

LEADERS OF SILICONE PROTECTION FOR HIGH VOLTAGE INDUSTRIES

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Protect your assets and improve their PERFORMANCE



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Animal Outage Protection Products

Silprocoat™ Anticorrosive Coatings

High Voltage Insulator Coatings (HVIC)



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About Us

WHO WE ARE

We are the international business development division of Midsun Group Inc., an American company that has helped power utility companies prevent flashovers (animal induced power outages) and save millions of repair cost dollars. Midsun manufactures long lasting RTV coating for high voltage insulators, anti-corrosive silicone coatings and wildlife protective silicone covers since 1992.





OUR OFFERINGS

- Exclusive RTV silicone coating and covers
- Global applicators network
- Demonstrations and training
- Multilingual service and experts
- Custom-made solutions and products
- Fast delivery





WHY US ?



Vast Experience

We have served electrical utilities TSOs and DSOs, refineries and industrial plants since 1992.



Worldwide Presence

We have worked in over 55 countries covering 5 continents and in over 20 languages.



Earned Trust

We are a trusted American brand providing products and services for the largest electrical utilities across the USA.









Animal Outage Protection Products

We offer over 100 silicone extruded and maldreded protection products for electrical substations, transmission, and distribution lines, which provide a proven cost-effective and easyto-install solution to animal and weather-related outages. They provide tracking resistance, thermal endurance, and UV protection.

Prevent power outages & avoid wildfires. Protect rail, data centers, OP&G, solar- & wind farms to minimize risk in relation to wildlife, storm, and weather interference.







E/Fusing

E/FUSING TAPES

Our 30Mil self-fusing silicone tapes form a void-free electrical insulation protection system when applied to any connector, bus or cable. The E/Fusing tape provides up to 15kV phase-to-ground insulation rating and the High insulation E/Fusing tape up to 30kV.



Features:

- Self bonding
- Made with flexible material
- Heat, moisture and weather resistant
- Able to maintain electrical properties
- Gummy residue free
- Available in Gray or Red
- Available in various widths

Midsun self fusing silicone tape is offered in a 30 mil thickness (E/Fusing Tape) or an 80 mil thickness (High Insulation E/Fusing Tape)

Technical data:

Up to 15 kV phase-to-ground insulation with a 2/3 overlap and a 10% stretch. A second 2/3 overlap of tape will achieve a 30 kV phase-to-ground insulation rating.

Part number:

E/FTP-100G : 1" x 36", 30 mil-Gray: 25.4mm x 10.9m

E/FTP-250G : 2.5"x 36", 30 mil-Gray: 63.5 mm x 10.9m

E/FTP-400G : 4" x 36", 30 mil-Gray: 101.6 mm x 10.9 m

E/FTP-100R : 1"x36", 30 mil – Red: 25.4 mm x 10.9 m

E/FTP-250R : 2.5"x36", 30 mil – Red: 63.5 mm x 10.9 m

E/FTP-400R : 4"x36", 30 mil-Red: 101.6 mm x 10.9 m

HIGH INSULATION E/FUSING TAPES

The 80Mil self-fusing silicone tapes offer up to 35 kV phase-to-ground insulation with a 2/3 overlap and a 10% stretch. A second 2/3 overlap of tape will achieve 50 kV phase-toground insulation. Available in a 2.5" and 4" width.



Part number:

E/FTP - 25080 - 35kV, E/Tape 2.5" x 15', 80 mil - Gray: 25.4 mm x 10.9 m

E/FTP - 480 - 35kV, E/Tape 4" x 15', 80 mil -Gray: 63.5 mm x 10.9 m





Fusing

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E/Silicone Insulation

These tubes are used to protect a variety of distribution and substation equipment at 20 kV phase-to-ground. The E/Insulation is manufactured with a split seam to allow for an easy application without the need of breaking electrical connections.

