protection (Up to request)



UV radiation protection



Appropriate tensile performance



Appropriate crushing load



Technical Data			
Item / TEF	Value (N)	AVE	A STEEL S
TERA V	1-4 fibers	1-4 fibers	6-12 fibers
Messenger type	FRP	FRP	FRP
Messenger diameter (mm)	Ø0.8 mm	Ø1.2 mm	Ø1.8/2.0 mm
Jacket's material	HDPE	HDPE	HDPE
Loose tube material	PBT	PBT	PBT
Loose tube diameter (mm)	1.20 mm	1.20 mm	1.20/1.80 mm
Fiber type		G.657.A1/A2 or G.652.D	
Cable dimension (mm)	4.0*2.0	7.2*4.0	8.0*4.2
Tensile strength (N)	800	1200	1200/2000

## FIBER OPTIC DROP CABLES FOR FTTX, ROUND-TYPE

Fiber optic drop cables round type, other called mini ADSS drop cables, were developed to use in last mile installation route to connect the final users to telecommunication network using GPON and FTTX or FTTH technologies. Applied in outdoor (aerial) and indoor FTTX deployment.

This fiber optic cables applied when small size and high mechanical strengths are required on middle spans of network construction routes, outdoor (aerial), in the ducts, indoor.

Round drop cables consist of fiber core, reinforced and protected by PBT loose tube and aramid yarns that are located at the whole diameter of cable, fiber cores placed inside tube all the structure filled by jelly and jacketed by LSZH or TPU sheath. Fiber core can be made of G652D or G657 A1, A2, B3 grade of fiber.

Round drop cables meet the criteria of key regional standards RoHS, CE, IEC-60794-1-21.







### FIBER OPTIC DROP CABLE, ROUND TYPE. 1, 2 CORES

REINFORCED BY GLASS YARNS FOR INDOOR DEPLOYMENT

### **Cable Description**



### **Applications**



Applied outdoor, for installation on the telecommunication supports, between the buildings and industrial constructions.



Applied indoor, for cable tray distribution networks of fiber optics. It is allowed to lay cable on the outdoor facade of a building.

### **Features**



Perfect for indoor distribution networks of fiber optics



High connecting usability, easy access to the fiber core



Full dielectric design



High flexibility design



Fiber redundant protection (Up to request)



UV radiation protection



Appropriate tensile performance



Appropriate crushing load



Item 61EF	Value (N)	-DA 7:	-00
ERA	1 fiber	2 fibers	4 fibers
Messenger type	Aramid yarn/PF	Aramid yarn/PF	Aramid yarn/PF
Jacket's material	LSZH	LSZH	LSZH
Jacket's color	White/black/yellow	White/black/yellow	White/black/yellow
Tight buffer material	PVC	PVC	PVC
Fiber type	ERA G.6	57.A1/A2 or G.652.D	QJE:
Cable dimension (mm)	3.0/2.0	3.0/2.0	3.0/2.0
Tensile strength (N)	800	800	800





### FIBER OPTIC DROP CABLE, ROUND-TYPE. 1-12 CORES

REINFORCED BY GLASS YARNS AND TPU/LSZH FOR INDOOR & OUTDOOR DEPLOYMENT

### **Cable Description**

## OUTER JACKET ADDITIONAL STRENGTH MEMBER OPTICAL FIBER JELLY COMPOUND LOOSE TUBE





Applied outdoor, for installation on the telecommunication supports, between the buildings and industrial constructions.



Applied indoor, for cable tray distribution networks of fiber optics. It is allowed to lay cable on the outdoor facade of a building.



Applied in drain system distribution networks of fiber optics. Blow in a cable into protective plastic pipes.

### **Features**



Perfect for indoor distribution networks of fiber optics



High connecting usability, easy access to the fiber core



Full dielectric design



High flexibility design



Fiber redundant protection (Up to request)



UV radiation protection



Appropriate tensile performance



Appropriate crushing load



Technical Data		
Item AJERS	Value (N)	DIE V PIECE
RA TERA Y	1-4 fibers	6-12 fibers
Messengertype	Aramid yarn	Aramid yarn
Jacket's material	TPU/LSZH	LSZH
Loose tube diameter (mm)	1.2 (±0.06) mm	1.8 (±0.06) mm
Loose tube/Tight buffer material	LSZH/PVC	PBT Gel loose tube
Loose tube color	Colorful	Natural
Fiber type	G.657.A1/A2 or	G.652.D
Cable dimension (mm)	3.0	3.6
Tensile strength (N)	1000	1000





### SINGLE MODULE ADSS FIBER OPTIC CABLE. 1-24 CORES

REINFORCED BY GLASS YARNS, PBT JELLY TUBE FOR OUTDOOR (AERIAL) DEPLOYMENT

### Cable Description

## OUTER JACKET ADDITIONAL STRENGTH MEMBER OPTICAL FIBER FRP ROD JELLY COMPOUND LOOSE TUBE

### **Applications**



Applied outdoor, for installation on the telecommunication supports, between the buildings and industrial constructions.



Applied indoor, for cable tray distribution networks of fiber optics. It is allowed to lay cable on the outdoor facade of a building.



Applied in drain system distribution networks of fiber optics. Blow in a cable into protective plastic

### **Features**



Perfect for indoor distribution networks of fiber optics



High connecting usability, easy access to the fiber core



Full dielectric design



High flexibility design



Fiber redundant protection (Up to request)



UV radiation protection



Appropriate tensile performance



Appropriate crushing load



Technical Data			
Item ATERA	Value (N)	TOA	DIE VIE
	1-4 fibers	6-12 fibers	16-24 fibers
Messenger type	FRP	FRP	FRP
Messenger diameter (mm)	Ø 0.5 mm	Ø 0.8 mm	Ø 1,0 mm
Jacket's material	HDPE	HDPE	HDPE
Loose tube diameter (mm)	1.2 mm	1.8 mm	2.8 mm
Loose tube material	PBT	PBT	PBT
Loose tube color	Natural	Natural	Natural
Fiber type	G.	657.A1/A2 or G.652.D	
Cable dimension (mm)	3.8	4.7	6.0
Tensile strength (N)	600	1400	3000





### **DOUBLE SHEATH FIBER OPTIC CABLE, ROUND TYPE. 1, 2, 4 CORES**

REINFORCED BY ARAMID YARN AND FRP ROODS FOR INDOOR & OUTDOOR DEPLOYMENT

### **Cable Description**

## OUTER JACI ADDITIONA FRP ROD OPTICAL FII INNER CABI ARAMID YA

OUTER JACKET
ADDITIONAL STRENGHT MEMBER
FRP ROD
OPTICAL FIBER
INNER CABLE SHEATH
ARAMID YARN



### **Applications**



Applied outdoor, for installation on the telecommunication supports, between the buildings and industrial constructions.



Applied indoor, for cable tray distribution networks of fiber optics. It is allowed to lay cable on the outdoor facade of a building.

### **Features**



Perfect for outdoor distribution networks of fiber optics



High connecting usability, easy access to the fiber core



Full dielectric design



High flexibility design



Fiber redundant protection (Up to request)



UV radiation protection



Appropriate tensile performance



Appropriate crushing load



Technical Data			
Item 4 JERA	Value (N)	-BA 9	A GJER
	1 fiber	2 fibers	4 fibers
Messenger type	Aramid yarn/ Polyester yarn	Aramid yarn/ Polyester yarn	Aramid yarn/ Polyester yarn
Outer cable jacket material	MDPE	MDPE	MDPE
Inner cable jacket material	LSZH	LSZH	LSZH
Reinforcement material and diameter	FRP Ø0.50 mm	FRP Ø0.50 mm	FRP Ø0.50 mm
Fiber type	FERA	G.657.A1/A2 or G.652.D	
Outer cable dimension (mm)	Ø5.0 mm	Ø5.0 mm	Ø5.0 mm
Inner cable dimension(mm)	2.0×3.0	2.0×3.0	2.0×3.0
Tensile strength (N)	300	300	300

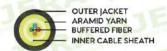




### **DOUBLE SHEATH FIBER OPTIC CABLE, ROUND TYPE. 1, 2, 4 CORES**

REINFORCED BY ARAMID YARN FOR OUTDOOR (AERIAL) DEPLOYMENT

### **Cable Description**





### **Applications**



Applied outdoor, for installation on the telecommunication supports, between the buildings and industrial constructions.



Applied indoor, for cable tray distribution networks of fiber optics. It is allowed to lay cable on the outdoor facade of a building.

