

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

# COMPANY PROFILE

JERA LINE is a growing factory, which focus on production of products for fiber optic cable deployment and electrical cable distribution in outdoor, indoor, underground applications.

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

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

- for the fiber optic cable deployment application we produce fiber optic cable, clamps, brackets, joints, boxes and related to passive optical network distribution fiber optic products, applied in FTTx network constructions;
- for the electrical cable distribution application we produce overhead, underground connectors and joints clamp for low, middle, and high voltage ABC cables, applied with voltage from 0.4 KV to 35 KV.

Our company is operating according to ISO 9001:2015, this allow us to sell to over 20 countries and regions such as Europe, CIS, South and North America, Middle East, Africa, and Asia.

Quality of our products is verifying with the collaboration of telecom and electricity utility 3rd party laboratories in order to satisfy the local market regulations and standards of our rustomers.

We hope to meet our customer needs with convenient design of products, fair price, confident quality, flexible OEM and prompt R&D service

Each day we are improving our product range to achieve new challenges of global market.

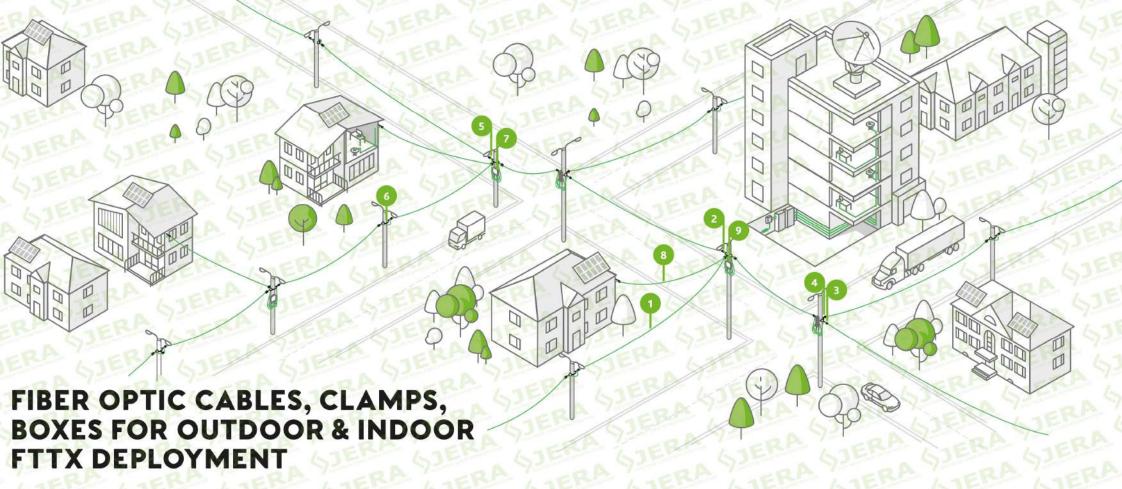
Welcome to cooperate, our intention is committed to build reliable, long-term business relationships.





### CONTENT

FIBER OPTIC CABLES, CLAMPS, BOXES FOR OUTDOOR & INDOOR FTTX DEPLOYMENT	6
DROP CLAMPS & BRACKETS FOR FTTX OUTDOOR (AERIAL) CABLE DEPLOYMENT	18
ADSS, FIG-8 TYPE CABLE CLAMPS FOR FTTX OUTDOOR (AERIAL) DEPLOYMENT	22
BRACKETS & HOOKS	26
PREFORMED WIRE GRIPS FOR ADSS CABLES	28
STAINLESS STEEL POLE BANDINGS & TOOLS FOR CABLE ATTACHMENT	30
FIBER OPTIC BOXES & JOINT CLOSURES FOR OUTDOOR FTTX DEPLOYMENT	34
FIBER OPTIC ADAPTERS, PATCHCORDS, FAST CONNECTORS	44
FIBER OPTIC PLC SPLITTERS	46
PULLING TOOLS FOR FIRER OPTIC CABLE INSTALLATION	5 45



We have developed a wide range of reliable fiber optical cables, terminal boxes, splice closures, clamps, preformed wire guy-grips and pole's hardware for passive optical networks (PON), used in outdoor (overhead) and indoor fiber optic cable distribution routes. Our products applied in internet network construction, organized by FTTx technology as a part of GPON, in industrial buildings, street houses and data centers.

All the components are applied to accomplish:

- FIBER OPTIC CABLE OUTDOOR FTTX DEPLOYMENT
- · FIBER OPTIC CABLE INDOOR FTTX DEPLOYMENT

AA product range, meet the criteria of key regional standards, RoHS. CE

Quality is verified in factory's laboratory or 3rd party laboratory, by arranging following inspections: insertion losses and return losses test, mechanical strength test, electrical aging test, corro-

sion resistant test, chemical content test, operation experience with temperatures ranging test, climatic aging test etc.

We offer reliable and competitive range of FTTx products of mo-dern and cost effective design and long life period. By implementing an advanced experience and knowledge, we are eager to offer modern and high-qualified products. In addition, we can customize this product range according to your requirements and cable size.

We will be happy to receive inquiries from you.



CABLES



DROP CLAMPS



ADSS, F8 CLAMPS



BRACKETS & HOOKS



GUY-GRIPS page 28



S/S BANDINGS



BOXES & JOINTS



PATCHCORDS



SPLITTERS



PULLING TOOLS

LOA LOAD CRA LERA LERA LERA LERA LERA LERA LERA

### FIBER OPTIC DPOP CABLES FOR FTTX, FLAT-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.

Replying on area of usage, we produce:

 fiber optical drop cable, flat-figure-8 type of 1, 2, 4 cores, with FRP or steel messengers, reinforced by FRP or steel rods depend on project requirement;

fiber optic drop cable, flat-type of 1, 2, 4 cores, reinforced by FRP or steel

Our fiber optic FTTx cables are made of G652D, G657 A1, A2 fiber core, FRP and steel wire materials, weather and UV resistant LSZH plastic.

Flat-type FTTx cables meet the criteria of key regional standards RoHS, CE.







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

REINFORCED BY STEEL RODS FOR OUTDOOR (AERIAL) DEPLOYMENT

### **Cable Description**



STRENGTH MEMBER: STEEL WIRE
 OPTICAL FIBER

- OUTER SHEATH: BLACK OR WHITE LISTH



### **Applications**



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 dis tribution 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



Reliability.

