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

The quantity and placement of InterPhase Spacers in a span depends on the span length and the application. 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.
Crossing InterPhase Spacer

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

InterPhase Spacer installation

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™
6. **POLLUTION LEVEL (IEC 60815)**
7. **EYE NUT OPTION FOR LIVE LINE INSTALLATION (SEE DETAIL “A”)** YES | NO

**NOTE:**

1. OTHER DESIGNS ARE AVAILABLE, PLEASE CONTACT KLI FOR DETAILS.
2. ARMOR ROD MAY BE REQUIRED
SPECIAL APPLICATION 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) ADJUSTABLE RISER mm
6 POLLUTION LEVEL (IEC 60815)
7 EYE BOLT OPTION FOR LIVE LINE INSTALLATION (SEE DETAIL "A") YES | NO

NOTE:
1. OTHER DESIGNS ARE AVAILABLE, PLEASE CONTACT KLI FOR DETAILS.
2. THIS DESIGN IS INTENDED FOR SHORT SPANS AND TO ASSIST IN CONTROLLING LOW SEVERITY CONDUCTOR MOTION.
3. ARMOR ROD MAY BE REQUIRED.
TRANSMISSION INTERPHASE SPACER – 69kV to 400kV

"L" (ITEM 3)

CONDUCTOR CLAMP (TYP.)
RANGE: 5mm TO 64mm
(0.20" TO 2.52")
(SUPPLIED SEPARATELY
WHEN ORDERED)

SILICONE HOUSING

SILICONE COVERED
ROD

ALUMINUM
CORONA RING

STRAPS &
HARDWARE

CONDUCTOR

SPACER

a) HORIZONTAL (ONE PIECE MAX. L = 3.35m)

"L" (ITEM 3)

SPACER

DAMPER

SILICONE
HOUSING

STRAPS &
HARDWARE

SILICONE

COVERED
ROD

ALUMINUM
CORONA RING

CONDUCTOR

SPACER

b) VERTICAL (ONE OR TWO PIECE)

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<tr>
<th>ITEM</th>
<th>SPECIFICATION</th>
<th>DATA</th>
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<tbody>
<tr>
<td>1</td>
<td>OPERATING VOLTAGE (PHASE – PHASE)</td>
<td>kV</td>
</tr>
<tr>
<td>2</td>
<td>MOUNTING ARRANGEMENT: 1) HORIZONTAL 2) VERTICAL</td>
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</tr>
<tr>
<td>3</td>
<td>LENGTH “L” (CONDUCTOR – CONDUCTOR)</td>
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<tr>
<td>4</td>
<td>CONDUCTOR DIAMETER (INCLUDING ARMOUR ROD IF APPLICABLE)</td>
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<td>5</td>
<td>CONDUCTOR CLAMP: 1) SUSPENSION</td>
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<tr>
<td>6</td>
<td>POLLUTION LEVEL (IEC 60815)</td>
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</tr>
</tbody>
</table>

NOTE:

1. OTHER DESIGNS ARE AVAILABLE, PLEASE CONTACT KLI FOR DETAILS.
2. ARMOR ROD MAY BE REQUIRED.

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