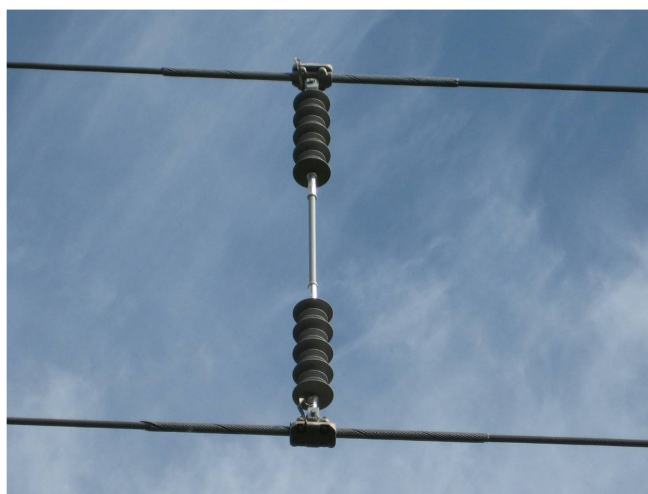
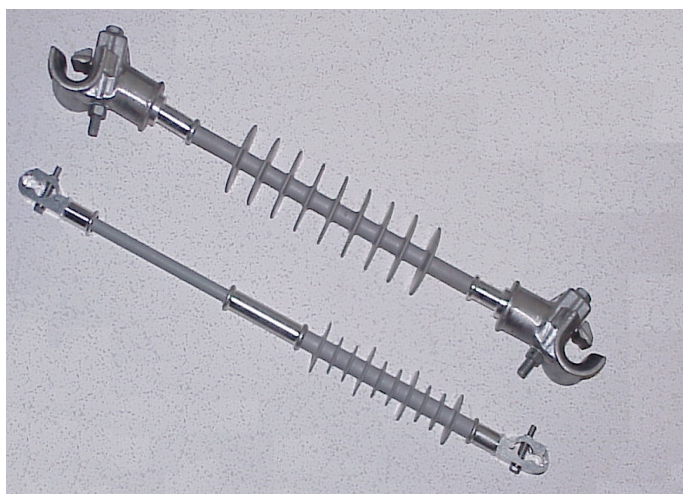




K-LINE INSULATORS LIMITED
TORONTO, ONTARIO, CANADA

Catalogue TD-IPS

TRANSMISSION & DISTRIBUTION SILICONE INSULATORS *InterPhase Spacers* 15 kV to 400 kV



ISO9001
SAI GLOBAL
FILE No. 000117

Transmission & Distribution Silicone InterPhase Spacers

With environmental exposure to ice and/or wind, Overhead Transmission and Distribution Lines are susceptible to conductor motion that may result in outages or interruptions on the electrical system due to conductor contact, flashovers, or plant damage. InterPhase Spacers (IPS) were developed to minimize the probability of these occurrences by maintaining conductor separation.

K-LINE INSULATORS LIMITED (KLI) InterPhase Spacers consist of silicone rubber sheds and sheath injection molded over a fiberglass rod and may be coupled with silicone rubber covered rods to increase length. Although lightweight and flexible, InterPhase Spacers are designed to meet torsional, bending and compression loads of the application. There are a variety of end fittings options available depending on the conductor clamping requirements with or without armour rod. **KLI** InterPhase Spacers meet the requirements of IEC 61109, ANSI C29.13, ANSI C29.12, CSA C411.5 and CSA C411.4.

K-LINE INSULATORS LIMITED is registered to ISO 9001 Quality Systems.

PERFORMANCE BENEFITS

The performance benefits of **KLI** InterPhase Spacer Insulators are listed below.

- Improves Reliability (minimizes interruptions and outages due to conductor contact, flashovers or plant damage in all types of environments)
- Safety (light weight for handling and installation)
- Service Life (consistent performance over its service life)
- Life Cycle Cost (savings over porcelain insulators)

APPLICATION

One or two InterPhase Spacers are installed in each span. One Spacer is installed if there are two vertically positioned conductors and it is installed at one-third of the span. Two Spacers are installed if there are three vertically positioned conductors. The first Spacer is installed between the mid and lower conductors one-third of the span from one end. The second Spacer is installed between the mid and upper conductor one-quarter of the span from the other end. Contact your **KLI** Representative for application / placement instructions.

CORE ROD

The core rod of the insulator is made of a high quality, epoxy resin, E-Glass fiberglass rod that has been specially formulated for electrical and mechanical applications.