Reinforced by steel strength member.



ligh flexibility design



Fire redundant protection



UV radiation protection



Tensile load rating - 600 N



Crushing load of cable —



Minimum dimension and weight of drop cable

Te		

ltem	Value (N)		
	1 fiber	2 fibers	4 fibers
Strength member material	Steel wire	Steel wire	Steel wire
Strength member diameter (mm)	0.40	0.40	0.40
Sheath thickness (mm)	≥0.40	≥0.40	≥0.40
Cable diameter (mm)	2.0 × 3.0(±0.1)	2.0 × 3.0(±0.1)	2.0 × 3.0(±0.1)
Cable weight (kg/km)	10	10.5	11.5
Operating temperature range (°C)	-50~+70	-50~+70	-50~+70
Tensile strength short/long Term (N)	600/300	600/300	600/300
Crush resistance short/long term (N/100mm)	1000/500	1000/500	1000/500
JE GJE	G.657.A1/A2	G.652.D	
Min. bending radius (mm)	10/25	30/60	RALIER



### JERA

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

REINFORCED BY FRP RODS FOR INDOOR DEPLOYMENT

### **Cable Description**

### STRENGTH MEMBER: FRP ROD OPTICAL FIBER



### **Applications**



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



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

### **Features**



Perfect for indoor distribu-tion networks of fiber optics

High flexibility design

Tensile load rating - 80 N



High connecting usability, easy access to the fiber core



Full dielectric design



Fire redundant protection



UV radiation protection



Crushing load of cable -1 kN/10cm



Minimum dimension and weight of drop cable

### Technical Data

Item	Value (N)				
	1 fiber	2 fibers	4 fibers		
Strength member material	FRP	FRP	FRP		
Strength member diameter (mm)	0.50	0.50	0.50		
Sheath thickness (mm)	≥0.40	≥0.40	≥0.40		
Cable diameter (mm)	2.0 × 3.0(±0.1)	2.0 × 3.0(±0.1)	2.0 × 3.0(±0.1)		
Cable weight (kg/km)	9.5	10.0	10.5		
Operating temperature range (°C)	-50~+70	-50~+70	-50~+70		
Tensile strength short/long term (N)	80/40	80/40	80/40		
Crush resistance short/long term (N/100mm)	1000/500	1000/500	1000/500		
	G.657.A1/A2	G.652.D			
Min. bending radius (mm)	10/25	30/60	BA 72 -BI		

WITH STEEL MESSENGER, REINFORCED BY STEEL RODS 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.



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



Reliability. Reinforced by steel strength member



High flexibility design



Fire redundant protection



UV radiation protection



Tensile load rating - 2 kN



Crushing load of cable -2,2 kN/10cm



Minimum dimension and weight of drop cable

### **Technical Data**

Item	Value (N)		
	1 fiber	2 fibers	4 fibers
Self-supporting. Strength member material	Steel wire	Steel wire	Steel wire
Self-supporting. Strength member diameter (mm)	1.0	1.0	1.0
Strength member material	FRP	FRP	FRP
Strength member diameter (mm)	0.50	0.50	0.50
Sheath thickness (mm)	≥0.40	≥0.40	≥0.40
Cable diameter (mm)	2.0 × 5.2(±0.1)	2.0 × 5.2(±0.1)	2.0 × 5.2(±0.1)
Cable weight (kg/km)	18.5	19.0	20.0
Operating temperature range (°C)	-50~+70	-50~+70	-50~+70
Tensile strength short/long term (N)	2000/800	2000/800	2000/800
Crush resistance short/long term (N/100mm)	2200/1000	2200/1000	2200/1000
	G.657.A1/A2	G.652,D	
Min. bending radius (rip off the messenger wire) dynamic/static (mm)	10/25	30/60	EL GJE
Min. bending radius (mm)	120	120	





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

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

### **Cable Description**

### MESSENGER WIRE: STEEL WIRE



OUTER SHEATH: BLACK 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.



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



Reliability. Reinforced by steel strength member



Tensile load rating - 2 kN



Fire redundant protection



UV radiation protection



Crushing load of cable — 2.2 kN/10cm



Minimum dimension and weight of drop cable

### Technical Data Value (N) 1 fiber 2 fibers 4 fibers Steel wire Steel wire Steel wire Self-supporting. Strength member material 1.0 1.0 Self-supporting. Strength member diameter (mm) Strength member material Steel wire Steel wire Steel wire Strength member diameter (mm) 0.40 0.40 0.40 Sheath thickness (mm) ≥0.40 ≥0.40 ≥0.40 2.0 × 5.2(±0.1) 2.0 × 5.2(±0.1) Cable diameter (mm) 2.0 × 5.2(±0.1) 215 Cable weight (kg/km) 20.0 20.5 -50-+70 -50-+70 -50~+70 Operating temperature range (°C) Tensile strength short/long term (N) 2000/800 2000/800 2000/800 2200/1000 2200/1000 2200/1000 Crush resistance short/long term (N/100mm) G.657.A1/A2 G.652.D Min. bending radius 10/25 30/60 (rip off the messenger wire) dynamic/static (mm) 120 Min. bending radius (mm)

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

WITH FRP MESSENGER, REINFORCED BY FRP RODS 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.



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 flexibility design



High connecting usability, easy access to the fiber core



Full dielectric design



Fire redundant protection



UV radiation protection



Tensile load rating - 1.8 kN



Crushing load of cable -2,2 kN/10cm



Minimum dimension and weight of drop cable

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Item	Value (N)		
	1 fiber	2 fibers	4 fibers
Self-supporting. Strength member material	FRP	FRP	FRP
Self-supporting. Strength member diameter (mm)	1.0	1.0	1.0
Strength member material	FRP	FRP	FRP
Strength member diameter (mm)	0.50	0.50	0.50
Sheath thickness (mm)	≥0.40	≥0.40	≥0.40
Cable diameter (mm)	2.0 × 5.2(±0.1)	2.0 × 5.2(±0.1)	2.0 × 5.2(±0.1)
Cable weight (kg/km)	14.5	15.0	16.0
Operating temperature range (°C)	-50~+70	-50-+70	-50-+70
Tensile strength short/long term (N)	1800/700	1800/700	1800/700
Crush resistance short/long term (N/100mm)	2200/1000	2200/1000	2200/1000
, TERM , TE	G.657.A1/A2	G.652.D	ERE LIER
Min. bending radius (rip off the messenger wire) dynamic/static (mm)	10/25	30/60	-0 A 7
Min. hending radius (mm)	120	120	

### 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 PB1 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 6652D or G657 A1, A2, B3 grade of fiber.

Round drop cables meet the criteria of key regional standards RoHS, CE.







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

REINFORCED BY GLASS YARNS AND TPU FOR OUTDOOR (AERIAL) DEPLOYMENT

### **Cable Description**



OUTER SHEATH
ADDITIONAL STRENGTH MEMBER
OPTICAL FIBER
JELLY COMPOUND



### **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



ligh flexibility design



Fire redundant protection



UV radiation protection



Tensile load rating - 1 kN



Crushing load of cable —



Minimum dimension and weight of drop cable

Technical Data			
Item		Value (N)	
		1-6 fibers	8-12 fibers
Loose tube diameter		1.2 (±0.06) mm	1.4 (±0.06) mm
Loose tube material		PBT /	PBT
Loose tube color		Natural	Natural
Additional strength member mater	rial	Aramid yarn	Aramid yarn
Outer sheath material		LSZH	LSZH
Outer sheath color		Black	Black
Cable diameter (mm)		3.0	3.4
Cable weight (kg/km)		8.0	10.0
Operating temperature range (°C)		-50~+70	-50~+70
Tensile strength short/long term (	N)	1000/400	1000/400
Crush resistance short/long term (	N/100mm)	1000/300	1000/300
Min. bending radius dynamic/stati	c	10D/20D	10D/20D





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



Fire redundant protection



UV radiation protection





Crushing load of cable -5 kN/10cm



Minimum dimension and weight of drop cable

### Technical Data Value (N) 1-12 fibers 1.8 (±0.02) mm Loose tube diameter PBT Loose tube material Natural Loose tube color Glass yarn Additional strength member material HDPE Outer sheath material Black Outer sheath color 5.0±0.2 Cable diameter (mm) Aprox. 35 Cable weight (kg/km) -50~+70 Operating temperature range (°C) Tensile strength short/long term (N) 1400/700 5000/2500 Crush resistance short/long term (N/100mm) 10D/20D Min. bending radius dynamic/static

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

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

### **Cable Description**





### **Applications**



Applied outdoor, for instal lation 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



