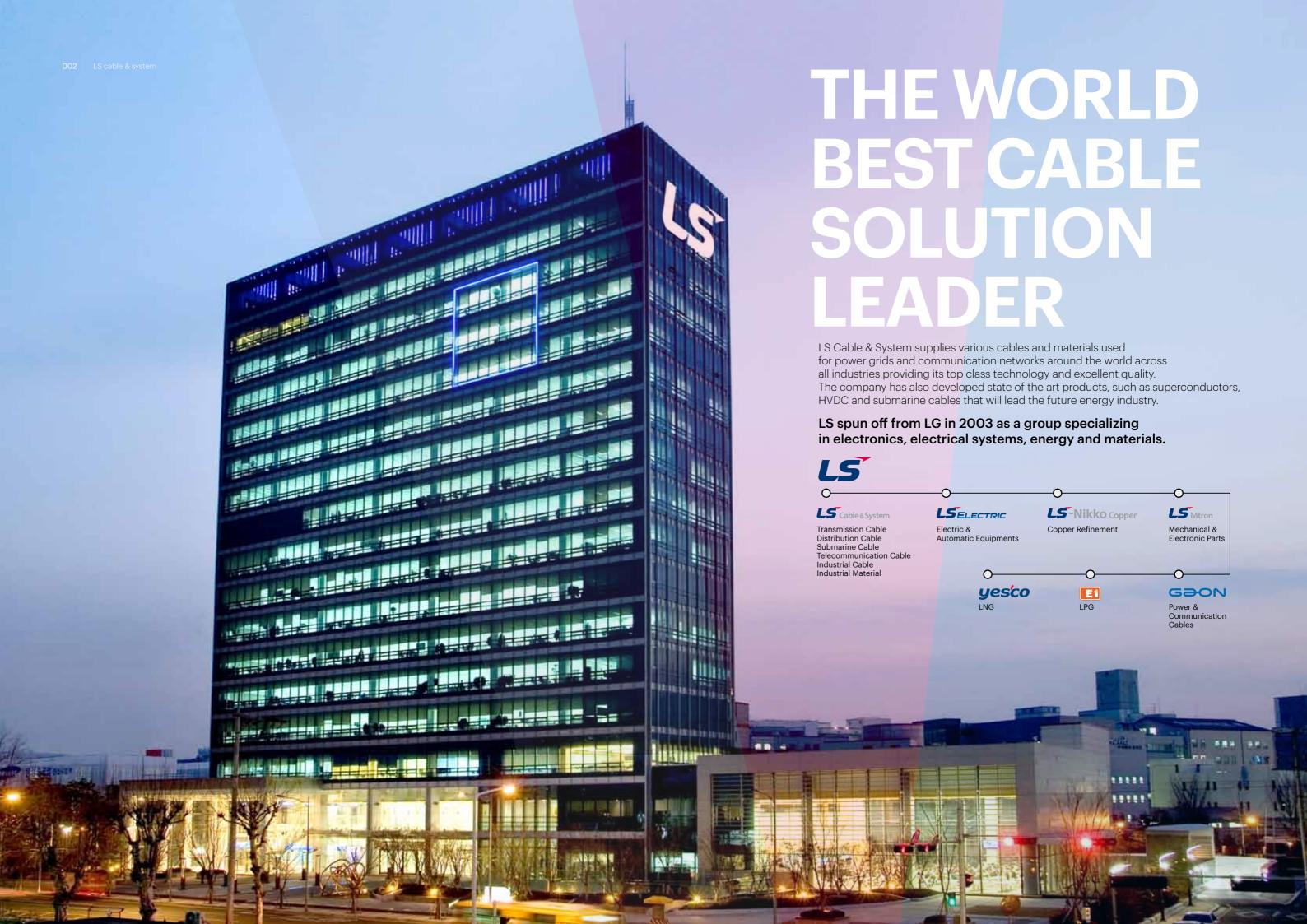
# HV CABLE ACCESSORY FOR 66~550kV

High Efficient, Green Energy Solution









#### About us

Since the company was founded in 1962, we have developed, produced and sold cable-related solutions, contributing to The establishment of power grids and communications networks at home and abroad. Out cutting-edge products such as submarine, superconducting, HV/EHV and communication cable system have been supplied to energy agencies, heavy electrical equipment manufacturers and telecommunication companies in North America, South America, Europe, Middle East and Asia, which have helped us to be Recognized as a global leading company.