HOUSING

The housing (includes sheath and sheds) of the insulator is one piece, high temperature vulcanized, injection molded silicone rubber that is chemically bonded to the core rod. This ensures that the interface between the rubber and rod is impenetrable against moisture ingress. **KLI** uses its own proprietary silicone rubber formula in the manufacture of its insulators. The formulation has silicone rubber as the base polymer material with additives to enhance its performance in wet and contaminated environments.



Transmission Line InterPhase Spacer



InterPhase Spacer installation from Helicopter using Barehand/Live Line work method

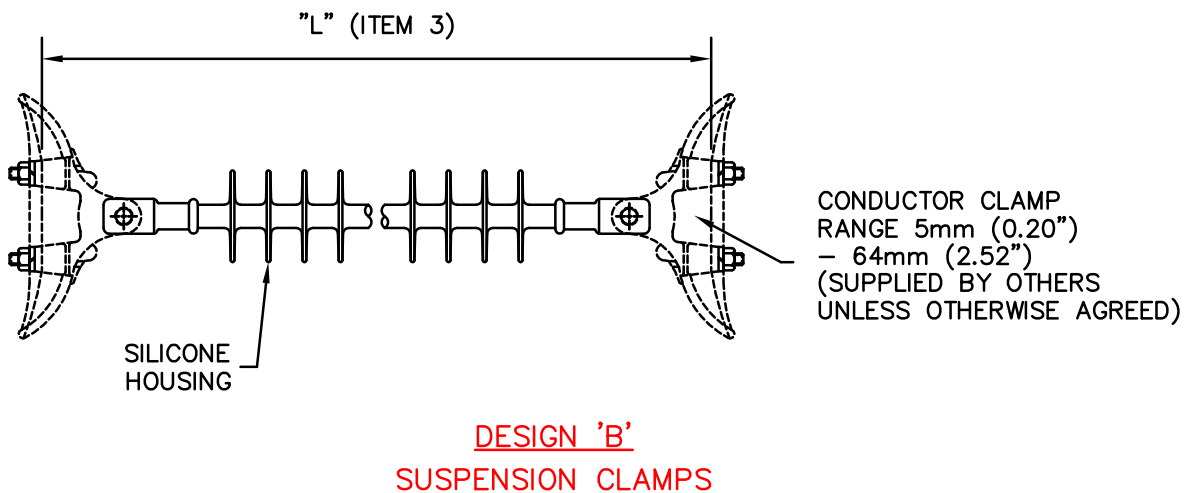
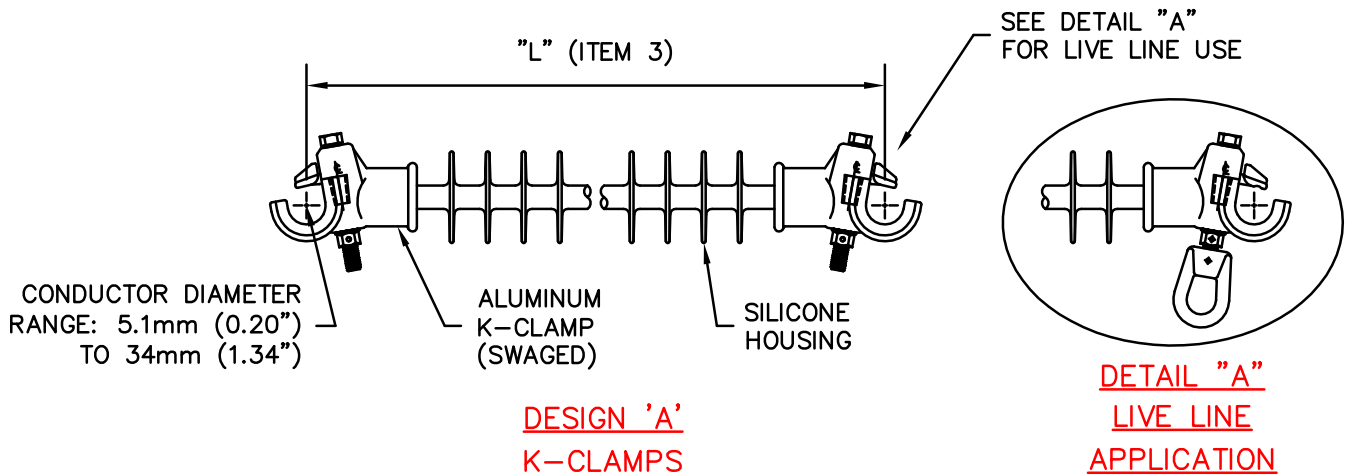