Fire redundant protection



UV radiation protection



Tensile load rating - 1 kN

High flexibility design



Crushing load of cable -



Minimum dimension and weight of drop cable

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144	mic	aı.	u	-1	4.0	

Item		Value (N)		
		1 fibers	2 fibers	4 fibers
Tube diameter	Tight Buffer	0.85 (±0.5) mm	72.5	725
lube diameter	Micro tub		1.2 (±0.1) mm	1,6 (=0.1) mm
Tube material	Tight Buffer	LSZH	LSZH	LSZH
rube material	Micro tub		LJZII	EJZII
Tube color	Tight Buffer	Blue	7	P
Tube color	Micro tub	1 4 6	White	White
Additional streng	rth member material	Aramid yarn	Aramid yarn	Aramid yarn
Outer sheath mat	terial / Figure 1	PU / LSZH	PU / LSZH	PU / LSZH
Outer sheath colo	or 7 - OA	Black	Black	Black
Cable diameter (n	nm)	3.0	3.0	3.2
Cable weight (kg/	/km)	8.0	8.2	9.0
Operating tempe	rature range (°C)	-50~+70	-50-+70	-50-+70
Tensile strength s	hort/long term (N)	1000/500	1000/500	1000/500
Crush resistance	short/long term (N/100mm)	1000/300	1000/300	1000/300
Min. bending radi	us dynamic/static	10D/20D	10D/20D	10D/20D

# FIBER OPTIC DISTRIBUTION CABLES FOR FTTX

Fiber optic distribution cables were developed to user inidoor for end user installations, in buildings, factories, and different constructions. To connect the final users to telecommunication network using GPON and FTTX or FTTH technologies. Applied in Indoor FTTX,

This fiber optic cable are easy in cable preparation and allow taking out one fiber once it needed, separately.

Distribution cable consist of fiber core, covered by PVC, and reinforced and protected by aramid yarns that are located at the whole diameter of cable, fiber cores placed inside tube all the and jacketed by LSZH sheath. Fiber core can be made of 6652D or 6657 A1, A2, B3 grade of fiber.

Distribution cables meet the criteria of key regional standards RoHS, CE.







### FIBER OPTIC DISTRIBUTION CABLE, ROUND-TYPE, 1-24 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.



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



ligh flexibility design



Fire redundant protection



UV radiation protection



Tensile load rating - 0.8 kN



Crushing load of cable –



Minimum dimension and weight of drop cable

Technical Data				
Item	Value (N)		200	
	2 fibers	4 fibers	8 fibers	12 fibers
Additional strength member material	Aramid yarn	Aramid yarn	Aramid yarn	Aramid yarn
Outer sheath material	LSZH	LSZH	LSZH	LSZH
Outer sheath color	Black	Black	Black	Black
Cable diameter (mm)	4.5	5.0	6,1	6.8
Cable weight (kg/km)	22.0	29.5	33.0	41.1
Operating temperature range (°C)	-50-+70	-50~+70	-50⊶70	-50~+70
Tensile strength short/long term (N)	800/400	800/400	800/400	800/400
Crush resistance short/long term (N/100mm)	1000/300	1000/300	1000/300	1000/300
Min. bending radius dynamic/static	10D/20D	10D/20D	10D/20D	10D/20D

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



FTTx drop wire clamps and brackets were designed to anchor or suspense the drop wire, FTTx, FTTH flat or round cables on dead-end or intermediate

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

plastic. That insures a high corrosion resistance and guarantee the long

All the cable assemblies passed the tensile tests, operation experience with temperatures ranging test.





### 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		MBL, kN	Materials
YK 631	4	RA 15/31	Galvinized steel
YK-02	1949	JERA 9	Galvinized steel
YK-03	2	WIERA	Galvinized steel
YK-04	MERA	1.5	Galvinized steel
YK-05	A SER	0.5	Galvinized steel
AH 43E	PA GJE	RA SJE	Galvinized steel
DWR-01	5 9	ERA SI	Galvinized steel

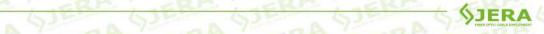




### DROP CLAMPS FOR FTTX OUTDOOR (AERIAL) CABLE DEPLOYMENT

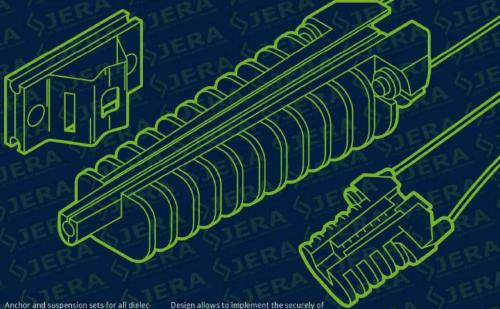
Drop clamps for FTTx cables applied on flat and round cables of different sizes. Tension strength achieved by wedges and conical body of clamp or by excentral layout of cable in the clamp or wedges. Open or closed wire balls provide an easier installation. Tension strength achieved. Radius of excentrals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

Product code	Max cable size (h × w), mi	m MBL, kN	Materials
03 A DE R	<b>€</b> <4 × <5	0.5	UV resistant plastic
DDWAC-P	<b>4</b> < 4 × < 8	0.5	UV resistant plastic
DDWAC-HY	<b>8</b> <4 × <8	JERA	Stainless steel, UV resistant plastic
DDWAC-15	<b>8</b> <5 × <12	0.7	Stainless steel
DDWAC-22	<b>8</b> <6 × <13	1.2	Stainless steel
DDWAC-22P	<b>8</b> <6 ×<13	RA 63	Stainless steel. UV resistant plastic
DDWAC-L	<b>8</b> <6×-13	ERA	Aluminium body
DDWAC-22S	<b>3</b> <6 ×<13	0.5	Stainless steel
DDWAC-26	<b>1</b> <6 ×<16	2	<b>S</b> tainless steel
PA-08-F	<b>2</b> :6×<10	353E	Aluminium, stainless steel. UV resistant plastic



Product code	Cable size, mm	MBL, kN	Materials
FISH-1	<b>○</b> Ø2-3, <b>1</b> 2×3	0.5	UV resistant plastic, stainless steel
FISH-3	<b>○</b> Ø2-5. <b>2</b> ×3	0.5	UV resistant plastic, stainless steel
FISH-2	<b>○</b> Ø2-5, <b>8</b> 2+3	ERA S	UV resistant plastic
ACC	<b>○</b> Ø2-6	JERA	UV resistant plastic
H15	<b>○</b> Ø2-4. <b>1</b> 2×(5-8)	0.5	UV resistant plastic, galvinized steel
02	<b>○</b> Ø 2 - 5, <b>3</b> 2 × (3 - 5)	0.5	UV resistant plastic, galvinized steel
D6	<b>○</b> Ø4-8	0.5	UV resistant plastic
DC-35	⊙ Ø 2 – 5; ■ 2 × (3 – 5)	0.1	UV resistant plastic
S-TYPE	<b>⊙</b> Ø 0.4 – 1.5	JERA	UV resistant plastic, stainless steel
SO-TYPE	<b>⊙</b> Ø 0.4 – 1.5	0.5	UV resistant plastic, stainless steel
SS-TYPE	<b>◎</b> ∅ 0.4 – 1.5	2 7 1 5 5	UV resistant plastic, stainless steel
DH-01	<b>⊙</b> Ø 2 <b>-</b> 5	RA 531	Galvinized steel, aluminium
	(5)		COL

# ADSS, FIG-8 TYPE CABLE CLAMPS FOR FTTX OUTDOOR (AERIAL) DEPLOYMENT



Anchor and suspension sets for all dielectric self-supporting cables (ADSS) were developed to tension and suspense an aerial round fiber optic cable of different 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 different 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 AD55 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.