#### **EHV Connection Division**

We are one of the leading cable connection providers and has own development and design institutions. We are able to provide customized products upon customer's various requirements and conditions from our most efficient and convenient solutions. We provide customized training program through our academy institution located in Korea. Our certified engineers are distinguished themselves in the fields over 50 countries in the world.

#### LS HV Cable Accessory for 66 ~ 550kV

As an extra high voltage cable and accessories manufacturer and a division of LS Cable, we never stop researching, designing, developing, and manufacturing products with the higher level of quality to address the ever-changing demands in everyday life as well as in the industry. Our quality control meets the most delicate requirements of international standards and the high level of quality is recognized both by local and international clients. Our commitment to develop and deliver solutions to address our customers' needs and challenges keep our technology on the cutting edge and our know-how in the field more valuable, which our customers highly appreciate. We are looking forward to working with you.

## Contents

Pro-Con Outdoor Terminations	10
Pro-Con Gas Insulated Terminations	1′
Pro-Con Transformer Terminations	12
Smart Pre-molded Joints	13
Reliable Oil filled accessories	14
Fit Special accessories	15
Various types of Link box	16
Test termination	17
Learning Academy for Training	18
Tools for Jointing installation	20

## LS Pro-Con Outdoor Termination

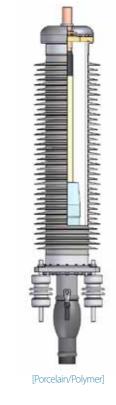
#### **Application Business**

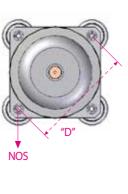
LS outdoor termination is based on pre-molded silicone rubber sleeve designed to fit with controlled interference over the cable insulation and able to follow the cable size variations with sufficient positive pressure to control the electrical stress by elastic retention of silicone material itself.

The termination is filled with polybutene oil up to optimized level where the electric stress is substantially reduced thereby not requiring an oil reservoir or monitoring system as additional maintenance expenses. The termination base plate and the cable's metallic sheath are electrically insulated from the supporting structure by means of stand off insulators designed to withstand both mechanical and electrical stresses in services. Either porcelain or polymer hollow insulator can be supplied depending upon requests. They are currently available to the maximum allowable cable conductor size of 2500mm<sup>2</sup>

#### [Product Specification]

- For all types of XLPE insulated cables
- Porcelain & Polymer both available
- Without Pressurizing & Monitoring
- Configurable creepage distance design
- Self- supported type design
- Maintenance free after installation





Time	Insulator Type "L" Creepage Distance "L" Base Plate			Operations valtage	Cable size	Special Add-on		
Type						Operating voltage		- Special Add-on
LSPA-01		1500	4000	Ф490		72.5 ~ 145kV		
LSPA-03		2000	6000	Ф490	- 4	150 ~ 170kV	200SQ ~ 2500SQ	
LSPA-05		2400	7200	Ф490	- 4	150 ~ 170kV	23003Q	
LSPA-07	Danaslaia	2700	8400	Ф600		245 ~ 300kV	300SQ ~	*OP: Embedded
LSPA-09	Porcelain	3500	11500	Φ700		245 ~ 300kV	2500SQ	Fiber optic box
LSPA-11		4300	13000	Ф800	6	330 ~ 420kV		
LSPA-13		5000	16300	Ф800		330 ~ 420kV	500SQ ~ 2500SQ	*AH:
LSPA-15		5000	18700	Ф900	8	500 ~ 550kV		Arching horn
LSPA-02		1500	4000	Ф490		72.5 ~ 145kV		for Protecting insulator
LSPA-04		2000	6400	Ф490	- 4	150~170kV	200SQ ~ 2500SQ	
LSPA-06		2400	7700	Ф490	-	150 ~ 170kV	23003Q	*SB:
LSPA-08	Polymer	2700	8900	Ф600		245 ~ 300kV	300SQ ~	Connection by
LSPA-10	- TolyTrici	3500 11700 Ф700	245 ~ 300kV	2500SQ	shear bolt			
LSPA-12		4300	14000	Ф800	6	330 ~ 420kV		
LSPA-14		5000	17000	Ф800		330 ~ 420kV	500SQ ~ 2500SQ	
LSPA-16		5100	18000	Ф900	8	500 ~ 550kV	25003Q	