InterPhase Spacer installation using Hot Line Tools



InterPhase Spacer installation using Hot Line Tools

DISTRIBUTION INTERPHASE SPACER – 15kV to 69kV

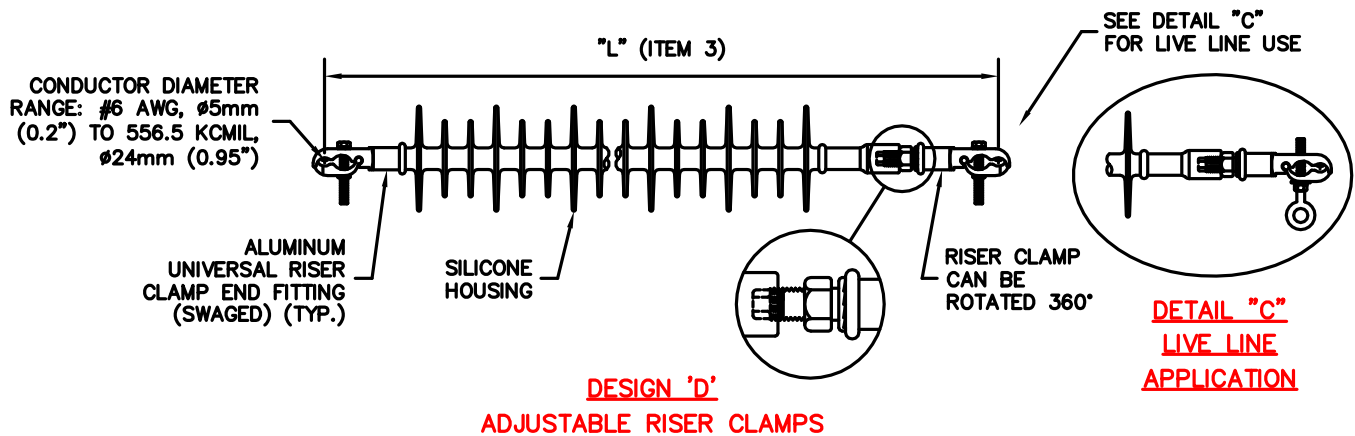
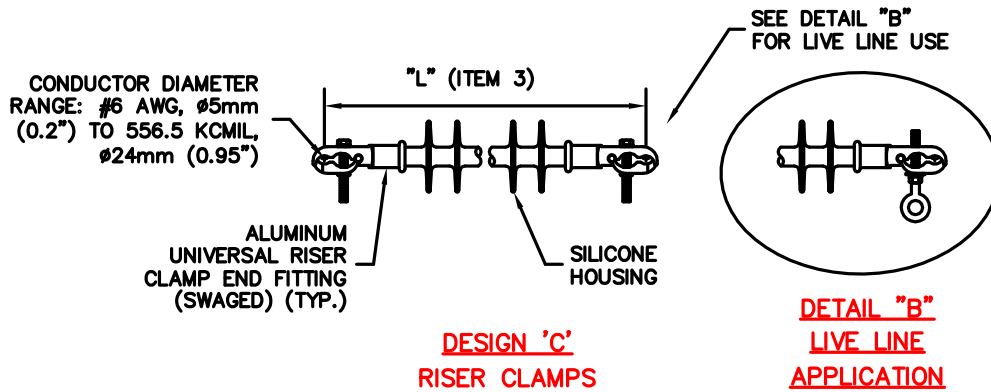


ITEM	SPECIFICATION	DATA	
1	OPERATING VOLTAGE (PHASE – PHASE)	kV	
2	MOUNTING ARRANGEMENT: 1) HORIZONTAL 2) VERTICAL		
3	LENGTH "L" (CONDUCTOR – CONDUCTOR)	mm	
4	CONDUCTOR DIAMETER (INCLUDING ARMOUR ROD IF APPLICABLE)	mm	
5	CONDUCTOR CLAMP: 1) SUSPENSION 2) K-CLAMP 3) RISER		
6	POLLUTION LEVEL (IEC 60815)		
7	EYE NUT OPTION FOR LIVE LINE APPLICATION (SEE DETAIL "A")	YES	NO

NOTE:

1. OTHER DESIGNS ARE AVAILABLE, PLEASE CONTACT KLI FOR DETAILS.

DISTRIBUTION INTERPHASE SPACER – 15kV to 69kV

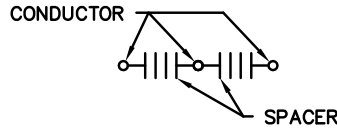
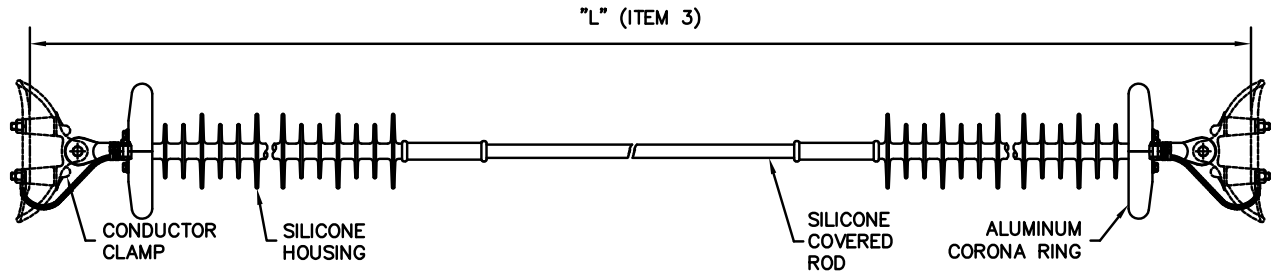


ITEM	SPECIFICATION	DATA	
1	OPERATING VOLTAGE (PHASE – PHASE)	kV	
2	MOUNTING ARRANGEMENT: 1) HORIZONTAL 2) VERTICAL		
3	LENGTH "L" (CONDUCTOR – CONDUCTOR)	mm	
4	CONDUCTOR DIAMETER (INCLUDING ARMOUR ROD IF APPLICABLE)	mm	
5	CONDUCTOR CLAMP: 1) SUSPENSION 2) K-CLAMP 3) RISER		
6	POLLUTION LEVEL (IEC 60815)		
7	EYE BOLT OPTION FOR LIVE LINE APPLICATION (SEE DETAIL "A")	YES	NO

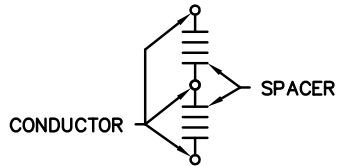
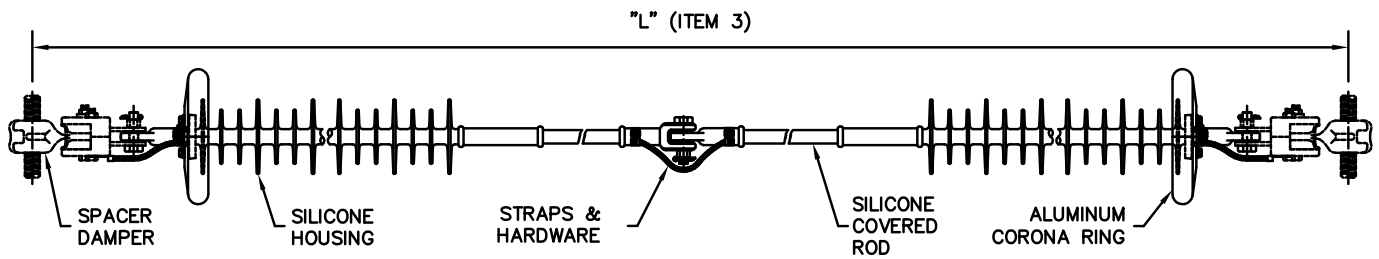
NOTE:

1. OTHER DESIGNS ARE AVAILABLE, PLEASE CONTACT KLI FOR DETAILS.

TRANSMISSION INTERPHASE SPACER – 69kV to 400kV



a) HORIZONTAL (ONE PIECE MAX. L = 3.70m)



b) VERTICAL (ONE OR TWO PIECE)

ITEM	SPECIFICATION	DATA
1	OPERATING VOLTAGE (PHASE – PHASE)	kV
2	MOUNTING ARRANGEMENT: 1) HORIZONTAL 2) VERTICAL	
3	LENGTH "L" (CONDUCTOR – CONDUCTOR)	mm
4	CONDUCTOR DIAMETER (INCLUDING ARMOUR ROD IF APPLICABLE)	mm
5	CONDUCTOR CLAMP: 1) SUSPENSION 2) K-CLAMP 3) RISER	
6	POLLUTION LEVEL (IEC 60815)	

NOTE:

1. OTHER DESIGNS ARE AVAILABLE, PLEASE CONTACT KLI FOR DETAILS.



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