### 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
24 93	2 92	A	72 - 12 1
PA-500	<b>⊙</b> ∅4-8	3	
PA-3000	<b>○</b> Ø 8 - 12	RA	
PA-3001	<b>o</b> Ø 12 - 16	8	UV resistant plastic stainless steel, aluminium
PA-3002	<b>0</b> Ø 16 - 20	JEP	
PA-1000.2	<b>○</b> Ø7-11	8	

### 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.

Product code	Cable size, mm	MBL, kN	Materials
08 0 0	<b>o</b> Ø 8 - 12	1.5	
D12	<b>○</b> Ø 13 - 16	1.5	
HC5-8	<b>⊙</b> Ø5-8	4	
HC 8-12	<b>○</b> Ø8-12	4 E	Galvinized steel UV resistant
HC10-15	<b>○</b> Ø 10 − 15	475	plastic
HC 15-20	<b>Ø</b> Ø 15 − 20	4	
PS-619	<b>o</b> Ø 6-19	3	



### 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 mechan-ical 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

### Technical specification:

Product code	Messenger's material	Diameter of wire over the insulation	MBL,	Materials
PA-37	204	<b>8</b> Ø3-7		
PA-69	FRP	<b>8</b> 06-9	2.5	Stainless steel, UV resistant plastic, aluminium
PA-610	JENA	<b>8</b> Ø6-10		AGJE
PA-05	Steel	<b>2</b> 03-5	2	Stainless steel, UV resistant plastic, aluminium, zink
PA-06	Steel	<b>8</b> Ø3-6	3	Stainless steel, UV resistant plastic, aluminium, zink
PA-07		<b>8</b> Ø3-7	5	ERA
PA-08	Steel	<b>8</b> 03-7	2.5	Stainless steel, UV resistant plastic, aluminium, zink
	JERA	<b>8</b> 03-5	- 5	
PA-07-520	Steel	<b>2</b> 06-8	R.	Stainless steel, UV resistant plastic, aluminium, zink

### Product information:

Suspension clamps designed to suspense figure-8 fiber optic cable of different diameters and messenger's types, on the short spans. Clamps are universal to be apllied on steel, FRP, kevlar, AAC messen-ger. 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

### Technical specification:

Diameter of wire over the insulation	MBL, kN	Materials
<b>8</b> Ø4-5/5-9	\$3E \$3E \$3E	Galvinized steel, UV resistant plastic
<b>8</b> Ø4-5/5-9	8	Galvinized steel, UV resistant plastic
	the insulation	of wire over the insulation MBL, kN definition MBL,

Galvinized steel,

25

# 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	631	MBL, kN	Materials
SJERA SJE	S. C.	F1 – 5, F2 – 3,5, F3 – 9, F4 – 2, F5 – 5	Aluminium
PS-1500	30	12 5	Aluminium
Console 32		15	Hot dip galvanized steel
YPMK A STEE	D	RA GJERA	Galvanized steel
B-16-300-140	A A S	10 <b>4 1 E</b>	Galvanized steel
PS7, JERA	ERA	JERA GJE	Galvanized steel
YKP-01	PERA	AJERA S	Galvanized steel
YKN A GJERA		A 15 ERA	Galvanized steel
KR-16 RA SJER	2	18	Hot dip galvanized steel

# PREFORMED WIRE GRIPS FOR ADSS CABLES

Preformed wire grips were developed to use in overhead telecommunication networks to grip ADS5 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 deadends to your ADSS cable size, according to it's working load and outer diameter.



### SUSPENSION GRIPS, IS-)

### 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 thimble, 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 optic cable, directly. Overhead ADSS grips 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 performed wire grip without protector, when the tension 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.

### 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
	Without	1 (2)	5.0/5.6 5.7/6.5	red vellow			
	US - 1 (1 - 7 kN) UT - 05 (1 - 7 kN)	2 (3.5)	6.6/7.4	— black			
JS	UT - 1 (5 - 10 kN)	3 (5)	7.5/8.4	- orange			
	UT - 3 (12 - 15 kN)	4 (7)	8.5/9.4 9.5/10.5	- brown - white			
			10.6/11.6	blue	1000 WE WIL		
CH	1 -15	5 (9)	11.7/12.8	- green	Specified in a		
	Without	6 (10)	12.9/14.1	— red	to cable work	ing load	
	UR - 1 (1 - 7 kN)	7 (12)	14.2/15.6 15.7/17.3	yellow black			
JS-X	UR - 2 (5 - 10 kN) UR - 3 (12 - 15 kN)	8 (14)	17.4/19.1	orange brown			
		9 (15)	21/22.8	- white			

29

# 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, ROSSETI (CIS market).

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 suspension clamps, anchor clamps, and hooks, on dead-end and intermediate routes, of main or end use electrical connections.

Stainless steel bands are made of stainless 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 guarantee extended service life and attaching under significant mechanical loads.

Installation process:

- 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:

Material grade, SUS	201	202	304	316	409
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				
Colour of dispenser	Red	Green	Blue	Purple	Yellow



### 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 stainless 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.

### WHEEL TOOL MBT-00:

### 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 superior 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.

Product code		MBT-004		MBT-003	
Max band width	GJER	< 25	JERA	20	SJER
Grades	LIEF	< 1.5	TERA	< 1.2	LIEB







### STAINLESS STEEL BUCKLES, L-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 I-type are made of stainless steel of different grades: 201, 202, 304, 316.

Stainless steel buckles I-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	HC-10-L	HC-13-L	HC-16-L	HC-20-L
Max band width	3/8° - 10 mm	1/2" - 12.7 mm	5/8" - 16.0 mm	3/4* - 20.0 mm
Grades	201, 202, 304, 316	201, 202, 304, 316	201, 202, 304, 316	201, 202, 304, 316



### STAINLESS STEEL BUCKLES, LX AND LC

### 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 LC and LX are made of stainless steel of different grades: 201, 202, 304, 316.

Stainless steel buckles LC and LX are made as analog to reinforced buckles, to withhold sufficien mechanical loads, compared to simple I-type. 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	HC-20-LC	HC-20-LX	
Max band width	3/4* = 20.0 mm	3/4" - 20.0 mm	
Grades	201, 202, 304, 316	201, 202, 304, 316	



Technical specification:

### STAINLESS STEEL CABLE DOWN LEAD BUCKLE

### Product information:

Cable down lead buckle used to attach the fiber optic cable or other kinds of cable to pole on vertical routes. Applied together with stainless steel band. Stainless steel band for this solution come with a safety cut edges for safe maintenance. The design and the materials provide the outstanding quality, which allows them be used in different climatic areas, snowy, cold, marine and salty environments. Cable accessories passed operation experience with temperature cycling test, corrosion resistance test

Installation:

Prepare the exact size and type of down lead buckle, depend on cable size.

2. Use the band solution to attach in to

3. Fix the band or tie by using buckle.

DB-10	DB-20
3/8* – 10 mm	3/4* - 20 mm
0.012* - 0.30 mm	
201, 304	
	<b>DB-10</b> 3/8* – 10 mm 0.012* – 0.30 mm



### 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 experience with temperature cycling test, corrosion resistance test.