### **Features**



Perfect for outdoor distribution networks of fiber optics



High connecting usability, easy access to the fiber core



Reliability. Reinforced by steel strength member



High flexibility design



Fiber redundant protection (Up to request)



UV radiation protection



Appropriate tensile performance

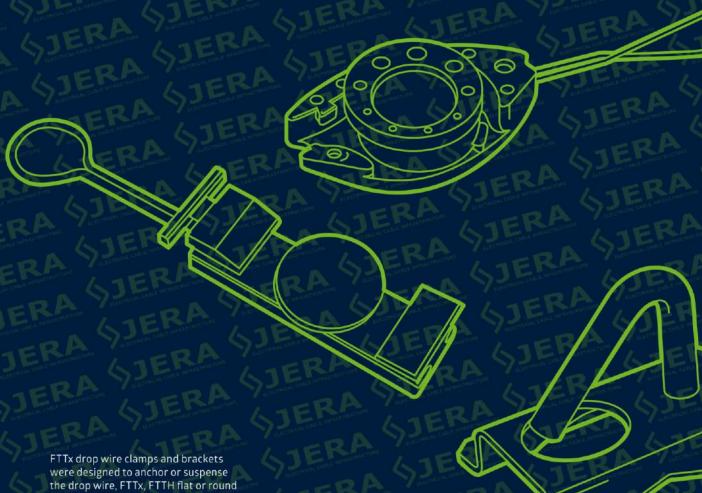


Appropriate crushing load



Technical Data			
Item ATER	Value (N)	A	V 25- V (3)
TERA	1 fiber	2 fibers	4 fibers
Messenger type	Aramid yarn	Aramid yarn	Aramid yarn
Outer cable jacket material	LSZH	LSZH	LSZH
Inner cable jacket material	LSZH	LSZH	LSZH
Tight buffer material and diameter	PVC, 0.9 mm	PVC, 0.9 mm	PVC, 0.9 mm
Fiber type	ERA	G.657.A1/A2 or G.652.D	O GJEN
Outer cable dimension(mm)	4.6	4.6	4.6
Inner cable dimension(mm)	3.6	3.6	3.6
Tensile strength (N)	800	800	800

### DROP CLAMPS & BRACKETS FOR FTTX OUTDOOR (AERIAL) CABLE DEPLOYMENT



cables on dead-end or intermediate routes during last mile line network installation

Outdoor drop cable clamps attached to the building, strand or poles by special anchoring bracket, drive hooks, pole brackets, SS hooks and various drops attachments and different angles.

Special drop wire clamp's design allows to implement the securely "dead-end" without risk of cable loss or damage under high tension loads. The special

clamping surface of anchoring clamp does not cut the cable jackets.

Drop wire clamps are made of stainless steel materials, aluminum, thermo plastic. That insures a high corrosion resistance and guarantee the long period of usage.

All the cable assemblies passed the tensile tests, operation experience with temperatures ranging test, temperature cycling test, aging test, corrosion resistance test etc





### DROP CLAMPS FOR FTTX OUTDOOR (AERIAL) CABLE DEPLOYMENT

### **Product information:**

Drop clamps for FTTx cables applied on flat and round cables of different sizes. Tension strength achieved by wedges and conical body of clamp or by excentral layout of cable in the clamp or wedges. Open or closed wire bails provide an easier installation. Tension strength achieved. Radius of excentrals is enough for the optical signal to work properly, without losses.

Product code	Max cable size (h × w), mm* MBL, kN*	Materials
S-TYPE RA	<b>8</b> Ø 0.4 – 1.5	UV res <mark>i</mark> stant plastic, stainless steel
SO-TYPE RA	<b>8</b> Ø 0.4 – 1.5 0.5	UV resistant plastic. stainless steel
SS-TYPE SERA	<b>8</b> Ø 0.4 – 1.5	UV resistant plastic, stainless steel
DH-01	<b>9</b> Ø2-5 1	Galvanized steel, aluminium
DH-02	0.8	Galvanized steel, aluminium
ODWAC-PH	<b>8</b> <4 × <8 0.5	UV resistant plastic
ODWAC-PY	<b>8</b> <4 × <8 0.5	UV resistant plastic
ODWAC-15	<b>2</b> <5 × <12 0.7	Stainless steel
ODWAC-20	<b>2</b> <3 × <9 0.5	Stainless steel UV resistant plastic
ODWAC-22	<b>8</b> <6 × <13 1.2	Stainless steel

### LAST MILE DROP CLAMPS & BRACKETS





Product code	Cable size, mm*	MBL, kN	Materials
ODWAC-22E	<b>8</b> < 6 × < 13	1.2	Stainless steel with electrophoretic paint
ODWAC-22H	<b>8</b> <4 × <8	0.5	Stainless steel UV resistant plastic
ODWAC-22P	€ <6 × <13	JERA 93	Stainless steel, UV resistant plastic
ODWAC-225	<b>8</b> <6 × <13	0.5	Stainless steel
ODWAC-22Y	<b>8</b> <4 × <8	SJERA	Stainless steel UV resistant plastic
ODWAC-23	<b>○</b> Ø 3 – 6, <b>2</b> <4×<13	Depend on cable's configuration	Stainless steel
ODWAC-23H	<b>○</b> Ø 3 – 6, <b>8</b> <4×<13	Depend on cable's configuration	UV resistant plastic Stainless steel
ODWAC-23S	<b>○</b> Ø 3 – 6,	Depend on cable's configuration	Stainless steel
ODWAC-26	<b>8</b> <6 × <16	JERA ()J	Stainless steel
ODWAC-L	<b>8</b> <6 × <13	JERA V	Dacro steel
H15 RA	© Ø 2 - 4, © 2 × (5 - 8)	0.5	UV resistant plastic, galvinized steel
DZ SJERAJE	<b>○</b> Ø 2 - 5, <b>2</b> × (3 - 5)	0.5	UV resistant plastic, galvinized steel





Product code	Cable size, mm*	MBL, kN°	Materials
D2.1 SJE ( S)	<b>○</b> Ø 2 – 5, <b>○</b> 2 × (3 – 5)	0.5	UV resistant plastic, galvinized steel
D3	<b>8</b> <4 × <8	0.5	UV resistant plastic
FISH-1	<b>○</b> Ø 2 – 3, <b>£</b> 2 × 3	0.5	UV resistant plastic, stainless steel
FISH-2	<b>○</b> Ø 2 - 5, <b>2</b> × 3	SJERA	UV resistant plastic
FISH-34	<b>⊙</b> Ø 3 – 4	Depend on cable's configuration	UV resistant plastic
FISH-45	<b>⊙</b> Ø 4 - 5	Depend on cable's configuration	UV resistant plastic
ACC STEENS	<b>○</b> Ø 2 - 6	RA GJE	UV resistant plastic
ACJ ACJ ACJ	<b>⊙</b> Ø 3 - 4	Depend on cable's configuration	UV resistant plastic
D6 RA	<b>⊙</b> Ø 4 – 8	0.5	UV resistant plastic
DC-35	<b>○</b> Ø 2 – 5, <b>2</b> × (3 – 5)	0.1 ERA	UV resistant plastic

<sup>\*</sup>MATERIALS & TENSILE STRENGTH MAYBE CUSTOMIZED PER YOUR CABLE OR PROJECT REQUIREMENT.





### BRACKETS FOR DROP CABLE CLAMPS, OUTDOOR (AERIAL) CABLE DEPLOYMENT

### **Product information:**

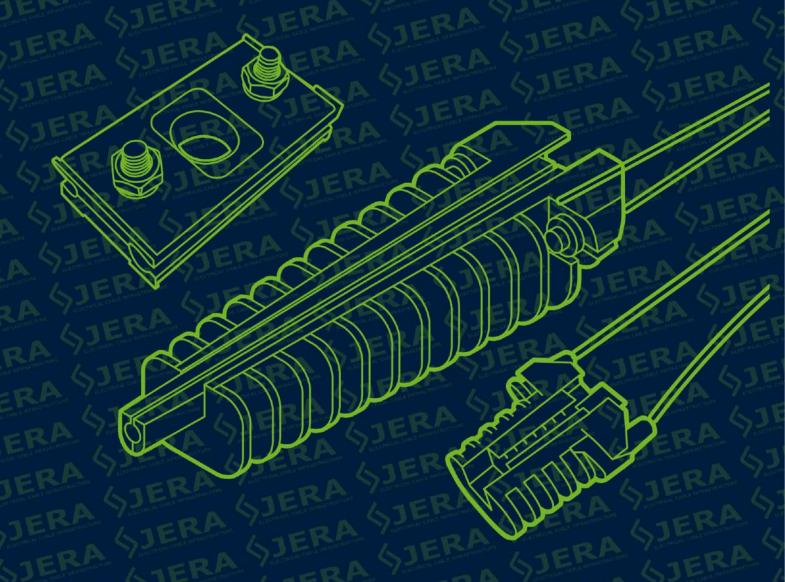
Aerial drop wire clamps attached to the building, strand or poles by special anchoring bracket, drive hooks, pole brackets, SS hooks and various drops attachments.

