IKEBANA

Heat Shrinkable Accessories for Cables

About Us

Ikebana Engineering Limited is a Thailand based company established in 1992 for the manufacure of Heat Shrinkable Cable Accessories. At its fully vertically integrated manufacturing facility in Thailand **Ikebana** manufactures heat shrinkable termination systems for cables up to 36 kV. These systems comprise of components such as breakouts, sheds, boots, heat shrinkable tubes for medium/low voltage applications and heat shrinkable end caps for a complete range of cables. **Ikebana** accessories are widely used in more than twenty countries in Asia, Africa, America and Europe. **Ikebana** is reputed in these markets for zero defect product quality and responsive service. Its Medium Voltage heat shrinkable components are used by many reputed companies in their MV termination systems in Europe.

Ikebana termination systems up to 36 kV are designed and type tested to perform for indoor and outdoor conditions as specified in DIN VDE 0278. These products are also certified by TISI *(Thai Industrial Standards Institute).*

Quality Management Systems of **Ikebana Engineering Ltd.** have been assessed and registered against ANSI / ISO / ASQC Q9001: 2000, the scope being manufacturing of heat shrinkable cable accessories. The company holds UKAS (UK), ANSI-RAB (USA) and DSM (Malaysia) certificates of ISO 9001:2000.

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Heat Shrinkable Non-Tracking High Voltage Sheds

The following application tables give the HV Shed dimensions & cable insulation diameter range.

Single Shed Model	HV Shed Diameter		Skirt Dia.	Neck-L
	min D-S	max D-R	O-R	L-S
IXL 210	25.0	12.0	80.0	20.0
IXL 220	37.0	16.0	90.0	25.0
IXL 225	57.0	16.0	115.0	25.0
IXL 230	57.0	25.0	125.0	30.0
IXL 240	75.0	35.0	145.0	35.0

Triple Shed Model	HV Shed Diameter		Height	Neck-L
	min D-S	max D-R	L-R	M-S
IXL 270	35.0	15.0	135.0	26.0
IXL 280	45.0	23.0	165.0	28.0
IXL 290	65.0	29.0	165.0	28.0

S: As supplied R: Fully recovered

Typical Applications

Heat Shrinkable Single Sheds are used for extending the creepage path for the medium voltage cable termination, thereby saving the length of the cable and reducing the size of the switch gear cabinet required for this purpose. IKEBANA HV sheds are suitable for termination of the complete range of electrical cables with jackets of XLPE and PILC. The rubber based red sealant seals the HV shed to the cable insulation.

Heat Shrinkable Triple Sheds are used primarily to protect the crutch of the PILC 3-core cable while installing and connecting an outdoor termination by restricting the individual cable cores from over-bending away from the crutch. They also provide additional creepage extention.

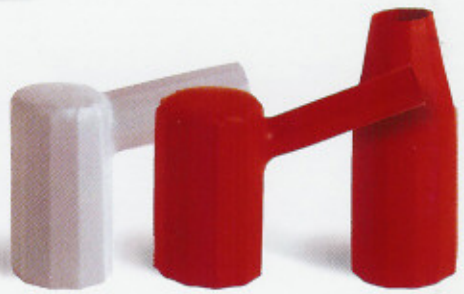
Materials

The base material of the HV sheds is thermally stabilized, cross linked blend of polyolefins and a compatible grade of synthetic rubber. The basic resin is mixed with chemical additives offering protection against fire, oxidation, ozone and other environmental effects. The sealant is a rubber based mastic which is water-proof, electrical insulating and anti-tracking.

Heat Shrinkable Non-Tracking Medium Voltage Boots

Typical Applications

The MV boots provide insulation and sealing for bushings in cable-end boxes integral with switchgear and transformers. The mastic sealant provides a water-tight environmental seal to the bushing. The MV boots are also supplied as a part of heat shrinkable cable termination up to 36kV for operation in air-filled cable-end boxes, designed with reduced clearances for compound filling. The boots are designed to withstand surges induced during the operational life of the terminations.