### Technical specification:

Product code	LOZERY LIERY LIERY LI
Width, mm	10, 12, 16, 19
Thickness, mm	0.7
Length, mm	400, 600, 800, 1000, 1200, 1400
Grades	201,304
The Falls	



### STAINLESS STEEL PUSH-LOCK BUCKL

### Product information:

Push lock strapping buckle used to attach fiber optic brackets to pole by band.
Ratchet mechanism helps to be applied for attaching of street signs, video cameras and other cables and mounts to the poles. This push-lock buckle is analog of stainless steel tie, but more convenient. Because it's allowed to cut needed length of it, using the banding tool.

Tie are used in marine and railway transportation, mining, oil, water and gas construction industry, underground drilling and other general applications including hoses, pipes and control devises or cabinets.

Stainless steel band for this solution come with a safety cut edges for safe maintenance. The design and the materials provide the outstanding quality of ties, which allows them be used in different climatic areas, snowy, cold, marine and salty environments. Cable accessories passed operation experience with temperature cycling test; corrosion resistance test etc.

### Installation:

- Prepare the exact size and type of push lock tie, depend on tension strength required.
- 2. Cut the band using simple tools.
- Insert the band into buckle, bend the end.
- 4. Band it over the accessory and pole
- Fix the tie into it's locking part, by hand or hummer, until maximum.

Product code	LB-10	LB-20	
Max band width	3/8* - 10 mm	3/8° – 20 mm	TER
Min band thickness	0.012" - 0,30 mm		7
MBL, Kn	1.9	3	435
Length	Cut by tool		
Grades	201, 304	RALTER	1 75



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 core 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.











FODB-8 (12)

FODB-8C1 (12)

### Product information:

Fiber optical distribution boxes FODB-8 and FODB-8C1, designed to terminate feeding optical cable and connect last mile cables as fiber optical cords, patch cords, pigtail cords according to capacity of distribution box. FODB-8 seria can be applied outdoor, poles, walls.

Useful design of splice tray and accessories allows be appropriate for 10 SC adapters and 1 of 1×8 PLC SC splitters, or 1 of 1×8 or 2 of 1×4 of mini cassette PLC SC splitter, which are available in least

products range. All mentioned optical network accessories could be fixed inside the box. Stainless steel ties of fiber box allow fixating feeder cable of different size, without slippage. Plastic hangers of telecommunication box allow fixating the feeding fibers by nylon ties.

FODB-8 seria are made high quality termoplastic, which guarantee wet, dust, proof and outdoor or indoor usage. Anti-vandal lock provided for security. Wall-mounted type of installation is done by 4 galvanized screws of 18×4 size. FODB-8 has 2 mounts for stainless steel band usage. Optical termination boxes contain the fixation brackets for cable wire. Light and pleasing in appearance. FODB has strength mechanical protection and easy maintenance. Provides easy users access or data access based on FTTH

Product code	FODB-8 (12)	FODB-8C1 (12)
Fiber's capacity	50 12 RA 60 E	12
Inputs and cable diametres	2 × Ø > 14 mm, 8 × Ø 2-3 mm	2 × Ø > 14 mm. 8 × Ø 2-3 mm
Dimensions, mm	247 × 159 × 46	247 × 159 × 46
Adaptors SC	10	TERA TERA
PLC SC splitters Cassette PLC SC splitters Mini cassette PLC SC splitters	1×1'8.2×1'4 _ _	1×1′8.2×1′4
Application	Outdoor, last mile connection	Outdoor, last mile connection









### FOSC-2A (12)

### **Product information:**

Fiber optical splice closures FOSC-2A and FOSC-2C1 are the dome type closures, designed to designed to terminate feeding optical cable and connect last mile cables as fiber optical cords, patch cords, pigtail cords according to capacity of distribution box. FOSC-2 seria can be applied outdoor, poles, walls.

Useful design of splice tray and accessories allows be appropriate for 10 SC adapters and 1 of 1×8 PLC SC splitters, or 1 of 1×8 or 2 of 1×4 of mini cassette PLC SC splitter,

### FOSC-2C1 (12)

which are available in Jera's products range. All mentioned optical network accessories could be fixed inside the box.

Has 8 round inputs and 1 oval input, maximum capacity is 12 fibers. Splice tray capacity is 12 fibers. The sealing is realized with heat shrink tubes. Addional bracket allows installation eithers on concrete pole, and on wooden walls.

### Technical specification:

Product code	FOSC-2A (12)	FOSC-2C1 (12)
Fiber's capacity	12	A CIZIERA SIE
Inputs and cable diametres	8 × Ø 2 − 3 mm, 1 × 16 − 40 mm	8 × Ø 2 – 3 mm, 1 × 16 – 40 mm
Dimensions, mm	300 × 180 × 130	300 × 180 × 130
Adaptors SC	10, 35	JERA GJERA
PLC SC splitter / Mini cassette PLC SC splitter	2 - 1 × 4 1 - 1 × 8	2-1×4 1-1×8
Application	Outdoor, last mile connection	Outdoor, last mile connection





### FOSC-2D (48)

### **Product information:**

Fiber optical splice closure FOSC-2D (96) is dome type closure, designed to splice and branch fiber optical cables on overhead and unground routes.

Has 3 round inputs and 1 oval input, maximum capacity is 96 fibers. Splice tray capacity is 24 fibers, where fibers are stored in 2 layers. The sealing is realized with heat shrink tubes. Addional bracket allows installation eithers on concrete pole and on wooden walls.

### FOSC-3 (96)

### Product information:

Fiber optical splice closure FOSC-3 (96) is dome type closure, designed to splice and branch fiber optical cables on overhead and unground routes.

Has 3 round inputs and 1 oval input, maximum capacity is 96 fibers. Splice tray capacity is 12 fibers. In addition, fiber cores can be managed to 96, by 2 layers store in splice tray. The sealing is realized with heat shrink tubes. Addional bracket allows installation eithers on concrete pole and on wooden walls.

### Technical specification:

Product code Product code	FOSC-2D (48)	FOSC-3 (96)
Fiber's capacity	12/24/96	24/96
Inputs and cable diametres	3 × Ø 16 mm, 1 × 16 – 40 mm	3 × Ø 16 mm. 1 × 25 – 40 mm
Dimensions, mm	300 × 180 × 130	435 × 190 × 160
Adaptors SC	BA GJERA	GJERA GJER
PLC SC splitter / Mini cassette PLC SC splitter	ERA GJERA	GJERA GJER
Application	Outdoor. last mile connection	Outdoor, central loop connection

36

# 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 distribution 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.







### FIBER OPTICAL DISTRIBUTION SOCKET







ODP-02 (1)

ODP-04(4)

FODB-6

### 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. Apllied in buildings and houses to connect end user to network. ODP-02 has two or four ports, which provide the installation of one or two fiber optic adapters, built on the regular SC footprint.

ODP-02 provides mechanical protection, flexible fiber route management and control, easy installation because of features, implemented in design.

ODP-02M has metal mount for feeding patch cord or optic fiber cable, which facilitates the installation process. Optic fiber cable will be tightly fixed inside of drop wire socket.

ODP-02 is made of ABS plastic. Indoor wall-mounted type of installation is done by 2 galvanized screws of 25 × 4 size.

The dimensions of ODP-02 are wide enough for suitable fiber cord bending radius No splice tray required, light and pleasing in appearance, has strength me chanical protection. Provides easy users access or data access based on FTTH networks.