Features:

- Reusable
- Easy on/off application
- Weather, flame arc, ozone and UV resistant
- Durable
- Will not crack over time





E/Insulation Split Tubing

- 0.198 (5.03 mm) E/INS-025 (-G or -O)
- 0.25 0.447 (6.35-11.35 mm) E/INS 050 (-G or -O)
- 0.502 0.741 (12.75-18.82 mm) E/INS 075 (-G or -O)
- 0.806 1.00 (20.47-25.40 mm) E/INS 100 (-G or -O)
 1.00 1.196 (25.40-30.38 mm) E/INS 125 (-G or -O)
 1.25 1.427 (31.75-36.25 mm) E/INS 150 (-G or -O)
- 1.504 1.735 (38.20-44.07 mm) E/INS 175 (-G or -O)
- 1.760 1.980 (44.70-50.29 mm) E/INS 200 (-G or O)

Angle Bus Cover

- E/INS-ABC-325" Tail-G-60" 3.25 ln (82.55 mm)
- E/INS-ABC-4.00" Tail-G-60" 4.0 ln (101.60 mm)

Large Diameter Round Bus Cover

- E/INS-250G 2.5 ln (63.50 mm)
- E/INS-350G 3.5 ln (88.90 mm)
- E/INS-450G 4.5 ln (114.30 mm)

Flat Bus Cover

- E/INS-FLAT325G-5 3.25 ln (82.55 mm)
- E/INS-FLAT400G-5 4.0 ln (101.60mm)



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E / Insulation

Contains 50ft per box



Available in 5 ft lengths



Available in 10 ft lengths



Available in 5 ft lengths



E/Silicone Covers

E / BUSHING COVER LARGE

Technical Data:

This product will insulate a bushing with a diameter up to 8"(203.2mm).

Part number: E/BC – LG Drawing Number: 128-00-01

Our silicone covers are designed to protect the connections in all forms and sizes. Unlike other plastic solutions, you can make modifications to our covers to make an optimal fit. They all offer up to 25 kV phase-to-ground insulation.

Features:

- Flexible
- Hydrophobic
- Made from 65 durometer silicone
- Superior UV and chemical resistance
- Expected life span beyond 20 years











Large Bushing Cover Right Angle Extension

Technical data:

This extension gives an additional 6.8" inches to the width of the bushing cover and also features a right angle exit point.

Part Number: E/BC – LG 0 X – WRA – CAP Drawing Number: 205-00-01

Large Bushing Width Extension

Technical data:

This extension gives an additional 6.8" inches to the width of the bushing cover.

Part Number: E/BC – LG – X – W Drawing Number: 199-00-01 E / Covers

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Large Bushing Cover Width Top Extension

Technical data:

This extension gives an additional 5" inches to the top/width of the bushing cover.

Part Number: E/BC – LG – X – WT Drawing Number: 202-00-01

Large Bushing Cover Height Extension

Technical data:

This extension gives an additional 6.1" inches to the height of the bushing cover.

Part Number: E/BC – LG – X – H Drawing Number: 201-00-01

Large Bushing Cover Height Filler Extension

Technical data:

This extension is used in conjunction with a height and width filler.

Part Number: E/BC – LG – X – H/F Drawing Number: 203-00-01









E/BUSHING COVER FULL

Technical data:

Designed to fit medium sized transformer breaker and regulator bushings and arrestors. Will fit bushing diameters up to 5" (127 mm)

Part Number: E/BC – Full Drawing Number: 129-00-01

E/BUSHING COVER HALF

Technical data: Designed to fit small station service transformer bushings, PT's and CT's, and pole top transformer bushings.

Part Number: E/BC – Half Drawing Number: 130-00-01

E/BUSHING COVER SMALL

Technical data: Designed to fit small station service transformer bushings, PT's and CT's, and pole top transformer bushings.

Part Number: E/BC – Small Drawing Number: 210-00-01

E/BUSHING COVER SIDE

Technical data:

Designed for reclosure bushings. Perforated bottom allows it to fit various sized bushings.

Part Number: E/BC – Side Drawing Number: 180-00-02









E/BUSHING COVER C-BAR

Technical data:

Designed to fit large bushings with double right angle lead connections.