Materials

The base material of the MV boots is thermally stabilized, cross linked blend of polyolefins and a compatible grade of synthetic rubber. The basic resin is mixed with chemical additives offering resistance against tracking - erosion, fire, oxidation, ozone and other environmental effects. The sealant is a rubber based mastic which is water-proof, electrical insulating and anti-tracking.

The following application table indicates the dimensions of Right Angle/Straight Boots.

Type	Model	Cable-end diameter		Bushing-end Diameter		Length M	Length N	Full Length L
		R (mm)	S (mm)	R (mm)	S (mm)	R (mm)	R (mm)	R (mm)
Right Angle	IXL 510	15.0	27.0	35.0	81.0	125.0	145.0	—
Right Angle	IXL 515	15.0	48.0	35.0	81.0	125.0	145.0	—
Right Angle	IXL 520	25.0	48.0	35.0	81.0	125.0	145.0	—
Right Angle	IXL 525	25.0	70.0	35.0	95.0	125.0	145.0	—
Straight	IXL 560	18.0	35.0	30.0	81.0	140.0	45.0	220.0
Straight	IXL 565	18.0	60.0	30.0	81.0	140.0	45.0	220.0

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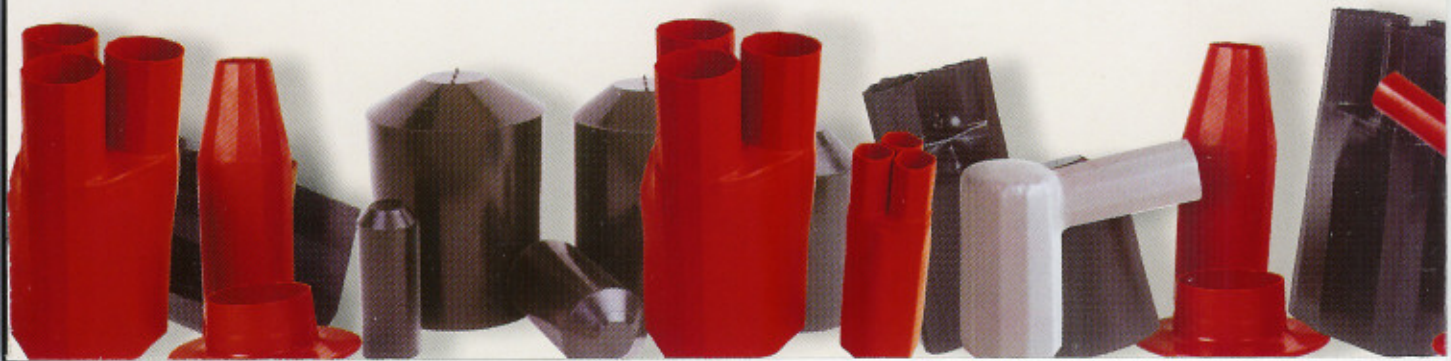

Heat Shrinkable Low Voltage Breakouts

Typical Applications

The LV breakouts provide insulation and sealing over the crutch of multi-core cables. The hot melt adhesive or the mastic sealant provides a water tight environmental seal to the cable. The LV breakouts are normally used as an integral part of cable terminations up to 1kV.

Materials

The base material of the LV breakouts is thermally stabilized, cross linked blended polyolefins. The basic resin is mixed with chemical additives offering protection against fire, oxidation, ozone and other environmental effects. The fingers and the main body are internally machine coated with a polyamide based hot melt adhesive or manually applied with a butyl rubber based mastic which is electrical insulating and water -proof.

The following application table gives the LV-2F breakout dimensions.

Breakout Model	Breakout main diameter		Finger Diameter		Full Length	Finger Length
	R (mm)	S (mm)	R (mm)	S (mm)	R (mm)	R (mm)
IXL 250	10.0	33.0	3.0	14.0	90.0	20.0
IXL 260	22.0	60.0	6.7	24.0	120.0	35.0

The following application table gives the LV-3F breakout dimensions.