Brackets can be easily attached to the building, strand or poles with special screws, bolts or stainless steel band with the buckles. Materials, as well as coating can be adjusted according to you needs.

Product code	ERA SIL	MBL, kN	Materials*
YK-01		ERA 15, JE	Galvanized steel
YK-02	3 9	JERA 63	Galvanized steel
YK-03		JERA S	Galvanized steel
YK-04	GRA	43E 1.5	Galvanized steel
YK-05	The R	0.5	Galvanized steel
YK-06	A TER	AGJERA	Galvanized steel
YK-07	8	1.0/1.5	UV Resitant plastic
AH 43	EP& SJ	ERA SJE	Galvanized steel
DWR-01	5	ERA SI	Galvanized steel
PS-6	350	JERA ()	Galvanized steel
YK-11		SJERA	Galvanized steel

<sup>\*</sup> MATERIALS MAY BE CUSTOMIZED PER YOUR PROJECT REQUIREMENT.

## ADSS, FIG-8 TYPE CABLE CLAMPS



Anchor and suspension sets for all dielectric self-supporting cables (ADSS) were developed to tension and suspense an aerial round fiber optic cable of 3-20mm diameters. Clamps applied at central loop routes up to 100 meters and last mile installation routes in FTTx, GPON network construction.

Anchor and suspension sets for all figure-8 type cables were developed to tension and suspense an aerial round fiber optic cable of 3-10 mm diameters. The central messenger of cable can be made of steel or FRP materials. Clamps applied at central loop routes up to 100 meters and last mile installation routes in FTTx, GPON network construction.

Design allows to implement the securely of cable without risk of cable loss or damage of insulation under sufficient mechanical loads.

Anchor and suspension clamps for ADSS cables are made of aluminium, stainless steel, high strength plastic materials. That insures a high corrosion resistance and guarantee the long period of usage.

All the assemblies passed the tensile tests, operation experience with temperatures test, temperature cycling test, aging test, corrosion resistance test etc.

### **ADSS, FIG-8 TYPE CABLE CLAMPS**





### ANCHOR AND SUSPENSION CLAMPS FOR ADSS CABLES

### **Product information:**

ADSS anchor clamps are enough to keep the aerial bundled cables in tight strength position, and appropriate mechanical resistance archived by conical body and wedges, which does not allow the cable to slip from the ADSS cable accessory. The ADSS cable route may be dead-end, double dead-ending or double anchoring.

### **Technical specification:**

Product code	Cable size, mm*	MBL, kN*	Materials
PA-100	<b>②</b> Ø3-5	1.2	UV resistant plastic
PA-120	<b>③</b> Ø4-8	1.2	UV resistant plastic
PA-500	<b>②</b> Ø 4 − 8	2	RA
PA-700	<b>3</b> ∅6-10	70000	
PA-701	<b>3</b> Ø 8 − 12	4	
PA-702	<b>⊗</b> Ø 10 − 14		UV resistant plastic,
PA-3000	<b>3</b> Ø 8 − 12	The state of	stainless steel, aluminium
PA-3001	<b>③</b> Ø 12 − 16		adminian
PA-3002	<b>ॐ</b> Ø 16 − 20	8	
PA-800	<b>③</b> Ø 7 − 11	A	
PA-1000	<b>③</b> Ø 8 − 14	10	

### **Product information:**

Suspension or support clamps for all dielectric self-supporting cable (ADSS) used for aerial round optical fiber cable. These optical fiber cable accessories can be installed on short spans at intermediate poles. ADSS suspension clamp are very easy in installation of optical fiber line and appropriate mechanical resistance.

Can be archived by tightening nut until needed strength will be reach. Or self-adjusting under cable weight. Neoprene insert or strap do not allow the optical cable to slip from the suspension fitting. The ADSS cable may be different sizes, but fiber optical cable route should be straight with angles up to 25.

### **Technical specification:**

Product code	Cable size, mm⁺	MBL, kN*	Materials
D8 TERA	<b>Ø</b> Ø 8 − 12	1.5	SOJE
DIERA	<b>③</b> Ø 13 − 16	1.5	- 6JI
HC 5-8	<b>3</b> 05-8	4	— Galvanized steel,
HC 8-15	<b>3</b> Ø 8 − 15	4	UV resistant plastic
HC 15-20	Ø Ø 15 - 20	4	
HC2×15-20	<b>◎</b> Ø 15 – 20	4	EKA
PS-619	<b>3</b> Ø 6−19	3	Galvanized steel, nylon
ES-500	<b>9</b> Ø 4-11	4.5	UV resistant plastic

APPLICATION SIZE & TENSILE STRENGTH MAYBE CUSTOMIZED PER YOUR CABLE OR PROJECT REQUIREMENT.





### ANCHOR AND SUSPENSION CLAMPS FOR FIGURE-8 TYPE CABLES

### **Product information:**

Anchor clamps designed to anchor figure-8 fiber optic cable of different diameters and messenger's types. All the clamps are self-adjusting. Needed mechanical strength and clamp of cable achieved by wedges and conical body of clamp. Usually for FRP, kevlar messenger it is used plastic wedges and body of clamp, whereas for metal messenger we use zink teeth and aluminum body material.

Generally, optical cable with steel messenger require higher mechanical load, and this completely assured by high strength aluminium materials that applied in anchor clamps. Our wedge anchor clamps does not cut the cable jackets and guarantee the long period of usage.

### **Technical specification:**

Product code	Messenger's material	Diameter of wire over the insulation*	MBL, kN*	Materials
PA-37	FRP	<b>8</b> 03-7	1.5	Stainless steel, UV resistant plastic,
PA-610	AJE	806-10	110	aluminium
PA-05	Steel	<b>8</b> Ø3-5	2	Stainless steel, UV resistant plastic, aluminium, zink
PA-06	2	<b>8</b> Ø3-6	3	Stainless steel,
PA-07	Steel	<b>8</b> 03-7	5	UV resistant plastic, aluminium, zink
PA-07x320	Steel	<b>8</b> Ø4-7	A 7	Stainless steel, UV resistant plastic, aluminium, zink
PA-10x320	Steel	<b>8</b> Ø 5 - 10	16	Stainless steel, UV resistant plastic, aluminium, zink

### **Product information:**

Suspension clamps designed to suspense figure-8 fiber optic cable of different diameters and mes-senger's types, on the short spans. Clamps are universal to be apllied on steel, FRP, kevlar, AAC messenger. Fiber optic cable route can be straight or turning with angles up to 25. Our clamps does not cut the cable jackets and guarantee the long period of usage.

Following optical fiber suspension accessories are made of UV resistant plastic, galvanized steel plates and hardware. This allows very easy in installation of optical fiber cable and attached to pole (concrete, wooden, metal) with suspension hook or stainless steel strap.

Product code	RA	Diameter of wire over the insulation*	MBL, kN	Materials
SSA S	<b>3</b>	<b>8</b> Ø4-5/5-9	8/	Galvanized steel, UV resistant plastic
SSA-1		804-5/5-9	8	Galvanized steel, UV resistant plastic
RA cs RA		804-5/5-9	8	Galvanized steel, UV resistant plastic
ZP 8-2		<b>8</b> Ø4-8	2	Galvanized steel, aluminium

## BRACKETS & HOOKS



The suspension and tension brackets were designed to anchor or suspense the ADSS, OFNR, figure-8, cable deadend tension or suspension clamps. In addition, used for fiber optical closures (FOSC) as storage for cable slacks, which appear during the construction of telecommunication network in overhead lines with ADSS, FTTH, drop wire cables. We provide our customers by anchor and suspension assemblies, which have been tested with dead-ending of flat and round cables applied on dead-end, double dead-ending routes and different angles. Brackets can be

easily attached to the building, strand or poles with special screws, bolts or stainless steel band with the buckles. Brackets and hooks are made of steel materials, aluminum, stainless steel materials, what guarantee high corrosion resistance and long period of usage.