<sup>\*</sup> Dry flexible Type is order made designed upon request of installation conditions

## HV Cable Accessory for 66 ~ 550kV

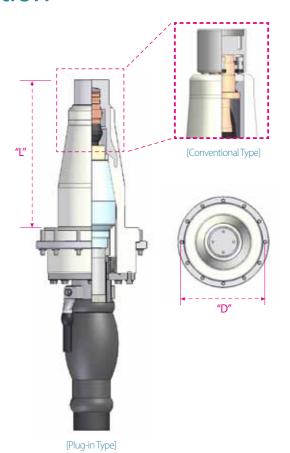
## LS Pro-Con GIS Termination

#### **Application Business**

The construction of SF6 gas insulated termination is based on stress relief cone and epoxy resin housing. There are mechanical devices to maintain interface pressure for dry type and embedded insulating plate to isolate between cable sheath and GIS chamber thereby not requiring an oil reservoir as additional maintenance expenses. without oil reservoir for maintenance free. The dry type could be easily installed in any position. The SVL(Sheath Voltage Limiter) can be installed to protect epoxy insulating plate from switching impulse. The main insulation components are fully examined and tested in the factory. Design and scope of supply are fully complying with IEC 60859 and IEC 62271-209 and possibly adjusted to various needs of customers such as plug-in type. They are currently available to the maximum allowable cable conductor size of 2500mm<sup>2</sup>

#### [Product Specification]

- For all types of XLPE insulated cables
- Conventional & Plug-in both available
- All dimension can be customized for existing system
- Without Pressurizing & Monitoring
- Easy adaptation for all GIS types
- Maintenance-free after installation



Туре	Insulator Type	Insulator Type according to		Base Plate	Operating voltage	Cable size	Special Add-on
Туре	IEC 62271-209		(mm)	"D" (mm)	Operating voltage	(mm)	Special Add-off
LSPG-01				Ф270	72.5 ~ 100kV	200SQ ~	
LSPG-03		Fluid filled	757	Ф320	123 ~ 170kV	2500SQ	
LSPG-05		Dimension (Figure.3)	960	Ф582	245 ~ 300kV	300SQ ~2500SQ	
LSPG-07	Conventional -	Dry Dimension (Figure 5)	1400	Ф640	362 ~ 550kV	500SQ ~2500SQ	*OP: Fmbedded
LSPG-09	Conventional		310	Ф270	72.5 ~ 100kV	200SQ ~	Fiber optic Joint
LSPG-11			470	Ф320	123 ~ 170kV	2500SQ	box
LSPG-13			620	Ф475	245 ~ 300kV	300SQ ~2500SQ	
LSPG-15			960	Ф640	362 ~ 550kV	500SQ ~2500SQ	*SL:
LSPG-02			583	Ф270	72.5 ~ 100kV	200SQ ~	Surge limiter for protecting
LSPG-04		Fluid filled Dimension	757	Ф320	123 ~ 170kV	2500SQ	p
LSPG-06		(Figure.3)	960	Ф582	245 ~ 300kV	300SQ ~2500SQ	*SB:
LSPG-08	Plug-in -		1400	Ф640	362 ~ 550kV	500SQ ~2500SQ	Connection by
LSPG-10	. Tag III	_	310	Ф270	72.5 ~ 100kV	200SQ ~	shear bolt
LSPG-12		Dry Dimension (Figure.5)	470	Ф320	123 ~ 170kV	2500SQ	
LSPG-14			620	Ф475	245 ~ 300kV	300SQ ~2500SQ	
LSPG-16			960	Ф640	362 ~ 550kV	500SQ ~2500SQ	

<sup>\*</sup> Non-IEC Type for existing GIS is order made designed upon request of installation conditions

## LS Pro-Con Transformer Termination

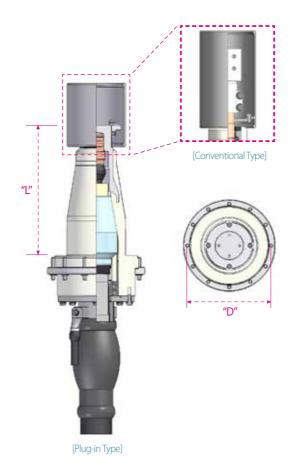
#### **Application Business**

The construction of oil immersed terminations is based on stress relief cone and epoxy housing. There are mechanical devices to maintain interface pressure for dry type and embedded insulating plate to isolate between cable sheath and Transformer chamber thereby not requiring an oil reservoir as additional maintenance expenses The dry type could be easily installed in any position.