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E / Covers

Part Number: E/C – BAR CV Drawing Number: 287–00–01

E/MULTIPORT BUSHING COVER

Technical data:

Accommodates bushings with multiple lead connections.

Part Number: E/BC – Multiport Drawing Number: 185-00-01

E/RIGHT ANGLE BUSHING COVER

Technical data:

Designed to fit large bushings with double right angle lead connections.

Part Number: E/BC – RA Drawing Number: 104-00-02

90° RIGHT ANGLE BUSHING COVER

Technical data:

Designed to fit larger single or double lead right angle bushing connections.

Part Number: E/BC – 90RA Drawing Number: 236-00-01



DOUBLE LEAD COVER

Technical data: Accommodates bushings with multiple lead connections.

Part Number: E/BC – DBL – LEAD Drawing Number: 155-50-01

LIGHTING ARRESTOR COVER

Technical data:

Designed to fit multiple substation lightning arrestors. Adapts to different bus and lead connections. Easy on/off application.

Part Number: E/LAC Drawing Number: 137-10-01

E/BUS SUPPORT COVER

Technical data:

Designed for bus support insulators. Accommodates round, flat or angle bus ranging from 0.5" to 3" (12.7 to 76.2 mm)

Part Number: E/BSC Drawing Number: 127-00-01

BUS SUPPORT COVER XL

Technical data:

Designed for bus support insulators. Accommodates round, flat or angle bus ranging from 4.5" to 5.5" (114.3 mm to 139.7 mm)

Part Number: E/BSC – XL Drawing Number: 113-00-00









E/TERMINATION COVER

Technical data:

Designed to cover underground termination bushings.

Part Number: E/Term-CV Drawing Number: 164-20-01

E/SUBSTATION TERMINATION COVER

Technical data:

Designed to protect various sizes of termination substrates. Allows for a quick on/off application.

Part Number: E/STC Drawing Number: 284-00-01

E/GROUND STUD COVERS

Technical data:

Silicone cover that allows for easy on/off application with a hot stick. Designed to protect ground stud connectors allowing for 100% maximum protection.

Part Number: E/GSC - LONG Drawing Number: 163-00-01

Part Number: E/GSC - SHORT Drawing Number: 204-00-01







E/FUSE CUTOUT COVER

Technical data: Designed for use on fuse cut out

switches. Design allows for easy opening and closing of fuse.

Part Number: E/FUSE CUT OUT Drawing Number: 132-00-01

E/FUSE CUTOUT COVER LARGE

Technical data:

Designed for use on larger fuse cut out switches. Design allows for easy opening and closing of fuse.

Part Number: E/FUSE CUT OUT - LG Drawing Number: 260-00-01

E/PIN INSULATOR COVER SMALL

Technical data: Designed to protect against bird and animal contact on standard crossarm pin insulators.

Part Number: E/PIN INS CV - SM Drawing Number: 126-00-02

E/PIN INSULATOR COVER MEDIUM

Technical data:

Designed to protect against bird and animal contact on standard cross arm pin insulators.

Part Number: E/PIN INS CV – MED Drawing Number: 126-00-03











E/PIN INSULATOR COVER LARGE

Technical data:

Designed to protect against bird and animal contact on large cross arm pin insulators.

Part Number: E/PIN INS CV – LG Drawing Number: 126-00-01

E/SURGE ARRESTOR COVER

Technical data:

Designed to fit taller lightning arrestors with a pass through lead or pole top bushings.

Part Number: E/SRG – ARR – CV Drawing Number: 268-00-02

E/POLE TOP LIGHTING ARRESTOR CAP

Technical data:

Designed for pole top right angle lightning arrestor.

Drawing Number: 184-00-01 Phase-to-Ground: Up to 25 kV

E/POLE LIGHTING ARRESTOR RECLOSER COVER

Technical data:

Designed for pole top arrestors with a single lead at a right angle. It may also be used for pole top right angle bushings.

Part Number: E/PT-LA RECLR-CV Drawing Number: 262-00-02

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E / Covers



E/DOUBLE LEAD LIGHTING ARRESTOR RECLOSER COVER

Technical data:

Designed for pole top arrestors with double leads at a right angle. It may also be used for pole top right angle bushings.