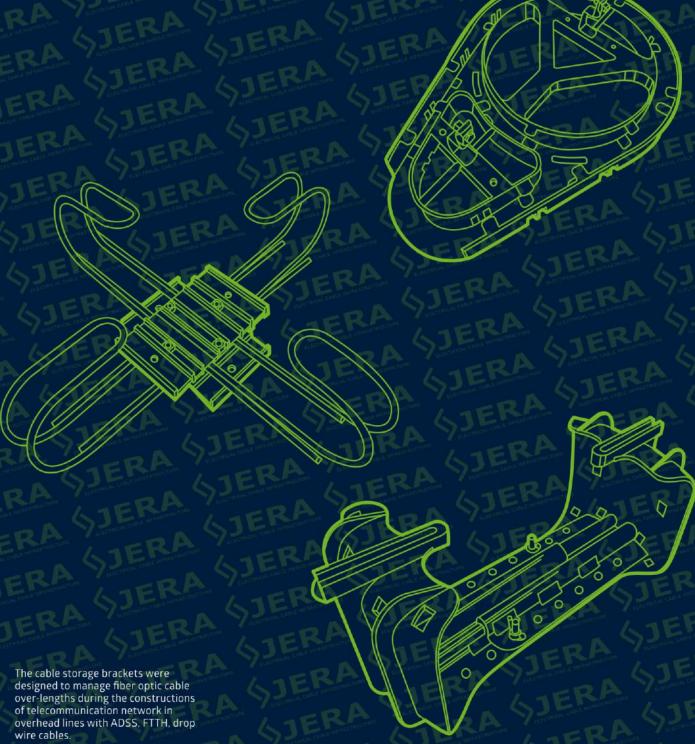




Product code Service S	MBL, kN	Materials*
UPB STERA STERA	F1 - 5, F2 - 3,5, F3 - 9, F4 - 2, F5 - 5	Aluminium
UPC	15 RA 53E	Aluminium
PS-1000 STER STER AND	10 ERA \$\)	Aluminium
ES-1500 A SJERA	8 JERA	Aluminium
CA-1500 CA	8)JERA	Aluminium
CA-1500.1	A1ERA	Aluminium alloy
YKR-01 RA SOLA SOLE F	8 GJERA	Hot dia galvanized steel
YKP-32 JERA	15	Galvanized steel
YK-42×400	E15 A GJER	Hot dia galvanized steel
B-16-300-140	To BA SJE	Hot dia galvanized steel
B-14-230-140	JERA SJE	Hot dia galvanized steel
PB-12-350	SJERA SI	Galvanized steel
JPS-8 RA SJERZOJEKA	GJERA S	Galvanized steel
JERA YK-450 JERA SJERA JERA SJERA	Depend on angle	Fiber-glass(FRP), Aluminium, Galvanized steel

<sup>\*</sup> MATERIALS MAY BE CUSTOMIZED PER YOUR PROJECT REQUIREMENT.





We provide two kinds of cable storage bracket for selection, one is galvanized steel material and the another one is UV resistant plastic. Some of the brackets have the device to hold fiber optical distribution box during application.

We used weather resistant materials to ensure high corrosion resistant and long period of usage. All the cable slack storage were passed the operation experience with temperatures ranging test, temperature cycling test, aging test, corrosion resistance test etc.





Product code	Adjustable to cable's size	Cable storing diameter,	FIBER OPTIC CABLE DEPLOYMENT
rk-s SJE	Yes	200-450	UV resistant palstic
*XX	Yes	200-450	UV resistant palstic
/K-SF	No	400	UV resistant palstic
YK-3060	Yes	300-600	Galvanized steel. Aluminium
YK-610-L	No	610	Galvanized steel, Aluminium
A SJERA SJE	RASJE	RA GJE	RA GJERA
A SJERA SJER			

## PREFORMED GUY GRIPS FOR ADSS CABLES

Preformed wire grips were developed to use in overhead telecommunication networks to grip ADSS fiber optic cables. The solution is more cost efficient than traditional wedge-type clamps, because of low materials-output ratio.

Product range of preformed line products includes: dead-end guy grips and suspension grips based on hot dip galvanized steel wire materials, which improve the long life period of product. Unique, one-piece dead-end is easy in installation and free from bolts or high-stress holding devices.

Preformed wire clamps have been tested with the collaboration of telecommunication companies in order to satisfy the local requirements and national standards of our customers.

Inspite of viriety of applicable cable sizes, we are capable to develop needed size preformed wire clamp in short time and w/o extra costs.









### **DEAD-END GUY GRIPS, IS**

### **Product information:**

Performed wire dead-end guy grip, JS were developed to grip the ADSS fiber optical cable while construction of internet network lines on wood poles or concrete towers, as analog of classical wedge tension clamps.

ADSS performed wire guy grip, JS were made of hot dip galvanized steel, ASTM A475 standard of wire rod.

ADSS distribution dead-ends guy grip do not require any tool for installation and can be mounted on fiber optic cable, directly. Overhead ADSS dead-end JS type do not require and protective rods or side splices, it can be installed straight on the fiber cable jacket.

However, when the tension strength is high, it should be applied helical ADSS grip with splice protector in order to protect fiber core from damaging during tensioning. Opposite to it, it can be applied ADSS preformed wire grip without protector, when the tension is under 9 KN, with thimble or without it.

The configuration of ADSS performed clamp is calculated in order to minimize the insertion losses of light signal. In addition, our company has researched plenty of varieties of helical tension grips and we are able to match our wire formed dead-ends to your ADSS cable size, according to it's working load and outer diameter.

### Technical specification:

Product code	Thimble, may be applied on tension load	Working load of cable (breaking load), kN	ADSS cable size, mm	Color code	Wire configuration	Length, mm	Weight, kg
			5.0/5.6	red			
			5.7/6.5 6.6/7.4	yellow black			
	No Thimble	1 (2)	7.5/8.4	orange			
			8.5/9.4	brown			
	U - 42 (Plastic)	2 (3.5)	9.5/10.5	white			
1000		THE COLUMN TWO IS NOT	10.6/11.6	blue	C (C . 1 !		
LAF		4 (7)	11.7/12.8	green	Specified in ac to cable work		
	TC - 22 (Steel)	4 (7)	12.9/14.1	red	to capie work	ing load	
	TC EE (Steel)	6 (10)	14.2/15.6	yellow			
		LERA	15.7/17.3	black			
			17.4/19.1	orange			
			19.2/20.9	brown			
			21/22.8	white			



### SUSPENSION GRIPS, JS-X

### **Product information:**

Prefored wire suspension grips JS-X were developed to secure cable intermediate pole on the central loop routes fiber optical cable line.

Wire formed grips are made of galvanized steel materials. Additionally equipped with round-type rhimble, that provide superior holding without destruction of wire after years of usage.

Installation of grip do not require any tool and can be mounted on fiber opticcable, directly. Overhead ADSS grips do not require protective rods or side splices,

it can be installed straight on the fiber jacket. However, when the tension strength is high, it should be applied helical ADSS grip with splice protector in order to protect fiber core from damaging during tensioning.

Opposite to it, it can be applied ADSS performed wire grip with out protector, when the tebsion is under 9 KN with thimble or without it.

Jera is capable to develop performed wire suspension grips according to your cable specification and distance between poles.

		A STATE OF THE PARTY OF THE PAR			
Product code	Thimble, may be applied on tension Span, m load	ADSS cable size, mm	Color code	Wire Length, configuration mm	Weight, kg
ATE	TERP	5.0/5.6 5.7/6.5	red yellow	( )JEIS	41
		6.6/7.4	black		
		7.5/8.4	orange		
	No Thimble	8.5/9.4	brown		
		9.5/10.5	white		
JS-X	50/100	10.6/11.6	blue	Casalford in accordance	
		11.7/12.8	green	Specified in accordance to cable working load	
	TR - 01	12.9/14.1	red	to cable working load	
		14.2/15.6	yellow		
		15.7/17.3	black		
		17.4/19.1	orange		
		19.2/20.9	brown		
		21/22,8	white		

<sup>\*</sup> SPANS OR DIAMETERS MAY BE NOT METIONED, CAN BE DISCUSSED WITH SALES.

# STAINLESS STEEL POLE BANDINGS & TOOLS FOR CABLE ATTACHMENT



Stainless steel banding or strapping products and accessories were developed to bundle items together, to attach industrial fittings to the poles. Banding system is a set of fastening materials and special fixing devices made of stainless steel or steel, covered with special materials, gas, oil and mining industries, fixing signs to power line.

Basic package of banding accessories to fixate cable accessories to pole includes:

- stainless steel band;
- stainless steel buckles (simple and push locking system);
- stainless steel downlead cable buckles;
- · tools for tightening band;
- · stainless steel tie, screw locking system

Stainless steel band accessories meet the criteria of key regional standards such as CENELEC, EN-50483-4, NF C 33-020.

Due to advantages as extended service life, extremely easy and convenient in use, securely and tightly attaching, strapping accessories can be applied very widely: in fastening solutions, in construction of overhead distribution lines: overhead transmission lines, telecommunication lines, construction of outdoor passive optic networks, street or traffic signs and video cameras, tubes and other pole hardware, marine and railway transportation.







### STAINLESS STEEL BANDS

### Product information:

Stainless steel band applied with suspen sion clamps, anchor clamps, and hooks, on dead-end and intermediate routes, of main or end use electrical connections.

Stainless steel bands are made of stain less steel of different grades: 201, 202, 304, 316, 409. Jera's band have superior elongation value, compared to other manufactors. For easy identification of steel grade, we products the plastic boxes form different colors.