### Product information:

Fiber optical distribution point ODP-04 is a wall outlet designed to terminate fiber optical cords, patch cords, pigtail cords, with adaptors in FTTH network. Apllied in buildings and houses to connect end user to network. ODP-04 has four ports, which provide the installation of one or two fiber optic adapters, built on the regular SC footprint.

ODP-04 provides mechanical protection, flexible fiber route management and control, easy installation because of features, implemented in design.

ODP-04 is made of ABS plastic. Indoor wall-mounted type of installation is done by 4 galvanized screws of 25 × 4 size.

The dimensions of ODP-04 are wide enough for suitable fiber cord bending radius has splice tray required, light and pleasing in appearance, has strength mechanical protection. Provides easy users access or data access based on FTTH networks.

### Product information:

Fiber optical distribution boxes FODB-2, FODB-4, FODB-6, designed to terminate feeding optical cable and connect last mile cables as fiber optical cords, patch cords, pigtail cords according to capacity of distribution box

FODB-2, FODB-4, FODB-6 are compact and convinient to be used in entrance of terminals, buildings telecommunications closets, where wall space is a superior small, however is wide enough for suitable fiber cord bending radius.

FODB-2, FODB-4, FODB-6 provide the installation of one — six fiber optic drop cords, built on the regular SC fiber optical adaptors or heat splicing. Splice tray allows installation of splice protection sleeves or PLC splitters.

FODBs are made of PC+ABS, PVC, which guarantee wet, dust, proof and outdoor or indoor usage. Wall-mounted type of installation is done by 3 galvanized screws of 18 × 4 size. Boxes contain the fixation bracket for cable wire. No ground device. Anti-vandal, equipped by lock and key. Light and pleasing in appearance, FODB has strength mechanical protection and easy maintenance. Provides easy users access or data access based on FTTH

Product code	ODP-02	ODP-04	FODB-6
Fiber's capacity	01B	4	6
Inputs and cable diametres	1 × Ø 3 mm, 3 × 2 mm	1 × Ø 3 mm, 3 × 2 mm	1 × Ø 10 mm, 6 × Ø 3 mm
Dimensions, mm	86 × 86 × 22	149 × 110 × 33	125 × 185 × 40
Adaptors SC	2	.4	6
PLC SC splitters Cassette PLC SC splitters Mini cassette PLC SC splitters	ERA SJE	1-1×4 53EF	1×1'4 - 63EB
Application	Indoor last mile connection	Indoor last mile connection	Indoor last mile connection



### FIBER OPTICAL DISTRIBUTION BOXES



### FODB-8A (12)

### Product information:

Fiber optical distribution box FODB-8A, designed to terminate feeding optical cable and connect last mile cables as fiber optical cords, patch cords, pigtail cords according to capacity of distribution box. FODB-8A can be applied in buildings, FTTx closets, poles, walls.

Useful design of splice tray and accessories allows be appropriate for 1 x 8 PLC splitter, SC fiber adapters or 12 splice protection sleeves. All mentioned optical network accessories could be fixed inside the box. Stainless steel ties of fiber box allow fixating feeder cable of different size, without slippage, Plastic hangers of telecommunication box allow fixating the feeding fibers by nylon ties.

FODB-8A has three or two transit inputs. which is not require to cut or terminate the optical cable before installation.

FODB-8A is made of PC+ABS, PVC, which guarantee wet, dust, proof and outdoor or indoor usage, Wall-mounted type of installation is done by 4 galvanized screws of 18 × 4 size. FODB-8A has 2 mounts for stainless steel band usage. Optical termination boxes contain the fixation brackets for cable wire. No ground device. Anti-vandal, equipped by lock and key.

FODB-8A (12)

8 × Ø 3 mm

210 × 195 × 55

1 × 1'8. 2 × 1'4

last mile connection

Outdoor,

3 or 2 transit Ø 17 mm

12

10

### Technical specification:

Inputs and cable diametres

Cassette PLC SC splitters

Mini cassette PLC SC splitters

Product code

Fiber's capacity

Dimensions, mm

PLC SC splitters

Adaptors SC

Application



### FODB-8C (12)

### **Product information**

Fiber optical distribution box FODB-8C. designed to terminate feeding optical cable and connect last mile cables as fiber optical cords, patch cords, pigtail cords according to capacity of distribution box. FODB-8C can be applied in buildings. FTTx closets, poles, walls.

Useful design of splice tray and accessories allows be appropriate for 1 cassette 1×8 PLC splitter. All mentioned optical network accessories could be fixed inside the box. Stainless steel ties of fiber box allow fixating feeder cable of different size, without slippage. Plastic hangers of telecommunication box allow fixating the feeding fibers by nylon ties.

FODB-8C has three or two transit inputs. which is not require to cut or terminate the optical cable before installation.

FODB-8C are made of PC+ABS, PVC. which guarantee wet, dust, proof and outdoor or indoor usage. Wall-mounted type of installation is done by 4 galvanized screws of 18×4 size. FODB-8C has 2 mounts for stainless steel band usage. Optical termination boxes contain the fixation brackets for cable wire. No ground device. Anti-vandal, equipped by lock and key.

FODB-8C (12)

8 × Ø 3 mm;

210 × 195 × 55

last mile connection

1 x Ø 17

1 x 1'8

3 or 2 transit Ø 17 mm:



### FODB-12 (12)

### **Product information:**

Fiber optical distribution box FODB-12, designed to terminate feeding optical cable and connect last mile cables as fiber optical cords, patch cords, pigtail cords according to capacity of distribution box. FODB-12 can be applied in buildings, FTTx closets, poles, walls.

Useful design of splice tray and accessories allow be appropriate for 12 SC fiber adapters, or 12 splice protection sleeves. All mentioned optical network accessories could be fixed inside the box. Stainless steel ties of fiber box allow fixating feeder cable of different size, without slippage. Plastic hangers of telecommunication box allow fixating the feeding fibers by nylon ties. FODB-12 has two transit inputs, which is not require to cut or terminate the optical cable before installation.

FODB-12 is made of PC+ABS, PVC, which wet, dust, proof and outdoor or indoor usage. Wall-mounted type of installation is done by 3 galvanized screws of 38 x 4 size. Optical termination boxes contain 2 fixation brackets for cable wire, ground device, 12 splice protection sleeves, 12 nylon ties. Anti-vandal lock provided for security.

Light and pleasing in appearance, FODB has strength mechanical protection and easy maintenance. Provides easy users access or data access based on FTTH networks.

FODB-12 (12)

2 Ø 12 mm:

1 - Ø 17

12 × Ø 3 mm;

235 × 200 × 62

1 = 1'8 2 × 1'4

last mile connection

Outdoor

12

12



### FODB-16X (16)

### Product information:

Fiber optical distribution box FODB-16X, designed to terminate feeding optical cable and connect last mile cables as fiber optical cords, patch cords, pigtail cords according to capacity of distribution box. FODB-16X can be applied in buildings. FTTx closets, poles, walls.

Useful design of splice tray and accessories allows be appropriate for 1 × 8 PLC splitters, SC fiber adapters or 16 splice protection sleeves. All mentioned optical network accessories could be fixed inside the box. Stainless steel ties of fiber box allow fixating feeder cable of different size, without slippage. Plastic hangers of telecommunication box allow fixating the feeding fibers by nylon ties.