Part Number: E/PT-DL-LA RECLR CV Drawing Number: 262-00-01

E/TRANSFORMER LIGHTING ARRESTOR RECLOSER COVER

Technical data:

Designed to fit either pole top bushings or lightning arrestors with a pass through lead.

Part Number: E/PT-T-LA RECLR CV Drawing Number: 262-00-03

E/L SENSOR COVER

Technical data: Designed for right angle recloser sensors.

Part Number: E/L-SENSOR CV Drawing Number: 247-00-01



E/ RECLOSER VOLTAGE SENSOR COVER

Technical data: T-shaped for use on recloser T-Sensors.

Part Number: E/SRVSC Drawing Number: 103-00-01











E/CAPACITOR COVER

Technical data:

Designed to protect energized portions of capacitor bushings.

/ Covers

Part Number: E/PT – CAPITOR CV Drawing Number: 227-00-01

E/CAPACITOR CURRENT SENSOR COVER

Technical data:

Designed to insulate the bottom sensor of a Fisher Pierce current sensor.

Part Number: E/CSS-CV Drawing Number: 266-00-02

E/FPS* CURRENT SENSOR

Technical data:

Designed to insulate the bottom sensor of a *Fisher Pierce current sensor.

Part Number: E/FPS Drawing Number: 222-00-01

E/POLE TOP TRANSFORMER COVER

Technical data:

Designed to fit pole top bushing with hand wheels. Can be applied without having to break hand wheel lug connection.

Part Number: E/PT-Trans-CV Drawing Number: 186-00-01





Animal Outage Protection Products







E/SILICONE SHEET

This is a high temperature vulcanized custom compound silicone piece with a polyester fabric reinforcement that allows you to custom cut covers. They offer up to 25 kV phase-toground insulation.

Features:

- Hydrophobic
- Flexible & Customizable
- Easy to make covers for awkward or difficult shapes
- UV resistant
- Chemical resistant
- 20+ years of life expectancy

Part numbers and drawing numbers:

Part Number: E/SS Size: 24" x 120" (609.6 x 3048 mm) Silicone Sheet

Part Number: E/SS – 30 Size: 30″ x 120″ (762 x 3048 mm) Silicone Sheet



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E / Barriers

Our barriers were created to block climbing animals from contacting phase-to-ground conductors. They are made of transparent polycarbonate thermoplastic.

Features:

- High voltage puncture resistance
- Superior Strength
- UV and weather resistance
- Adjusts to fit multiple diameters
- Can be custom made to specific requirements
- Can be put on and removed under energized conditions











NO SLOTS

Technical data:

Standard Polycarbonate E/Barriers W/O Slots

Part Number: E/Bar Sets – No Slots Drawing Number: EBPC-2000-450-125-3A

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/ Barriers

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SLOTTED

Technical data:

Standard Polycarbonate E/Barriers w/slots

Part Number: E/Bar Sets – Slotted Drawing Number: EBSC-2000-450-125-3A

E/BIRD BARRIER

Technical data:

Standard Polycarbonate E/Bird Barrier .

Part Number: E/Bird Barrier Drawing Number: EBPC-2350-525-187





30° ANTI-NESTING BARRIER

Technical data:

Up to 25 kV phase-to-ground. Designed with a 30° angle to discourage or prevent bird nesting and animal contact. It is approved for energized application.

Part Number: E-Anti-Nest-Bar Drawing Number: 299-00-01

FLEX BARRIER

Technical data:

The design allows the barrier to slide smoothly between adjacent skirts of an insulator and then hold the barrier securely in place.

It forms a long term barrier on substation equipment such as disconnects, switch insulators, arrestor and bus support terminators, and insulators.