Steel strapping is the strongest way of securing with heavy loads, when fixing items with hold the high tensile strength.

Jera's banding products are available in different sizes to assist your strapping needs. Stainless steel bands can guaran tee extended service life and attaching under significant mechanical loads.

Installation process:

- 1. Cut the stainless steel strap with need ed length by strap banding tool.
- 2. Put on it the stainless steel buckle.
- 3. Fix the strap by moving the strap banding tool wheel (or ratchet), then cut the band.

### **Technical specification:**

100			1 - 1 - 1 - 1 - 1	and the second second	I I I
Material grade, SUS	A 7 E B 201	LIERA	202	30	4 53
Width	1/4" - 6.4 mm	3/8" - 9.5 mm	1/2" - 12.7 mm	5/8" -16.0 mm	3/4" -19.0 mm
Thikness	0.015" - 0.40 mm	0.020" - 0.50 mm	0.025" - 0.64 mm	0.028" - 0.70 mm	0.030" -0.75 mm
Length for roll, m	30 or 50	30 or 50	30 or 50	30 or 50	30 or 50
Colour of dispenser	Red	Green	Blue	Gray	Yellow



### WHEEL TOOL MBT-003

### **Product information:**

Wheel type tool MBT-003 is developed for tensioning the stainless steel band and mounting the fittings on wooden, concrete or metal poles. The tool is equipped with special blade for easily cutting the stainless steel band.

The strapping tool MBT-003 has superi or rust corrosion resistance and trouble proofed design, which strictly clamped the band and buckles. The cut knife with holds plenty of cutting cycles and guarantee long service period of tool.To complete the installation there is only one tool needed.

### RATCHET TOOL MBT-004

### Product information:

Ratchet type tool MBT-004 is developed for tensioning the stainless steel band and mounting the fittings on wooden, concrete or metal poles. The tool is equipped with special blade for easily cutting the stain less steel band. Ratchet tool MBT-004 is an easy way of binding stainless steel banding around different rack/ pole elements. It keeps the tension tight on the strapping bands as they fasten the components together. The operations of cutting, tension, banding can be done with spin tension handle, spring-loaded gripper and cutter. To complete the installation there is only one tool needed.

Product code	MBT-003	EMBT-004
Max band width, mm	< 20	< 25
Band thickness, mm	<1.2	*15 RA







### STAINLESS STEEL BUCKLES, T-TYPE

### **Product information:**

Stainless steel buckles, other called stainless steel clips, used to attach pole fittings, anchor clamps, suspension fittings and other fittings or accessories together with stainless steel band on dead-end and intermediate routes, of main or end use electrical connections.

Stainless steel buckles T-type are made of stainless steel of different grades: 202, 304.

Stainless steel buckles T-type are made of different sizes depend on band strapping size to assist your strapping needs of securing with heavy loads. Stainless steel buckles have max size for band — 20 mm and appropriate for insertion of three coils of band strapping.

The design of buckles exclude purchase bolts, nuts and washers, hex keys of different sizes

### **Technical specification:**

Product code	KL-10-T	KL-13-T	KL-16-T	KL-20-T
Max band width	3/8" - 10 mm	1/2" - 12.7 mm	5/8" - 16.0 mm	3/4" - 20.0 mm
Grades	202, 304	202, 304	202, 304	202, 304



### STAINLESS STEEL BUCKLES, LX AND LC TYPES

### **Product information:**

Stainless steel buckles, other called stainless steel clips, used to attach pole fittings, anchor clamps, suspension fittings and other fittings or accessories together with stainless steel band on dead-end and intermediate routes, of main or end use electrical connections.

Stainless steel buckles L, LC and LX are made of stainless steel of different grades: 202, 304.

Stainless steel buckles L, LC and LX are made as analog to reinforced buckles, to withhold sufficien mechanical loads.

Stainless steel buckles have max size for band 20 mm and appropriate for insertion of three coils of band strapping.

The design of buckles exclude purchase bolts, nuts and washers, hex keys of different sizes

### Technical specification:

Product code	KL-13- L	KL-20-L	KL-20- LC	KL-20- LX
Max band width	1/2" – 12.7 mm	3/4" – 20.0 mm	3/4" - 20.0 mm	3/4" - 20.0 mm
Grades	202, 304	202, 304	202, 304	202, 304



### STAINLESS STEEL BUCKLE WITH ELECTROPHORETIC PAINT

### **Product information:**

Stainless steel buckles, other called stainless steel clips, used to attach pole fittings, anchor clamps, suspension fittings and other fittings or accessories together with stainless steel band on dead-end and intermediate routes, of main or end use electrical connections.

Stainless steel buckle KL-20-T(E) are made of stainless steel of different grades: 202, 304.

Compare to other stainless steel buckles, this buckle surface was processed with black electrophoretic paint, it will provide more protection to buckle from the damage caused by long-time exposure in hostile environment.

Product code	KL-10-T(E)	KL-13-T(E)	KL-16-T(E)	KL-20- T(E)
Max band width	3/8" - 10.0 mm	1/2* - 12,7 mm	5/8" – 16.0 mm	3/4" - 20.0 mm
Grades /	202, 304	202, 304	202, 304	202, 304





### PERFORATED WORM TYPE STAINLESS STEEL BAND (CHKO)

### **Product information:**

Stainless steel tie used to fix or attach the fiber optic drop cable bracket, hook, or other kinds of mounts during FTTH line construction. This stainless steel tie's body was perforated processed, can be cut easily and user can cut the required length depend on application freely. The tie is applied with fastener head, the installation is easy just tighten the screw by screwdriver.

The stainless steel materials provide the outstanding quality, allows them to be used in different weather conditions. All our stainless steel tie passed operation experience with temperature cycling test, corrosion resistance test.

### **Technical specification:**

Material, grade, SUS	201, 304
Width, mm	8 or 12.7
Thickness, mm	0.6, 0.7
Length of roll, meters	ER301 72 BA SIET ASJEK
Package	Cassette dispenser, or carton



### SCREW LOCKING BUCKLE, WORM TYPE

### Technical specification:

Material, grade, SUS	201, 304	
Width, mm	8 and 12.7	OJE -



### STAINLESS STEEL TIE, SCREW LOCKING SYSTEM

### **Product information:**

Stainless steel tie, screw locking used to attach the fiber optic drop cable bracket, or other kinds of mounts. The design and the materials provide the outstanding quality, which allows them be used in different climatic areas, snowy, cold, marine and salty environments. Passed operation

Passed operation experience with temperature cycling test, corrosion resistance test.

Product code	ZD GJERA ATERA	7:
Width, mm	10, 12, 16, 19	9
Thickness, mm	JEROT LIERA TERA TORON	4
Length, mm	400, 600, 800, 1000, 1200, 1400	
Grados	201 204	

## FIBER OPTIC BOXES & JOINT CLOSURES FOR **OUTDOOR FTTX** DEPLOYMENT

Fiber optic termination boxes, sockets, joints (FOSC, FOTB, FODB, ODP) were developed to use on central loop and last mile cable routes during construction of fiber optical network. Useful to joint the fiber cores either by fusion splicer or by PLC splitters. Applied outdoor on the walls and poles or in sewage, ducts and industrial collectors.

Provides IP-68 protection and more convenient to connect smaller capacity cables in FTTx technology of internet construction, and have less costs to connect an additional subscriber. Modern design of this range guarantee long life period.

Made of weather and UV resistant first grade plastic material. Installed by bolts, one or two stainless steel bands with appropriate type of buckle.

All the related products as well as tools you may find in our product range.

FOSC meet the criteria of key regional standards RoHS, CE.