The main insulation components are fully examined and tested in the factory. Design and scope of supply are normally complying with EN 50299 and possibly adjusted to various needs of customers such as plug-in type. If required, terminal lug can be supplied for TR. design. They are currently available to the maximum allowable cable conductor size of 2500mm<sup>2</sup>

#### [Product Specification]

- For all types of XLPE insulated cables
- Conventional & Plug-in both available
- All dimension can be customized for existing system
- Without Pressurizing & Monitoring
- Easy adaptation for all Transformer types
- Maintenance-free after installation



Туре	Insulator Type according to IEC 62271-209		Insulator Size "L"	Base Plate	Operating voltage	Cable size	Special Add-on
Туре					Operating voltage		Special Add-011
LSPO-01		'	583	Ф270	72.5 ~ 100kV	200SQ ~	
LSPO-03		Fluid filled	757	Ф320	123 ~ 170kV	2500SQ	
LSPO-05		Dimension (50299-1)	960	Ф582	245 ~ 300kV	300SQ ~2500SQ	
LSPO-07	Conventional -	,	1400	Ф640	362 ~ 550kV	500SQ ~2500SQ	*OP: Embedded
LSPO-09	Conventional	Dry Dimension (50299-2)	310	Ф270	72.5 ~ 100kV	200SQ ~	Fiber optic Joint box  *SL:
LSPO-11			470	Ф320	123 ~ 170kV	2500SQ	
LSPO-13			620	Ф475	245 ~ 300kV	300SQ ~2500SQ	
LSPO-15			960	Ф640	362 ~ 550kV	500SQ ~2500SQ	
LSPO-02		EL . 1 CH . 1	583	Ф270	72.5 ~ 100kV	200SQ ~	Surge limiter for protecting
LSPO-04		Fluid filled Dimension	757	Ф320	123 ~ 170kV	2500SQ	
LSPO-06		(50299-1)	960	Ф582	245 ~ 300kV	300SQ ~2500SQ	*SB:
LSPO-08	Plug-in -		1400	Ф640	362 ~ 550kV	500SQ ~2500SQ	Connection by
LSPO-10	. Tag III	Dry Dimension (50299-2)	310	Ф270	72.5 ~ 100kV	200SQ ~	shear bolt
LSPO-12			470	Ф320	123 ~ 170kV	2500SQ	
LSPO-14			620	Ф475	245 ~ 300kV	300SQ ~2500SQ	
LSPO-16			960	Ф640	362 ~ 550kV	500SQ ~2500SQ	

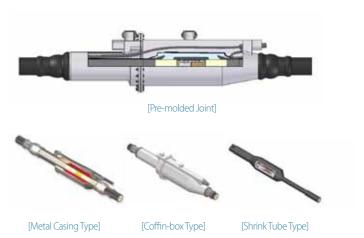
 $<sup>\</sup>hbox{*}\,\hbox{Non-EN Type for existing Transformer is order made designed upon request of installation conditions}$ 

## HV Cable Accessory for 66 ~ 550kV

## LS Smart Pre-molded Joint

#### **Application Business**

The single piece pre-molded joint is based on silicone insulation embedded with two semi-conductive deflectors and one HV electrode. Without mechanical devices, the interface pressure is safely maintained with elastic retention of material itself. Upon condition of the installation outer protective casing are designed especially. For sheath sectionalizing, proper insulating layers would be included to disconnect between phases. The main insulation and components are fully examined and tested in the factory. The simplified design along with easy and smart installation meets the various needs of customers. They are currently available to the maximum allowable cable conductor size of 2500mm<sup>2</sup>



#### [Product Specification]

- For all types of XLPE insulated cables
- •Transition free for Al to Cu conductor cable
- Maintenance free after installation

- One piece pre-molded joint based on SIR
- Easy Installation for all laying condition
- Diversion free for differential cable size