FODB-16X is made of PC+ABS, PVC, which guarantee wet, dust, proof and outdoor or indoor usage. Optic distribution boxes contain 2 fixation brackets for cable wire, ground device, 16 splice protection sleeves, 16 nylon ties. Anti-vandal lock provided for security. Wall-mounted type of installation is done by 4 galvanized SCIEWS

of 18 × 4 size. FODB-16X has 2 mounts for stainless steel band usage. Optical termination boxes contain the fixation brackets for cable wire. No ground device. Anti-vandal, equipped by lock and key.



FODB-16C (16)

### Product information:

Fiber optical distribution box FODB-16C, designed to terminate feeding optical cable and connect last mile cables as fiber optical cords, patch cords, pigtail cords according to capacity of distribution box. FODB-16C can be applied in buildings, FTTx closets, poles, walls.

Useful design of splice tray and accessories allow be appropriate for 2 of cassete 1 x 8 splitters, which are available in Jera's products range. All mentioned optical network accessories could be fixed inside the box. Stainless steel ties of fiber box allow fixating feeder cable of different size, without slippage. Plastic hangers of telecommunication box allow fixating the feeding fibers by nylon ties.

FODB-16C is made of PC+ABS, PVC, which guarantee wet, dust, proof and outdoor or indoor usage. Optic distribution boxes contain 2 fixation brackets for cable wire, ground device, 16 splice protection sleeves, 16 nylon ties. Anti-vandal lock provided for security. Wall-mounted type of installation is done by 4 galvanized screws of 18 x 4 size, FODB-16C has 2 mounts for stainless steel band usage. Optical termination boxes contain the fixation brackets for cable wire. No ground device. Anti-vandal, equipped by lock and



### FODB-24 (24)

### **Product information:**

Fiber optical distribution box FODB-24, designed to terminate feeding optical cable and connect last mile cables as fiber optical cords, patch cords, pigtail cords according to capacity of distribution box. FODB-24 can be applied in buildings, FTTx closets, poles, walls.

FODB-24 has 29 ports that provides the installation from 1 to 24 optic drop cords, based on the regular SC fiber adaptors or splice protection sleeves, 2 optic feeders can be used. A main and additional splice tray allows installation of splice protection sleeves or PLC splitters.

FODB-24 is made of PC+ABS, PVC, which guarantee wet, dust, proof and outdoor or indoor usage. Optic distribution boxes contain 2 splice protection sleeves, 8 nylon ties. Anti-vandal lock provided for security.

The dimensions of FODB-24 are wide enough for appropriate fiber bending radius. Light and pleasing in appearance, box has strength mechanical protection and easy maintenance. Provides an easy users access or data access based on FTTx.

Product code	FODB-16X (16	FODB-16C (16)	FODB-24 (24)
Fiber's capacity	16	16	24
Inputs and cable diametres	2 × Ø 17 mm; 16 × Ø 3 mm	2 × Ø 17 mm; 16 × Ø 3 mm	2 × Ø 15 mm; 24 × Ø 3 mm; 3 × Ø 10 mm
Dimensions, mm	320 × 260 × 90	300 × 230 × 70	350 × 280 × 100
Adaptors SC	16	- N 93	24
PLC SC splitters Cassette PLC SC splitters Mini cassette PLC SC splitters	1 × 1*16, 2 × 1*8 	1 × 1°16, 2 × 1°8	3 × 1°8, 6 × 1°4, 12 × 1°2 - -
Application	Outdoor, last mile connection	Outdoor, last mile connection	Outdoor, last mile connection

### FIBER OPTICAL DISTRIBUTION BOXES





### Product information:

19" rack mount fiber optic distribution frame, 1U-12-SC, specified to be installed in 19 inch cabinets of optic fiber telecom networks, in CATV equipment rooms and network equipment room. ODF 1U-12-SC can accommodate up to 12 of fiber core connections base on regular SC/APC, LC/Duplex, SC/UPC types of patch cords and fiber optic adapters.

ODF is made of steel, painted by special, which guarantee long period of indoor usage and cooling. Cabinet-mounted type of installation is done by 4 galvanized screws. ODF 1U-12-SC has 12 fiber trays for heat shrinkable tubes, has no changeable adapters faceplate holder.



### 1U-24-SC-S, 1U-24-SC

### Product information:

Pulldown 19" rack mount fiber optic distribution frame, 1U-24-SC, specified to be installed in 19 inch cabinets of optic fiber telecom networks, in CATV equipment rooms and network equipment room. ODF 19" rack mount helps to connect optical cables, proceed and appropriate cable management, which provide reliable protection and long life period of usage of FTTX networks.

ODF 1U-24-SC can accommodate up to 24 of fiber core connections base on regular SC/APC, LC/Duplex, SC/UPC types of patch cords and fiber optic adapters.

ODF is made of steel, painted by special, which guarantee long period of indoor usage and cooling. Cabinet mounted type of installation is done by 4 galvanized screws.

ODF has 12 fiber trays for heat shrinkable tubes, has 3 changeable adapters faceplates holder, in order to replicate the SC and FC connectors type if needed. 24 ports of fiber optic patch panels are available in our product range with pre-assembled adapters as well.



### 1U-48-SC-P

### **Product information:**

Pulldown 19" rack mount fiber optic distribution frame, 1U-48-SC-P, specified to be installed in 19 inch cabinets of optic fiber telecom networks, in CATV equipment rooms and network equipment room. ODF can accommodate up to 48 of fiber core connections base on regular SC/APC, LC/Duplex, SC/UPC types of patch cords and fiber optic adapters.

ODF is made high strength plastic, cabinet-mounted type of installation is done by 4 galvanized screws. ODF has 12 fiber trays for heat shrinkable tubes, maximum capacity of 4 trays.



### FODB-8R (12)

### Product information:

Fiber optical distribution boxes FODB-8R and 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. FODB-8R seria can be applied indoor, in buildings.

Useful design of splice tray and accessories allows be appropriate for 10 SC adapters and 1 of 1×8 PLC SC splitters, or 1 of 1×8 or 2 of 1×4 of mini cassette PLC SC splitter, which are available in Jera's products range. All mentioned optical network accessories could be fixed inside the box. Stainless steel ties of fiber box allow fixating feeder cable of different size, without slippage.

FODB-8R seria are made high quality termoplastic, which guarantee wet, dust, proof and outdoor or indoor usage. Anti-vandal lock provided for security. Wall-mounted type of installation is done by 4 galvanized screws of 18×4 size. Optical termination boxes contain the fixation brackets for cable wire. Light and pleasing in appearance, FODB has strength mechanical protection and easy maintenance. Provides easy users access or data access based on FTTH networks.



### FODB-8RC1 (12)

### Product information:

Fiber optical distribution boxes FODB-8R and 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. FODB-8R seria can be applied indoor, in buildings.

Useful design of splice tray and accessories allows be appropriate for 10 SC adapters and 1 of 1×8 PLC SC splitters, or 1 of 1×8 or 2 of 1×4 of mini cassette PLC SC splitter, which are available in Jera's products range. All mentioned optical network accessories could be fixed inside the box. Stainless steel ties of fiber box allow fixating feeder cable of different size, without slippage.

FODB-8R seria are made high quality termoplastic, which guarantee wet, dust, proof and outdoor or indoor usage. Anti-vandal lock provided for security. Wall-mounted type of installation is done by 4 galvanized screws of 18-4 size. Optical termination boxes contain the fixation brackets for cable wire. Light and pleasing in appearance, FODB has strength mechanical protection and easy maintenance. Provides easy users access or data access based on FTTH networks.