Breakout Model	Breakout main diameter		Finger Diameter		Full Length	Finger Length
	R (mm)	S (mm)	R (mm)	S (mm)	R (mm)	R (mm)
IXL 350	14.0	38.0	4.0	11.0	110.0	20.0
IXL 360	22.0	60.0	8.0	24.0	185.0	45.0
IXL 370	33.0	80.0	16.0	36.0	210.0	50.0
IXL 380	47.0	110.0	20.0	48.0	260.0	75.0
IXL 385	47.0	125.0	20.0	55.0	260.0	75.0
IXL 390	54.0	140.0	27.0	62.0	250.0	65.0

The following application table gives the LV-4F breakout dimensions.

Breakout Model	Breakout main diameter		Finger Diameter		Full Length	Finger Length
	R (mm)	S (mm)	R (mm)	S (mm)	R (mm)	R (mm)
IXL 410	14.0	38.0	3.0	15.0	105.0	20.0
IXL 420	25.0	55.0	6.0	20.0	180.0	45.0
IXL 430	22.0	72.0	8.5	25.0	190.0	45.0
IXL 440	33.0	100.0	14.0	35.0	215.0	50.0
IXL 450	47.0	125.0	22.0	45.0	245.0	72.0

S: As supplied R: Fully recovered

Specifications given in this brochure are subject to change without notice. Please refer to the latest version of the product drawings for updates.

Heat Shrinkable Conductive Breakouts

Typical Applications

The conductive breakouts provide a semi conductive screen and sealing over the crutch of multi-core cables. The mastic sealant provides a water tight environmental seal to the cable. The conductive cable breakouts are normally used as an integral part of 3-core cable terminations up to 36 kV.

The following application table gives the conductive breakout dimensions.

Materials

The base material of the conductive breakouts is thermally stabilized, cross linked polyolefin. The basic resin is mixed with chemical additives offering resistance against UV radiation, oxidation, ozone and other environmental effects. The most important additive is conductive carbon black, which adds electrical conductivity to the material. The sealant is butyl rubber based mastic which is electrical insulating and water-proof.

Conductive Breakout Model	Breakout main diameter		Finger Diameter		Full Length	Finger Length
	R (mm)	S (mm)	R (mm)	S (mm)	R (mm)	R (mm)
IXL 310 CON	22.0	60.0	8.0	24.0	185.0	45.0
IXL 320 CON	33.0	80.0	16.0	36.0	210.0	50.0
IXL 330 CON	47.0	110.0	20.0	48.0	260.0	75.0
IXL 335 CON	47.0	125.0	20.0	55.0	260.0	75.0
IXL 340 CON	54.0	140.0	27.0	62.0	250.0	65.0

S: As supplied R: Fully recovered

Heat Shrinkable Non-Tracking Medium Voltage Breakouts

Typical Applications

The cable breakouts provide insulation and sealing over the crutch of multi-core cables. The mastic sealant provides a water tight environmental seal to the cable. The MV cable breakouts are normally used as an integral part of 3-core cable terminations up to 36 kV.

The following application table gives the MV breakout dimensions.

Materials

The base material of the MV breakouts is thermally stabilized, cross linked blend of polyolefins and a compatible grade of synthetic rubber.

The basic resin is mixed with chemical additives offering resistance against tracking-erosion, fire, oxidation, ozone and other environmental effects. The sealant is a rubber based mastic which is water-proof, electrical insulating and anti-tracking.

Breakout Model	Breakout main diameter		Finger Diameter		Full Length	Finger Length
	R (mm)	S (mm)	R (mm)	S (mm)	R (mm)	R (mm)
IXL 310	22.0	60.0	8.0	24.0	185.0	45.0
IXL 320	33.0	80.0	16.0	36.0	210.0	50.0
IXL 330	47.0	110.0	20.0	48.0	260.0	75.0
IXL 335	47.0	125.0	20.0	55.0	260.0	75.0
IXL 340	54.0	140.0	27.0	62.0	250.0	65.0

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Certified by

IKEBANA
ENGINEERING LTD.

IKEBANA ENGINEERING LTD., Ratchaburi Industrial Estate, 155/47 Moo 4, Chetsamian, Photharam, Ratchaburi 70120. THAILAND. Tel: +66-32-375-811 to 813. Fax: +66-32-375810
Web Site: www.ikebana-heatshrink.com