• Optimized outer casing solutions

Туре	Outer casi	ng Type	Operating voltage	Cable size	Special Add-on		
LSIJ-01			72.5 ~ 100kV	20000 250000			
LSIJ-02		C	123 ~ 170kV	200SQ ~2500SQ			
LSIJ-03		Coffin-box	245 ~ 300kV	300SQ ~2500SQ			
LSU-04			362 ~ 550kV	500SQ ~2500SQ			
LSIJ-05			72.5 ~ 100kV	20000 250000			
LSIJ-06	Non-sheath	Matel assists	123 ~ 170kV	200SQ ~2500SQ			
LSIJ-07	sectionalizing	Metal casing	245 ~ 300kV	300SQ ~2500SQ	*OP:		
LSIJ-08			362 ~ 550kV	500SQ ~2500SQ	Embedded Fiber optic Joint box		
LSIJ-09			72.5 ~ 100kV	200SQ ~2500SQ			
LSIJ-10		Metal casing/	123 ~ 170kV	2005Q~25005Q			
LSIJ-11		Coffin-box	245 ~ 300kV	300SQ ~2500SQ			
LSIJ-12			362 ~ 550kV	500SQ ~2500SQ	- *CD:		
LSNJ-01			72.5 ~ 100kV	200SQ ~2500SQ	Core differential		
LSNJ-02		C-ff- h	Coffin-box	123 ~ 170kV	2005Q~25005Q	Joint	
LSNJ-03		COMP-DOX	245 ~ 300kV	300SQ ~2500SQ	for Diversion		
LSNJ-04			362 ~ 550kV	500SQ ~2500SQ			
LSNJ-05			72.5 ~ 100kV	200SQ ~2500SQ	*SB:		
LSNJ-06	Sheath	Metal casing	123 ~ 170kV	2003Q~23003Q	Connection by		
LSNJ-07	sectionalizing	ivietai casii iy	245 ~ 300kV	300SQ ~2500SQ	shear bolt		
LSNJ-08			362 ~ 550kV	500SQ ~2500SQ			
LSNJ-09			72.5 ~ 100kV	200SQ ~2500SQ			
LSNJ-10		Metal casing/	123 ~ 170kV	2003Q~23003Q			
LSNJ-11		Coffin-box	245 ~ 300kV	300SQ ~2500SQ			
LSNJ-12			362 ~ 550kV	500SQ ~2500SQ			

 $<sup>\</sup>hbox{*Shrink} \hbox{Tube} \hbox{Type is order made designed upon request of installation conditions}$ 

## LS Reliable Oil filled accessories

#### **Application Business**

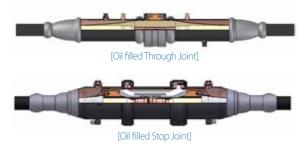
For maintenance of existing oil filled cable system, LS can provide all type of adjustable oil filled accessories, if required with spare oil filled cable. Diversion case and transition case to XLPE system, LS oil filled accessories can be customized by means of special design with various of devices for oil feeding system. Design and scope of supply are fully complying with IEC 60141-1 and possibly adjusted needs of customers.

Moreover for management of reliable cable system LS have a capability to be optimized system engineering service and diagnosis solutions for remaining life expectancy of existing oil filled cable system.



#### [Product Specification]

- For all types of low pressure oil insulated cables
- Immersed Craft & PPLP insulation paper depends on cable
- Complied with IEC 60141-1 specification
- Available to Spare, Diversion and Transition to XLPE
- All kinds of devices for oil feeding system
- Pressure tank, oil gauge & alarm system, valve & connectors



Туре	Outer casing Type		Max Operating voltage	Cable size	Special Add-on		
LSRO01			72.5 ~ 100kV	20050 250050			
LSRO02		Outdoor	123 ~ 170kV	200SQ ~2500SQ			
LSRO03		Termination	245 ~ 300kV	40000 350000			
LSRO04			362 ~ 420kV	400SQ ~2500SQ	*PT:		
LSRO05			72.5 ~ 100kV	20000 250000	Pressure tank		
LSRO06		GIS/TR.	123 ~ 170kV	200SQ ~2500SQ	for oil reservoir  *VP: Valve gauge panel  *AR: Alarm monitoring device		
LSRO07		Termination	245 ~ 300kV	400SQ ~2500SQ - 200SQ ~2500SQ			
LSRO08	Oil filled		362 ~ 420kV				
LSRO09	Accessories		72.5 ~ 100kV				
LSRO10		Oil through	123 ~ 170kV				
LSRO11		Joint	245 ~ 300kV				
LSRO12			362 ~ 420kV	400SQ ~2500SQ			
LSRO13			72.5 ~ 100kV	20000 250000			
LSRO14		Oil stop	123 ~ 170kV	200SQ ~2500SQ			
LSRO15		Joint	245 ~ 300kV	400SQ ~2500SQ			
LSRO16			362 ~ 420kV	4003Q~23003Q			