### FODR-S

### Main advantages of the box are :

- 1. Distribute up to 8 of drop patchcords
- 2. IP67 protection for outdoor application
- 3. Compact size for limited space
- 4. Soft rubber for quick sealing
- 5. Plug and play soft rubber solution, saves
- 6. PLC blockless splitter application



### FODB-8+C1

### Main advantages of the box are :

- 1. Distribute up to 8 of drop patchcords
- 2. IP67 protection for outdoor application
- 3. Compact size for space
- 4. Soft rubber for quick sealing
- 5. Plug and play soft rubber solution, saves your time
- 6. PLC mini cassette splitter application (pre installed)



### FODB-8H

### Main advantages of the box are :

- 1. Distribute up to 8 of drop patchcords
- 2. IP67 protection for outdoor application
- 3. Extended size for easy outdoor cable termination
- 4. Soft rubber for quick sealing
- 5. Plug and play soft rubber solution, s aves your time
- 6. Universal for SC adapter panel or PLC cassette splitter application
- 7. PLC blockless splitter application



### FODB-8H+C2

### Main advantages of the box are :

- 1. Distribute up to 8 of drop patchcords
- 2. IP67 protection for outdoor application
- 3. Extended size for easy outdoor cable termination
- 4. Soft rubber for quick sealing
- 5. Plug and play soft rubber solution, saves your time
- 6. PLC cassette splitter application (pre installed)
- 7. PLC blockless splitter application

### **Technical specification:**

Feeding cable dimensions, mm	2 of Ø3-12
Drop cable dimentions, mm	8ר2-3mm
Max splicing capacity	8 (16*)
Adapters, SC type	8+2
PLC splitters , blockless 60x7x4 mm	1 of 1:8 or 2 of 1:4
IP protection	67
Overall dimensions, mm	235×161×50

### **Technical specification:**

Feeding cable dimensions, mm	2 of Ø3-12
Drop cable dimentions, mm	8 of Ø2-3mm
Max splicing capacity	8 (16*)
PLC splitter, mini cassette 89x82x22 mm	1 of 1:8 or 2 of 1:4
PLC splitters , blockless 60x7x4 mm	1 of 1:8 or 2 of 1:4
IP protection	67
Overall dimensions, mm	235×161×50
o voi an annonsions, min	233 101 30

### **Technical specification:**

Feeding cable dimensions, mm	4 of Ø5-14
Drop cable dimentions, mm	8 of Ø2-3mm
Max splicing capacity	14 (28*) + additional 8 (16*)
Adapters, SC type	8+2
PLC splitters , blockless 60x7x4 mm	1 of 1:8 or 2 of 1:4
IP protection	67
Overall dimensions, mm	271×237×77

### **Technical specification:**

Feeding cable dimensions, mm	4 of Ø 5-14
Drop cable dimentions, mm	8 of Ø2-3mm
Max splicing capacity	14 (28*) + additional 8 (16*)
PLC splitter, cassette 128x100x25 mm	1 of 1:8
PLC splitters , blockless 60x7x4 mm	1 of 1:8 or 2 of 1:4
IP Grade	67
Overall dimensions, mm	271×237×77

### FODB-16H

### Main advantages of the box are :

- 1. Distribute up to 16 of drop patchcords
- 2. IP67 protection for outdoor application
- 3. Extended size for easy outdoor cable termination
- 4. Soft rubber for quick sealing
- 5. Plug and play soft rubber solution, saves your time
- 6. PLC blockless splitter application

2 of Ø5-14
16 of Ø2-3mm
24 (48*) bottom tray, 16 (32*) upper tray
16+2
1 of 1:8 or 2 of 1:4
67
271×237×77

<sup>\*</sup> TWO LAYERS FOR STORAGE OF FIBER SPLICING TUBES







### FOSC-2D

### Main advantages of the box are :

- IP67 protection for outdoor application
   Covenient installation by stainless steel
- 3. The dome may remain be fixed on the pole, once you need to open the closure.
- 4. Improved size of splice tray, more space for fiber splicing
- 5. Fiber tray is made of soft material, holds tubes tightly, with less accidental damage possible 6. PLC blockless splitter application

### Technical specification:

Round cable dimensions, mm	3 of Ø8-16
Oval cable dimensions, mm	1 of 30-48mm
Max splicing capacity	32 (64*)
Max splicing capacity per tray	8 (16*)
PLC splitters , blockless 60x7x4 mm	1 of 1:8 or 2 of 1:4
IP protection	67
Overall dimensions, mm	300×180×130

### FOSC-2A

### Main advantages of the box are :

- 1. IP67 protection for outdoor application
- 2. Covenient installation by stainless steel bandings
- 3. The dome may remain be fixed on the pole, once you need to open the closure.
- 4. May be equipped with accessory to distribute up to 8 of drop cables
- 5. Universal for SC adapters and PLC blockless splitter application
- 6. Improved size of splice tray, more space for fiber splicing
- 7. Fiber tray is made of soft material, holds tubes tightly, with less accidental damage possible.

### **Technical specification:**

Round cable dimensions, mm	2 of Ø8-17, 2 of Ø8-12
Oval cable dimensions, mm	1 of 32×56
Drop cable dimentions, mm	8 of Ø2-4
Max splicing capacity	16 (32*)
Max splicing capacity per tray	8 (16*)
Adapters, SC type	8+2
PLC splitters , blockless 60x7x4 mm	1 of 1:8 or 2 of 1:4
IP protection	67
Overall dimensions, mm	320×180×180

## 53 RA

### FOSC-3

### Main advantages of the box are :

- 1. IP67 protection for outdoor application 2. Inner curved radium meet international
- standard

  3. Extended size for easy outdoor cable
- termination
  4. Proven design of dome type closure

### **Technical specification:**

Round cable dimensions, mm	3 of Ø8-16
Oval cable dimensions, mm	1 of 25x40
Max splicing capacity	48 (96*)
Max splicing capacity per tray	12 (24*)
IP protection	67
Overall dimensions, mm	435×180×160



FOSC-4

### Main advantages of the box are :

- 1. IP67 protection for outdoor application
- 2. Covenient installation by stainless steel band
- 3. Inner curved radium meet international standard
- 4. Extended size for easy outdoor cable termination
- 5. Proven design of dome type closure

### Technical specification:

4 of Ø4-20
1 of 25x44
72 (144*)
12 (24*)
67



FOSC-6 (96)

### Main advantages of the box are:

- IP67 protection for outdoor application
   Inner curved radium meet international standard
- 3. Transit cable applications

Round cable dimensions, mm	4 of Ø6-13
Oval cable dimensions, mm	2 of Ø10-16
Max splicing capacity	48 (96*)
Max splicing capacity per tray	12 (24*)
IP protection	67
Overall dimensions, mm	385×200×110

<sup>\*</sup>TWO LAYERS FOR STORAGE OF FIBER SPLICING TUBES

# FIBER OPTIC BOXES FOR FTTX INDOOR/OUTDOOR DEPLOYMENT OF DROP AND DISTRIBUTION CABLES

Fiber optic termination boxes and sockets (FOTB, FODB, ODP) were developed to use on central loop and last mile cable routes during construction of fiber optical network. Useful to joint the fiber cores either by fusion splicer or by PLC splitters. Commonly applied outdoor and indoor on the walls and poles.

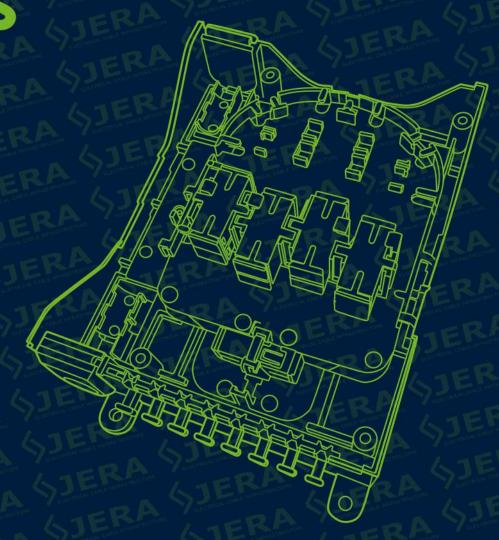
Applied to be used with drop and distribu - tion cables.

FODB provides less IP protection compared to fiber optic splice closures, however more convenient to connect smaller capacity cables in FTTx technology of internet construction, and have less costs to connect an additional subscriber. Modern design of this range guarantee long life period.

Our FODB are made of weather and UV resistant first grade plastic material.

FODB installed by bolts or one or two stainless steel bands with appropriate type of buckle. All the related products as well as tools you may find in our product range.

FODB meet the criteria of key regional standards RoHS. CE.









### PC-1-1

### **Product information:**

Optical fiber protection box PC-1-1 is a plastic case use to protect optic fiber after hot melting, usually applied in last mile FTTH network constructions.

### **Technical specification:**

Drop cables quantity	1	
Input and cable diameters	neters 1ר3mm, 3×2mm	
Dimensions, mm	100×11×11	



### FOPC-RGS/SC

### **Product information:**

Fiber optic cable protection box is developed as a termination point for protect drop cable connecting.splice during FTTH line constructions.

### **Technical specification:**

Drop cables quantity	1 <	
Input and cable diameters	1ר3mm, 3×2mm	
Dimensions, mm	16×45×17	
Adaptors/ Heat shrink tube	11	



### ODP-02 (1)

### **Product information:**

Fiber optical distribution point ODP-02 is a wall outlet designed to terminate fiber optical cords, patch cords, pigtail cords, with adaptors in FTTH network.

### **Technical specification:**

Drop cables quantity	1 1× <b>ø</b> 3mm, 3×2mm 86×86×22	
Input and cable diameters		
Dimensions, mm		
Adaptors SC	2 /	



### FODB-8R

### **Product information:**

Fiber optical distribution box FODB-8R, designed to terminate feeding optical rizer cable and connect last mile cables as fiber optical cords, patch cords, pigtail cords according to capacity of distribution box.