### Technical specification:

Product code	1U-12-SC	1U-24-SC-S	1U-24-SC	1U-48-SC-P
Splice tray capacity	12 fibers	12 fibers	12 fibers	12 fibers
Inputs and cable diametres	4; diameter 12 – 17 mm	4, diameter 12 – 17 mm	4, diameter 12 – 17 mm	4. diameter 12 – 17 mm
Dimensions, mm	490 × 340 × 45	490 × 340 × 45	490 × 340 × 45	435 × 300 × 44
Adaptors	24 SC, LC	24 SC, LC	24 SC, LC	24 SC, LC
Separate adapter placates	Yes	Yes	No	No
Application	Indoor, last mile connection	Indoor, last mile connection	Indoor, last mile connection	Indoor, last mile connection

### Technical specification:

The state of the s		
Product code	FODB-8R (12)	FODB-8RC1 (12)
Fiber's capacity	12	12
Inputs and cable diametres	2 × Ø < 14 mm, 8 × Ø 2-3 mm	2 × Ø < 14 mm, 8 × Ø 2-3 mm
Dimensions, mm	126 × 150 × 51	126 × 150 × 51
Adaptors SC	10	072
PLC SC splitters Cassette PLC SC splitters Mini cassette PLC SC splitters	1×1*8, 2×1*4	_ 
Application	Indoor. last mile connection	Indoor. last mile connection

42 43

## FIBER OPTIC ADAPTERS, PATCHCORDS, FAST CONNECTORS

Fiber optic adapters, connectors and fiber optic patch cords are used for fiber optical cables connections to an optical telecommunication equipment. Used to connect the optical transmitter, receiver and PON boxes. Regularly used and widely applied in optical fiber management system. Iast 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.







### Technical specification:

Product code	SC	FC	LC	ST	DROP PATCHCORD
Polish types	UPC, APC				
Fiber cores	G652D, G657A1, G657A2				
Fiber counts	Simplex, duplex	Simplex, duplex	Simplex, duplex	Simplex, duplex	Simplex
Fiber modes	Singlemode 9/125, multimode 50/125				
Diameter, mm	0.9, 2.0, 3.0	0.9.2.0.3.0	0.9, 2.0, 3.0	0.9, 2.0, 3.0	0.9, 2.0, 3.0
Length, M	0.5, 1, 2, 3, 5, 10	0.5, 1, 2, 3, 5, 10	0.5, 1, 2, 3, 5, 10	0.5, 1, 2, 3, 5, 10	40, 60, 80, 100
Insertion losses (IL), dB	≤ 0.1	s 0.1	≤ 0.1	× 0.1	s 0.1
Materials	PVC, LSZH	PVC. LSZH	PVC_LSZH	PVC, LSZH	PVC, LSZH
Working temperature	-40-+85	-40~+85	40-485	-40~+85	-50~+85
The state of the s		7 70 10 10	7 7 7 7 7 7		



### Technical specification:

Product code	SC	FC	LE	ST	E2000
Polish types	UPC, APC				
Fiber counts	Simplex, duplex				
Insertion losses (IL), dB	s 0.3				
Working temperature	-40-+85	-40-+85	-40-+85	-40-+85	-40-+85



Product code	SC/UPC-F	SC/APC-F
Polish types	UPC	APC
Fiber counts	Simplex	Simplex
Insertion losses (IL), dB	≤ 0.3	€ 0.3
Working temperature	-40-+85	-40-+85





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 5C adapters were installed.













USUAL 1 × 8. 1 × 16

MINI1 x 1

MINI 1 x

Product code	1×2	1×4	1×8	1 × 16	1×32	
Insertion losses (IL), dB	3.8	7.4	10.7	13.8	16.8	
Directivity, dB	55	55	55	55	55	
Head types	SC/UPC, SC/APC	SC/UPC, SC/APC	SC/UPC, SC/APC	SC/UPC, SC/APC	SC/UPC, SC/APC	
Fiber cores	G652D, G657A1, G657A2	G652D, G657A1, G657A2	G652D, G657A1, G657A2	G652D, G657A1, G657A2	G652D, G657A1, G657A2	
Operating wavelength (nm)	1260-1650	1260-1650	1260-1650	1260-1650	1260-1650	
Thickness, mm	0.9	0.9	0.9	0.9	0.9	
Length, M	0.5 - 2	0.5 - 2	0.5 - 2	0.5 - 2	0.5 - 2	
Cassette type		w/o cassette, w	vith usual cassette, wi	th mini cassette		
Cassette dimensions, mm	Mini 72 × 82 × 12.5 Usual 128 × 100 × 25	Mini 72 × 82 × 12.5 Usual 128 × 100 × 25	Mini 72 × 82 × 22 Usual 128 × 100 × 25	Usual only 128 × 100 × 50	SJER	
Working temperature	-40~+85	-40~+85	-40~+85	-40~+85	-40-+85	

### PULLING TOOLS FOR FIBER OPTIC CABLE INSTALLATION



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

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 pipes.

Glassfiber reinforced composite core, covered by plastic jacket ensures long life period. Suitable for applying with pulling mechanical or electrical winch, which is easy because of metal frame body on wheels. Wheels allow to carry on distances during the construction works.

High-tensile strength and water resistant provide this solution widely applied in the telecommunication operations. Reliable performance to help increase the efficiency of construction works.

### Technical specification:

Product code	DR-6/50	DR-6/100	DR-8/100	DR-8/150	DR-10/150
FRP, mm	Ø 6	06	Ø 8	Ø 8	Ø 10
FRP length, M	50	100	100	150	150



### STRINGING BLOCKS (PULLEY)

### Product information:

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

Stringing block can be equipped with locking rope, fitted with a hand swiveling hook.

Block made of galvanized steel metal part and plastic coated groove. Also pulley can be made of aluminum alloy with synthetic material groove.

### Technical specification:

Product code	MT 26-50-30	MT 56-120-30	ATE
MBL, kN	20	21	
Material	Nylon	Al	
Weight, kg	1,5	2.5	



### COME-ALONGS

### **Product information:**

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

Pulling force converts to clamping force and easily allows pulling cables.

Product code	MC-29/41	
MBL, kN	20	
Cable size, mm	04-22	

### PULLING TOOLS FOR CABLE LINE





### LEVER HOISTS

### Product information:

Stringing lever hoist is used for pulling conductors of a low voltage power to lifting loads by manual force, reverse can be use.

It is made of galvanized steel. This LV ABC mechanical winch can be used for all types of cable adjustments.

### Technical specification:

Product code	035	LH-15	LH-20	92
Pulling force, ton	Without block	0.75	1.5	
	With block	1.5	/ 3	
Cablalanath as	Without block	3	3.0	
Cable length, m	With block	1.6	1.6	



### **PULLING SOCKS**

### **Product information:**

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

Overhead pulling cable grip are made of stainless steel or galvanized steel wires.

### Technical specification:

Product code	510	512	515
MBL, kN	10	12	15
Cable size, mm	Ø 5 – 10	Ø 10 – 14	Ø 14 - 24
Length, mm	300	600	600



### SWIVEL

### Product information:

Swivel shackle is used with pulling socks to eliminate any twisting of conductor. Also it can be used to replace the old cable between winches.

This overhead swivel is used between two overhead pulling grips to replace an old conductor by a new one or between a pulling grip and the wire rope on the winch.

It prevents any twisting of the conductor.

Product code MBL	MBL, kN	Cable size, mm	Dimer	sions, mm				
	MBL, KN	MBL, KN Cable Size, mm	A	В	С	D	E	F
SW-15	15	Ø 12	12	87	33	29	12	113



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