Part Numbers & Drawing Numbers

 $E/Flex Bar - G - 16" (406.4 mm) - 138-16-01 \\ E/Flex Bar - G - 20" (508 mm) - 138-20-01 \\ E/Flex Bar - G - 24" (609.6 mm) - 138-24-01 \\ E/Flex Bar - R - 16" (406.4 mm) - 138-16-01 \\ E/Flex Bar - R - 20" (508 mm) - 138-20-01 \\ E/Flex Bar - R - 24" (609.6 mm) - 138-24-01 \\$

*Available in red (R) and gray (G)

E/ Accesories



E/SILICONE PUSH PINS

Technical data:

These pins are used to secure Midsun molded covers. They are easy to install even while wearing insulated gloves, with a phase-to-Ground from up to 25 kV and their life expectancy matches the cover. Each bag contains 50 pins.

Part Number: E/Push Pins Drawing Number: 147-00-01

E/SILICONE TIE WRAP

Technical data:

Silicone tie wraps can replace temporary plastic tie wraps. Silicone ties offer a long life expectancy, a secure hold and an easy on/off application. Each bag contains 10 ties.

Part Number: E/Silicone Tie Wrap-13-G Drawing Number: 161-00-01

ANIMAL CONTROL STRIPS

Technical data:

These strips are a stainless steel mitigation barrier that prevents animals from climbing over substation fences and birds roosting on cross arms.

Features:

- Stainless Steel Construction will not discolor other materials
- Versatile conforms to any contour or surface
- Easy to install

Applications:

Substation perimeter fence protection, roofs, utility poles, ledges, columns, bus work, signs, roof ridges and more.







Silprocoat **Anticorrosive Coatings**

Our anti-corrosion coatings are formulated with silicone rubber to restore metal structures and equipment on an advanced level. Silprocoat™ is a ready-to-use product that can be sprayed immediately after opening the pail and will last more than 10 years even in the most challenging environments.

Features:

- Extreme heat resistance (up to 160°C)
- Ideal to enclose lead paint
- Optimal corrosion protection (e.g. power system equipment, metal hardware and structures, oil and gas storage tanks, pipes and metal barriers)
- Strong adhesion
- Anti-aging, offering a long-term solution
- Available in VOC compliant formulations
- UV resistant





TECHNICAL DATA

Property	Value	Method
Appearance	Paint	
Color	Gray/White	
Application temperature range	-18° to 50°C (0 to 120°)	
Application rate (10 mil thickness)	180ft2 /US gal	
Cure method	Oxime, moisture cure	
Skin-over time at standard conditions*	20 minutes	
Cure time standard conditions	4 hours	
Viscosity (at 25° C)	5000-6400 CPS	DIN EN ISO 3219
Water vapor pressure, perms.	2.9	

* Properties cured at standard conditions for 7 days.



TECHNICAL DATA

Property	Value	Method
Color	Gray/White	
Durometer hardness (ASTM D2240, Shore A)	50 points	ASTM D149
Tensile Strength (ASTM D412)	33kg/cm2 (480 PSI)	ASTM D150
Elongation at break (ASTM D412)	170%	ASTM D257
Tear resistance (ASTM D624, Die B)	6kN/m (34 ppi)	ASTM D150
Temperature stability range	-57 to 160°C (-70 to 320°F)	ASTM D459
Salt fog exposure (11350 hours)	No corrosion	CEA LWIWG-01
Weatherometer, 5000 hours (G154 Series)	No degradation	IEC 61190, 5000 hours
Durometer Hardness (ASTM D2240, Shore A)	50 points	
Storage and temperature	1 year< 77°F (25°C)*	

*Standard conditions are 25°C (77°F) and 50% relative humidity.

These figures are only intended as a guide and should not be used in preparing specifications.

SELECTION GUIDE

All of our Silprocoat products have a single component one-part room temperature vulcanizing (RTV) polysiloxane elastomer coating and are available in different colors.

- Midsun Silprocoat Solventless VOC No solvent is added.
- Midsun Silprocoat w/Mineral Spirits Solvent: Mineral Spirits.
- Midsun Silprocoat w/Naphta Solvent: Naphta.