<sup>\*</sup>Oil feeding devices are order made designed upon request of installation conditions

## HV Cable Accessory for 66 ~ 550kV

## LS Fit Special accessories

#### **Application Business**

[Product Specification]

• For all types of transition, diversion, brunch case

• Various type of Line-up depends on cable size

• Core differential Pre-molded makes slim fit size

Very Easy and convenient installation method

• Most of dimensions can be customized for existing

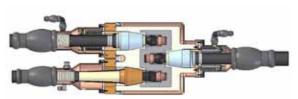
• Shear bolt technology regardless of conductor material

For maintenance of existing oil filled cable system, LS can provide all type of adjustable oil filled accessories, If required with spare oil filled cable. Diversion case and transition case to XLPE system, LS oil filled accessories can be customized by means of special design with various of devices for oil feeding system. Design and scope of supply are fully complying with IEC 60141-1 and possibly adjusted needs of customers.

Moreover LS have a capability to be optimized system engineering service and diagnosis solutions for remaining Life expectancy of existing oil filled cable system.



[Transition Joint for Oil filled to XLPE Cable]



[Y-brunch Joint for Oil filled to XLPE Cable]







[AL-CU connector]

Туре	Outer casing Type		Max Operating voltage	Cable size	Special Add-on	
LSFS-01			72.5 ~ 100kV			
LSFS-02		OF-XLPE	123 ~ 170kV	200SQ ~2500SQ		
LSFS-03		Transition	245 ~ 300kV		*OP: Embedded Fiber optic Joint box  *SH: Connection by shear bolt  *SC: Connection AL-CU	
LSFS-04			72.5 ~ 100kV	400SQ ~2500SQ 200SQ ~1200SQ		
LSFS-05		Y-brunch	123 ~ 170kV			
LSFS-06	Fit Special	3Core	72.5 ~ 100kV			
LSFS-07	Transition	Application	123 ~ 170kV			
LSFS-08			72.5 ~ 100kV			
LSFS-09			123 ~ 170kV			
LSFS-10		Core	245 ~ 300kV	400SQ ~2500SQ		
LSFS-11		Differential	362 ~ 420kV			
LSFS-12			500 ~ 550kV			

<sup>\*</sup> All of the Fit special Joint are order made designed upon request of installation conditions

## LS Various types of Link box

#### **Application Business**

Link Boxes are used at the end of cable termination to gain easy access to the cable metallic sheath and to limit the transient over-voltage induced on the metallic sheath by the lightning, switching operations and fault currents. Cross bonding link boxes allow metallic sheath to be transposed at cable joints with surge voltage suppression and reduction of circulation currents. Sheath voltage limiters(SVLs) in link box are the gapless ZnO arresters, which have the insulation resistance above  $100M\Omega$  at test voltage so that the sheath insulation can be checked without disconnection of SVL. The type of SVL would be designed depends on cable system requirements.





[Buried Type]

[Gantry Mounted Type]

Туре	Purpose for	Branch off	Box Type depend on Site		Applied SVL (Uc)	Bonding Lead
LSRO01	Link Box for Earthing	1-1WAY				
LSRO02	Link Box with SVL	1-1WAY	Gantry Mounted/ Buried	Termination	3kV~21kV	Single Core
LSRO03	Link Box for Earthing	3-1WAY				
LSRO04	Link Box with SVL	3-1WAY				
LSRO05	Link Box for Cross-Bonding	3-1WAY		Joint		
LSRO06	Link Box for Bonding & Earthing	3-1WAY	Buried			Concentric Core
LSRO07	Link Box for Bonding with SVL	3-1WAY				

<sup>\*</sup> Include Surge voltage limiter in the link box of the is order made designed upon request of bonding cable system