### **Technical specification:**

Drop cables quantity	8	
Input and cable diameters	2ר<14mm, 8ר2-3mm	
Dimensions, mm	126×150×51	
Adaptors SC	8	
Cassette PLC SC Splitters	1×1*8, 2×1*4	



### FODB-8RC1

### Product information:

Fiber optical distribution box FODB-8RC1, designed to terminate feeding optical rizer cable and connect last mile cables as fiber optical cords, patch cords, pigtail cords according to capacity of distribution box.

Drop cables quantity	8	
Input and cable diameters	2×ø<14mm, 8×ø2-3mm	
Dimensions, mm	126×150×51	
Adaptors SC	8	
Cassette PLC SC Splitters	1×1*8, 2×1*4	







### FODB-8A-3

### Main advantages of the box are :

- 1. Quick and easy access for drop cable connections
- 2. 3 cable inputs and 9 outputs ports
- 3. Universal for SC adapter panel or PLC cassette splitter
- 4. Intergrated sealed, IP53 protection for outdoor application
- 5. High quality ABS & PVC materials for long time usage
- 6. Improved size of splice tray, more space for fiber splicing
- 7. Extended size for easy outdoor cable termination
- 8. Screw and stainless steel bands installation on

### wall and pole

### FODB-8A-3+C2

### Main advantages of the box are :

- 1. Quick and easy access for drop cable connections
- 2. 3 cable inputs and 9 outputs ports
- 3. PLC cassette splitter application (pre installed)
- 4. PLC blockless splitter application
- 5. Intergrated sealed, IP53 protection for outdoor application
- 6. High quality ABS & PVC materials for long time usage
- 7. Improved size of splice tray, more space for fiber splicing
- 8. Extended size for easy outdoor cable termination
- 9. Screw and stainless steel bands installation on
- wall and pole





- Main advantages of the box are :
- 1. Quick and easy access for drop cable connections
- 2. 2 cable inputs and 9 outputs ports
- 3. Universal for SC adapter panel or PLC cassette splitter 4. High quality ABS & PVC materials for long time usage
- 5. Intergrated sealed, IP53 protection for outdoor application
- 6. Improved size of splice tray, more space for fiber splicing
- 7. Extended size for easy outdoor cable termination
- 8. Screw and stainless steel bands installation on wall

### Technical specification:

Feeding cable dimensions, mm	3 of Ø17
Drop cable dimentions, mm	8 of Ø3, 1 of Ø10
Max splicing capacity	8 (16*)
Adapters, SC type	10+2
PLC splitters , blockless 60x7x4 mm	1 of 1;8 or 2 of 1;4
IP protection	53
Overall dimensions, mm	210×195×55
	-

### Technical specification:

Feeding cable dimensions, mm	3 of Ø17
Drop cable dimentions, mm	8 of Ø3, 1 of Ø10
Max splicing capacity	8 (16*)
PLC splitter, cassette 128x100x25 mm	1 of 1:8
PLC splitters , s blockless 60x7x4 mm	1 of 1:8 or 2 of 1:4
IP protection	53
Overall dimensions, mm	210×195×55

### Technical specification:

Feeding cable dimensions, mm	2 of Ø12
Drop cable dimentions, mm	8 of Ø3, 1 of Ø10
Max splicing capacity	8 (16*)
Adapters, SC type	10+2
PLC splitters , blockless 60x7x4 mm	1 of 1:8 or 2 of 1:4
IP protection	53
Overall dimensions, mm	210×195×55



### FODB-16X

### Main advantages of the box are :

- 1. Quick and easy access for drop cable connections
- 2. 2 cable inputs and 16 outputs ports
- 3. Intergrated sealed, IP53 protection for outdoor
- 4. High quality ABS & PVC materials for long time usage 5. Improved size of splice tray, more space for fiber
- 6. Extended size for easy outdoor cable termination
- 7. Screw and stainless steel bands installation on wall

### FODB-16C+C2

### Main advantages of the box are :

- 1. Quick and easy access for drop cable connections
- 2. 2 cable inputs and 16 outputs ports
- 3. High quality UV resistant thermoplastic
- 4. Intergrated sealed, IP53 protection for outdoor application
- 5. Improved size of splice tray, more space for fiber splicing
- 6. Extended size for easy outdoor cable termination
- 7. PLC cassette splitter application (pre installed)
- 8. Screw and stainless steel bands installation on wall and pole

### Technical specification:

Feeding cable dimensions, mm	2 of Ø17
Drop cable dimentions, mm	16 of Ø3
Max splicing capacity	16
Adapters, SC type	16
PLC splitters , blockless 60x7x4 mm	1 of 1:8 or 2 of 1:4
IP protection	53
Overall dimensions, mm	320×260×90

Feeding cable dimensions, mm	2 of Ø17
Drop cable dimentions, mm	16 of Ø3
Max splicing capacity	16
PLC splitter, cassette 128x100x50 mm	1 of 1:16
g PLC splitters , blockless 60x7x4 mm	1 of 1:8 or 2 of 1:4
IP protection	53
Overall dimensions, mm	300×230×70





Fiber optic adapters, connectors and fiber optic patch cords are used for fiber optical cables connections to an optical telecom - munication equipment. Used to connect the optical transmitter, receiver and PON boxes. Regularly used and widely applied in optical fiber management system, last mile end user's connection, all connections in data centers of GPON, XPON projects. By the diversity of telecommunication optic patch cords have common varieties such as SC, FC, LC, ST, E2000 types. With different lengths,

jacket materials, thickness, glass fiber core types. Simlex or duplex types are available in our product range.

Fiber optic fast connector provides quick access for connection of fiber cords in FTTx, CATV, telecommunication networks without stripping and splice fusion of fiber. After installation both the optical and mechanical performance reach the standard for FTTH.







### **OUTDOOR DROP CABLE PATCH CORDS**

### **Technical specification:**

Product code	DROP PATCHCORDS
Fiber capacity	J-12 / 1E P
Fiber cores	G652D, G657A1, G657A2
Polish types	UPC, APC
Length, M	10-1000
Cable size, mm	Depend on cable
Insertion losses (IL), dB	≤0.1
Working temperature	-50-+85℃



### DISTRIBUTION PIGTAILS

### **Technical specification:**

SC	FC S	LC /
UPC, APC	UPC, APC	UPC, APC
G652D, G657A1, G657A2		
0.9 mm, PVC	0.9 mm, PVC	0.9 mm, PVC
≤0.1	≤0.1	≤0.1
-40-+85°C	-40-+85°C	-40-+85° <b>C</b>
	UPC, APC Ge 0.9 mm, PVC ≤0.1	UPC, APC UPC, APC G652D, G657A1, G657A2 0.9 mm, PVC 0.9 mm, PVC ≤0.1 ≤0.1



### INDOOR DISTIBUTION PATCH CORDS

### **Technical specification:**

Product code	SC	FC	LC
Polish types	UPC, APC	UPC, APC	UPC, APC
Fiber cores	The Party of	G652D, G657A1, G65	7A2
Diameters, mm		0.9, 2.0, 3.0	
Length, M		0.5, 1, 2, 3, 5, 10	
Insertion losses (IL), dB	≤0.1	≤0.1	≤0,1
Mateials	PVC, LSZH	PVC, LSZH	PVC, LSZH
Working temperature	-40-+85°C	-40-+85°C	-40-+85° <b>C</b>



### ADAPTERS

### Technical specification:

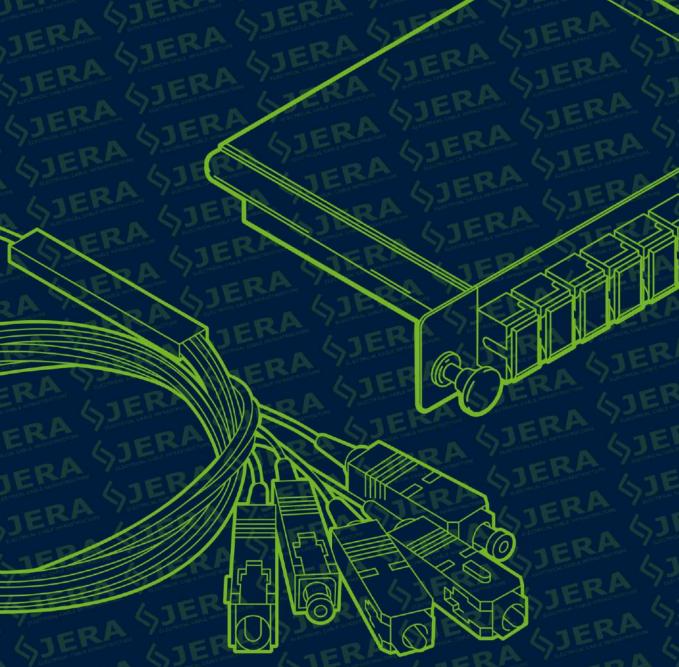
SC		
UPC, APC	9-1	GJE
Simplex, duplex	LERA	1
≤0.3	(3) E-1-1	17
-40-+85°C		A Vision
	Simplex, duplex ≤0.3	Simplex, duplex ≤0.3