Anticorrosive

High Voltage Insulator Coatings (HVIC)

Salt spray, industrial pollutants and even desert sand can lead to costly power interruptions. HVIC is our line of silicone coatings created to work in highly contaminated areas and polluted regions. The coating is being used by major electrical utilities in the world and has a proven solid track.

Features:

- Hydrophobicity
- High resistance to arcing and corona
- Resistance to atmospheric and chemical degradation
- UV resistance
- Suppression of leakage current, discharges and pollution flashover
- Non toxic and environmental friendly material
- High resistance to air, airborne pollutants, rain, humidity, etc.





TECHNICAL DATA

Property	Value	Method
Appearance	Paint	
Color	Gray/White	
Filler	Quartz Silica or ATH	
Viscosity, dynamic	2100/2700 cP	DIN EN ISO 3219
Flash point temp	105°F / 40.5°C	
Solids % (by volume)	66.75 / 71.55%	
Solvent	Mineral Spirits	
Dielectric Strength	35.9 Kv/mm; 915 V/mi (ASTM D149)	
Dissipation Factor	@100KHz, 0,021 (ASTM D150)	

Properties uncured





TECHNICAL DATA

Properties cured

Property	Value	Method
Color	Gray/White	
Dielectric strength	35.9 Kv/mm; 915 V/mil	ASTM D149
Dissipation factor	@100 KHz, 0,021	ASTM D150
Volume resistivity (ohm.cm)	9 x 1014	ASTM D257
Dialectric constant	@100 Hz: 3.85	ASTM D150
Dry arc resistance, track and burnout (sec)	Track 200 sec; Burnout 450 sec.	ASTM D495
Tracking and erosion resistance	>1000 hours	CEA LWIWG-01
Application temperature range	32-130°F (0-60°C)	
UV and salt fog weathering	No degradation	IEC 61109. 5000 hours
Inclined plane tracking and erosion	PASS (High perfor- mance): 1A 4.5 ; 1B 4.5	IEC 60587
Water repellency angle	118°± 3°	TS 6073
Hydrophobicity recovery within 48 hours	To H2 or better	(REC76/2006) (CPRI Test)
Est. Skin-over time	@25C, 50% relative humidity, 15 min	
Est. track-free time	@25C, 50% relative hu- midity, 30 min	
Usable temperature	-40 -300°F (-40 to 148°C)	
Storage and temperature	1 year <77°F (25° C)*	

SELECTION GUIDE

- Midsun HVIC w/Quartz Silca Solvent: Mineral Spirits
- Midsun HVIC w/ATH Solvent: Mineral Spirits

MIDSUN GROUP

- Midsun HVIC w/Silca Quartz Naptha Solvent: Naphta
- Midsun HVIC Solventless VOC- grey No solvent is added

Technical data: This unique silicone rubber technology formula offers high dielectric strength in a paintable insulation.

Features:

HVIC ENERGIZED

Technical data: This is the only coating offered that allows for energized applications.

- - Not affected by UV light, corona discharge or chemical contaminants

These figures are only intended as a guide and should not be used in preparing specifications

E/PAINTABLE

- High dielectric strength
- Easy to apply one coat application
- Excellent atmospheric and chemical resistance • Becomes a tough, impact-resistant coating

Features:

- Reduces costly maintenance shutdowns
- Reduces unnecessary wear and tear to system backup units
- High resistance to extreme temperatures, salt and corrosive environments
- Reliance on peak loading generation
- Mitigate Pollution caused outages



OUR SERVICES

TURNKEY APPLICATION

P Our team will make sure that the coat application is completed correctly and efficiently, ensuring safety procedures & work methods to achieve the optimal thickness and the best results.



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TRAINING & SUPERVISION

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Midsun offers extensive professional training services to certify companies as official applicators of our products. If the training is not required, we can also supervise the project.



OUR EXPERTISE AREAS

CONSULTING

Our technical consultants can help you define and execute an implementation plan based on your specific requirements. These services include developing and implementing target operating / service models and optimizing application processes to reduce costs and improve productivity.



• Operations and manufacturing • Maintenance and reliability • Engineering and product development • Quality management

Our Services

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