## HV Cable Accessory for 66 ~ 550kV

## LS Cable System Test termination

#### **Application Business**

It is required test terminations for high voltage test on XLPE cables and accessories. LS can provide the most convincing solution for the test termination. L-series terminations are test terminations for heating cycle voltage test. Two GIS terminations assembled to both of the test termination and the test termination is filled by SF6 gas. The advantage of this termination type is that it is easier to make a closed test circuit compared with two outdoor terminations and enables applying test voltage under flowing current induced from current transformer. V-series terminations are test terminations only to apply test voltage to XLPE cable and accessories and consist of one set of voltage part and end part. The advantage of this termination type is that user can easily assemble between the test termination and XLPE cable by inserting the stress relief cone to the XLPE cable. Generally, the stress relief cone is rubber sleeve and SF6 gas is filled in the terminations after assembling. Specially the V-1200 test termination is for breakdown voltage test which is used to check of performance of the test object by raising voltage up to 1200kV. It is required to assemble with epoxy condenser and insulation paper, aluminum foil to reinforce the insulating performance. LS supply the assembly manual for using the test terminations.

#### [Product Specification]

- Customized design of test voltage, interface construction
- L-series: Making closed circuit to enable heating cycle voltage test (Applying voltage to test loop under flowing current)
- $\bullet$  V-series: Convenient preparation for impulse / AC voltage test
- V-1200: Enabling electrical performance test for breakdown test



[V-series test termination



[L-series test terminatio

Туре	Purpose for	Test object	Max. AC voltage	Max. lightning impulse voltage	Components
L-300	Heating cycle voltage test	66 ~ 132kV	300kV	650kVp	Test termination
L-700	(Type test / EQ test )	220 ~ 500kV	600kV	1,550kVp	Adapters
V-200		66 ~ 132kV	200kV	650kVp	
V-300	Electrical sample test	220 ~ 275kV	300kV	1,050kVp	Two terminations (Voltage part, End part)
V-700	(AC voltage / PD test / Impulse test)	345 ~ 500kV	600kV	1,550kVp	Adapters
V-1200		~ 500kV	1200kV	2,000kVp	

## LS Learning Academy for Training

To provide stable & reliable transmission system to customer, it is essential that providing best product with installation solution. LS Learning Academy have been providing the training service through optimized training course to satisfy for trainee's requirements.

#### **Training Course**

Whatever trainee's level, LS can do the planning for the graded training course as per participant's group, level and experience.

Tr	ainee		
Group	Level	Course	Duration
	Assistant Jointer	Jointer course III	4 weeks
Jointers	Jointer	Jointer course II	3 weeks
	Chief Jointer	Jointer course I	2 weeks
Engineers	Site Engineer	Basic engineer course	1 week
	Project Manager	Advanced engineer course	2 weeks



[Training facility of LS Learning Academy]

- Trainees Level
- Location, Duration Training Contents

 Theoretical lecture • Hands on practice • OJT (Site Training)

 Knowledge & Skill Competence • Electrical Test

• By voltage grade • Scope of work Expiration date

[Training Course Preview]

#### **Training Facility**

The new-built training facility specialized for the practical training course enables the realization of key performance on site.





[Practice Room for the Splice]

[Cable Accessory Show Room]

[Lecture Class room]

[Prayer Room]



[Pit for the Termination]

[Vertical tower for Outdoors]

The Curriculum of training is provided for customizing of jointer and engineer course with proper education materials. After completions of training course successfully, certification could be awarded as well.

#### **Training Curriculum**

#### To improve technician's skill & knowledge for EHV System To improve engineer's knowledge & project management - Understand general theory of Extra High Voltage cable system - Understand intensive theory of extra EHV cable system - Be familiar with the Drawing, Manual and Check List - Be familiar with the Drawing, Manual and Check List - Have the skill for treatment Cable and Accessories - Have the capability for risk & quality management - Fool proof through hands on practice [EPC Partners] [EPC Partners] The local jointers who will install LS cable accessory The local engineers who will manage PIT using LS Product Target [Client & End users] The Maintenance & Operation technicians who [Client & End users] The design engineers, project managers, Group employ Power electric utilities & company consultants who employ Power electric utilities & company [EPC Partners] [EPC Partners] Be a certified jointer by LS to perform jointing work at site Expected Be a LS local partners as distributer or installer. Result Be a skillful technician to perform jointing work by themselves To be an expert for the extra high voltage cable system in case of emergency or repairing works. • Understanding for the EHV Products and Installation • Understanding for EHV Products, Engineering and Installation · Hands on practice for splicing & terminating work · Watching on splicing & terminating work Training How to do on site test Maintenance work • On the job training at actual installation site • On the job training at actual installation site • Cable & Accessory manufacture line tour • Cable & Accessory manufacture line tour













**Educational Material** 



#### Certification

CERTIFICATE



## LS Tools for Jointing installation

For most convenience and easy installation, LS can provide suitable various tools classified by special & general.