### FAST CONNECTORS

Product code	SC/APC-F	SC/UPC-F	ERAY
Polish types	APC	UPC	JE:
Fiber counts	Simplex	Simplex	-DA
Insertion losses (IL), dB	≤0.3	≤0.3	C. C. Committee
Working temperature	-40-+85°C	-40-+85°C	7.00

### FIBER OPTIC PLC SPLITTERS



Fiber optic PLC (Planar Lightwave Circuit) splitters are based on a quartz integrated wave guide optical light distribution device. Fiber optical network uses an optical signal coupled to the branches to connect the terminal equipment and to branch the optical signal. PLC splitter connects many input and output terminals, in a passive optical net-

work (GPON. FTTX, FTTH). Fiber optic cable ends capped with connectors of 1\*2-1\*32 fibers. To speed up an installation process we produce assemble the splitter cassette from 4 to 16 of SC adapters were installed.







### Technical specification:

Product code 1	×2 1×4	1×8	1×16	1×32	1×64
Head types		SC/A	PC, SC/UPC		
Fiber cores	TEL	G652D, G	657A1, G657A2		
Operating wavelength (nm)	1 the same	12	60-1650		
Length, M		DA Part	0.5-2	772	
Working temperature	CILL	-40	)-+85°C		- D D
Standard	The state of the s	elcordia GR-1209-0	CORE and GR-12	221-CORE	



### Technical specification:

Teenmen speemen and			
Product code 1×2	1×4	1×8	1×16
Head types	SC/APC,	SC/UPC	
Fiber cores	G652D, G65	7A1, G657A2	A 1980
Operating wavelength (nm)	1260-	-1650	195
Length, M	0.5	5-2	
Working temperature	-40-+8	85° <b>C</b>	
Standard	Telcordia GR-1209-CO	RE and GR-1221-COR	RE /
		V/ = 1=1=1	



### Technical specification:

Product code	1×4	1×8
Head types	UPC, APC	UPC, APC
Fiber cores	G652D, G657A1,	G657A2
Operating wavelength (nm)	1260-1650	0
Cassette dimensions, mm	72×82×12	5 72×82×22
Working temperature	-40-+85°	
Standard	Telcordia GR-1209-CORE a	nd GR-1221-CORE



Product code	1×2 1×4	1×8	1×16	1×32	1×64
Head types		SC/AP	C, SC/UPC		
Fiber cores		G652D, G6	57A1, G657A2		
Operating wavelength (nm)	A STATE OF THE PARTY OF THE PAR	1260	)-1650		
Cassette dimensions, mm	128×100×25	5	128×100×50	128×100×1	00
Working temperature		-40	+85°C		
Standard	Telco	rdia GR-1209-CC	RE and GR-1221-C	ORE	



reclinical specification.				
Product code	1×2	1×4	1×8	
Head types	UPC, APC	UPC, APC	UPC, APC	
Fiber cores	4 00	G652D, G657A1, G657A2		
Operating wavelength (nm)	THE PART OF THE	1260-1650	_ ()	
Cassette dimensions, mm	72×82×12.5	72×82×12.5	72×82×22	
Working temperature	. 0.	-40-+85°C	I E I STORY	
Standard	Telcordia GR-1209-CORE and GR-1221-CORE			





Stringing overhead pulling tools

were developed to be used with fiber

optic cable in line construction. Such

ductors by manual or machine force.

Pulling force converts to clamping

force and easily allows pulling fiber

optical cables.

equipment have the access to pull con



Simple desing and durability allows with stand sufficient loads without cable slip or it's damage.





### FIBER GLASS DUCT RODDER, WHEEL TYPE

### **Product information:**

Fiber glass duct rodders also called fiberglass snake rodders were developed for rodding operations and underground jobs such as pulling cables through duct and pies.

### Technical specification:

Product code	DR-6/50	DR-6/100	DR-8/100	DR-8/150	DR-10/150
FRP, mm	Ø 6	Ø6	Ø 8	Ø8	Ø 10
FRP length, M	50	100	100	150	150



### CABLE PULLING SOCKS

### **Product information:**

Overhead pulling cable grip is used for pulling of the insulated conductor, for ropes and cable with neutral messenger.

### Technical specification:

Product code	SP-6-12-300	SP-12-18-600	SP-18-25-600
MBL, kN	10	12	15
Cable diameter, mm	6-12	12-18	18-25
Length, mm	300	600	600



### STRINGING BLOCKS (PULLEY)

### **Product information:**

Overhead stringing block (pulley) is used for pulling of the insulated aerial conductor or ropes.

### **Technical specification:**

Product code	MT 26-50-30
MBL, kN	20
Material	Nylon
Weight, kg	1.5



### COME-ALONGS

### **Product information:**

Stringing overhead come-along is used for pulling conductors by manual or machine force.

### Technical specification:

Product code	C-422	
MBL, kN	20	
Cable size, mm	Ø 4 – 22	



### SWIVEL

### **Product information:**

Swivel shackle is used with pulling socks to eliminate any twisting of conductor.

### **Technical specification:**

Product code	SW-15	
MBL, kN	15	The latest and a sent
Cable size, mm	Ø 12	
Dimensions, mm	12, 87, 33, 29, 12, 113	A STATE OF THE PARTY OF THE PAR



### LEVER HOISTS

### **Product information:**

Stringing lever hoist is a lever operated manual device used to lift, lower, or pull a load and to apply or release tension.

Product code		LH-20	
Pulling force,	Without block	1.5	10
ton	With block	3.0	- 6
Cable length,	Without	3.0	
mm	With block	1.6	2 6

## FIBER OPTIC CABLE TERMINATION MATERIALS & TOOLS



Fiber optic cable termination materials and tools are a group of products that support fusion splicing or direct termination of fiber optic cables during FTTH line constructions. The tools are an important items for any optical fiber cable installers, which will greatly facilitate the fusion splicing and termination works of the fiber optic cables.

Common termination tools includes: Fiber cable stripper, Scissors, Fiber stripper, Heat shrink tube, Visual fault locator, Optical fiber cleaver, FTTH tool kits etc.

All the tools were durable designed, and the full range of termination tools will help you save time and cost to search the tools for several suppliers.







### FIBER OPTIC CABLE STRIPPER

### **Product information:**

Fiber optic cable stripper is a special tool developed for ADSS cables or other sheathed or armored ftth cables. This ADSS cable slitter is mainly to cut off the armored sheath of cable to obtain the internal fiber optic wire.

### Technical specification:

Product code	FT-2	The Control of the Co
Stripping diameter	4-10 mm	
Blade depth	Max 5.5nm	Darried Continued



### FIBER OPTIC CABLE ARAMID YARNS SCISSORS

### **Product information:**

Fiber cable aramid yarns scissors is an ideal tool designed to cable's aramid yarn or fiberglass yarn for the construction and maintenance of fiber optic projects.

### **Technical specification:**

Product code	FOC-TS	
Material	stainless steel, PP+rubber	



### FIBER OPTIC CABLE STRIPPER

### **Product information:**

Fiber optic stripper is a reliable and economical FTTH plier tools for peeling fiber jacket and fiber buffer during FTTH deployments.

### **Technical specification:**

Product code	CFS-2A
Big notch diameter	1mm
Peeling coating range	125-250µm



### FTTH FIBER OPTIC TOOL KITS

### **Product information:**

FTTH fiber optic tool kits is a integration solution for FTTH quick connect constructions which includes ptical power meter, Pen visual fault locator, Fiber cleaver, Miller pliers, Drop cable stripper, Optical fiber length fixer, Carry bag, alcohol bottle.



### FIBER CORE HEAT SHRINK TUBE

### **Product information:**

Optical fiber heat shrink sleeve either called fusion splice protection sleeve is used as a protection tubing, which is widely used in optical communication equipment to protect fiber core after splicing.

### Technical specification:

Product code	RGS-TM-40
Working temperature	-45 - 110°C
Shrinking temperature range	120°C



### **COLD SHRINK TUBES**

### **Product information:**

Cold shrink tubes is a supercharged rubber sleeve that is pre expended over an inner breakaway reinforced by ripcord, used to to protect communication cables and connectors.

			CST-44x135
20	8.5-25	9.5-28	15-44
0	110	110	135
to 1	3 to 1	3 to 1	3 to 1
	20 0 to 1	0 110	0 110 110



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