#### **Special Tools**

The special tool would be required to ensure best performance of LS cable accessories.



#### **General Tools**

The general tool would be used conventional however If required, LS can provide advanced one as below.



#### **Tools Operation**

During training course LS trainers would guide the using method of various tools for smart installation.









[Hydraulic Pressure Pump set]

[Electric torque wrench]

[Sleeve Inserting tool]

[Belt Sander]









[Grooving Tool]

[Edge Beveling Tool]

[AL Sheath Cutter]

#### **Tools Specification**

Item	Specification	Applied for
Hydraulic Pressure Pump	700 kgf pump 100/150 Ton Head	Apply 100 ~ 150Ton Head depend on conductor & Insulation
Electric torque wrench	150 ~3 00 Nm torque	For all kinds of termination and joint
Sleeve Inserting tool	70 kg, manual type	For all kinds of joint
Grooving Tool	4.2 kg	S size : Ф50 ~ 90 diameter L size : Ф90 ~ 130 diameter
Edge Beveling Tool	0.1 kg	For Φ50 ~ 130 diameter
Insulation stripper	3.2 kg	S size : 060 ~ 90 diameter L size : 090 ~ 130 diameter
AL Sheath Cutter	3.1 kg	S size : Ф85 ~ 125 diameter L size : Ф130 ~ 170 diameter
Belt Sander	2.8 kg	Sand paper:50W*650L,#220~320



## Conducting research forsustainable growth and customer's future

The electrical power and ICT industries will play key roles in the future of the energy industry. In order to take the lead, these industries will require state-of-the-art technology to transmit large quantities of electric power over long distances without loss and innovative solutions for transmitting large amounts of data faster and reliably.

LS Cable & System focuses on R&D for securing core technologies for the future and continuously implements them. With increasing consumer demand to supply power to households and business that are integral to growth and production across the world, LS Cable & System is at the forefront of research and development on the future of the cable industry continuing its customer focus and manufacturing products.



### Developing next-generation cable systems for the tomorrow of the energy indutry

LS Cable & System has secured advanced next-generation cable system technologies by investing R&D in telecommunication and industrial cables with a focus on the energy sector including extra high voltage and submarine cables. in particular, we are looking towards the future by primarily focusing on developing superconducting cable systems that can transmit large quantities of electricty without any power loss, world-best HVDC/HVAC submarine cable systems, environmentally-friendly DC distribution networks, and core components for electric vehicles as next-generation growth engines.



# GLOBAL NEGWORK

More than 60 Factories, Sales and Production Sites in 20 Countries.

- Factory
- Sales office
- Branch office



#### KOREA



Gumi Plant
EHV / MV / LV cable
UTP, Coaxial cable
SCR, Magnet wire
Overhead cable, Bus duct



Indong Plant
Optical fiber
Optical cable



Donghae Plant
Submarine cable
Industrial specialty cable

#### СПІИ



LSHQ(Yichang)
EHV / MV / LV cable
Industrial specialty cable



LSCW(Wuxi)
Industrial devices cable
Automotive cable
Harness & module
Aluminum, Bus duct



#### VIETNAM



LS-VINA(Haiphong) EHV / MV / LV cable SCR, ACSR Overhead cable



LSCV(HO Chi Minh) MV / LV cable UTP, Optical cable Overhead cable

#### INDIA



LSCI(Bawal)
EHV / MV / LV cable
Coaxial cable
Overhead cable

#### HEA



LSCUS(Tarboro)

MV / LV cable
Control, Instrument cable



LS EV Poland./LSCP

(Dzierzoniow)

Automotive battery components
Optical cable







#### www.lscns.com HV CABLE ACCESSORY FOR 66~550kV

12-17F, LS Tower, 127, LS-ro, Dongan-gu, Anyang-si, Gyeonggi-do, 14119, Korea Tel. 82-2-2189-9114 E-mail. wind4413@lscns.com

©2020 LS Cable & System Ltd. All right reserved.

This product or document is protected by copyright and distributed under licenses restricting its use, copying, distribution, and recompilation. No part of this product or document may be reproduced in any form by any means without prior written authorization of LS Cable&System and its licensors, if any.

Products shown on this catalog are subject to change without any prior notice.