

E/INSULATION PRODUCT DATA SHEET



Used In Distribution Substation

MEETS IEEE 1656 STANDARD

APPROVED FOR RURAL UTILITIES SERVICE

Product Description

E/Insulation is a collection of extruded silicone rubber covers that protect energized conductors from phase-to-phase and phase-to-ground wildlife contact.

Features

- Extremely durable. Will not chalk, brittle, crack, or craze through extreme temperatures.
- Low aging. Resistant to UV, salt, weather, corona and ozone. 18 year field test reports available.
- Hydrophobic surface. Self-cleaning during rainstorms to reduce contamination.
- Self-extinguishing, non-tracking and arc resistant. Will not melt or spread flames.
- Reusable and flexible. Installs easily without the need for heat shrink or severing connections.*



Select parts also available in Orange** (denoted).

Product Selection

Split Line Conductor Insulation | 20kV

Gray split line insulation tubing for conductors including cables, feeders, jumpers, lines and leads up to 2 in (50.80 mm). Provides **20kV** phase-to-ground protection. Can be cut to length.



Part #	Insulation Size	Conductor Size (AWG or kcmil)	Conductor (OD) Diameter Size	Length Per Box**
E/INS-025-G	0.25 in (6.35 mm)	4, 6	0.250 in (6.35 mm)	50 ft (15.24 m)
E/INS-050-G	0.50 in (12.70 mm)	2, 1/0, 2/0, 3/0, 4/0	0.251 in - .500 in (6.38 mm - 12.70 mm)	50 ft (15.24 m)
E/INS-075-G	0.75 in (19.05 mm)	266.8 - 336.4, 397.5	0.501 in - 0.750 in (12.73 mm - 19.05 mm)	50 ft (15.24 m)
E/INS-100-G	1.00 in (25.40 mm)	447, 556.5, 605, 636, 666.6, 715.5	0.751 in - 1.00 in (19.08 mm - 25.4 mm)	50 ft (15.24 m)
E/INS-125-G	1.25 in (31.75 mm)	795, 900, 954, 1033.5, 1113	1.001 in - 1.250 in (25.65 mm - 31.75 mm)	50 ft (15.24 m)
E/INS-150-G	1.50 in (38.10 mm)	1192.5, 1272, 1351.5, 1431, 1590	1.251 in - 1.500 in (31.78 mm - 38.10 mm)	2x 25 ft (2x 7.62 m)
E/INS-175-G	1.75 in (44.45 mm)	1780, 2156, 2167, 2300	1.504 in - 1.735 in (38.20 mm - 44.07 mm)	2x 25 ft (2x 7.62 m)
E/INS-200-G	2.00 in (50.80 mm)	2312, 2515	1.760 in - 1.980 in (44.70 mm - 50.29 mm)	25 ft (7.62 m)

Round Bus Reinforced Insulation | 20kV

Gray open seam silicone rubber reinforced w/ polyester mesh to reduce tearing. Provides **20kV** phase-to-ground protection. Can be cut to length.



Part #	Insulation Size	Length Per Box**
E/INS-250-G	2.5 in (63.50 mm)	5x 10 ft (5x 3.048 m)
E/INS-350-G	3.5 in (88.90 mm)	10 ft (3.048 m)
E/INS-450-G	4.5 in (114.30 mm)	10 ft (3.048 m)
E/INS-650-G	6.5 in (165.1 mm)	10 ft (3.048 m)

Round Bus Unreinforced Insulation | 20kV

Standard unsupported gray open seam silicone rubber. Provides **20kV** phase-to-ground protection. Can be cut to length.



Part #	Insulation Size	Length Per Box
E/INS-EXT-250-G/5	2.5 in (63.50 mm)	5 ft (1.524 m)
E/INS-EXT-350-G/5	3.5 in (88.90 mm)	5 ft (1.524 m)
E/INS-EXT-450-G/5	4.5 in (114.30 mm)	5 ft (1.524 m)

* All split-line, open seam, and fastened E/Insulation products can be installed without breaking connections with the exception of E/Tube insulation.

** Length per box may differ by color. Additional configurations may be available.

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Specialty Bus Bar Insulation | 20kV

Custom shaped gray silicone rubber. Fits around low profile bus bar typically found in substations. Provides **20kV** phase-to-ground protection. Can be cut to length.



Product Name	Part #	Drawing #	Pins Included	Bus Dimension	Piece Length
E/Insulation Angle Bus 3.25 in	E/INS-ABC-325" TAIL-G-60	232-60-325	14	3.25 in x 3.35 in (82.55 mm x 85.09 mm)	5 ft (1.524 m)
E/Insulation Angle Bus 4.00 in	E/INS-ABC-400-TAIL-R-36	232-36-400	14	4.00 in x 4.00 in (101.60 mm x 101.60 mm)	5 ft (1.524 m)
E/Insulation Flat Bus 3.25 in	E/INS-FLAT325G-5	256-00-325	10	3.25 in (82.55 mm)	5 ft (1.524 m)
E/Insulation Flat Bus 4.00 in	E/INS-FLAT400G-5	256-00-400	10	4.00 in (101.60 mm)	5 ft (1.524 m)
E/Insulation T-Bus Universal	E/T-BUS COVER	196-30-01	8	3.00 in x 4.00 in (76.20 mm x 101.60 mm)	5 ft (1.524 m)

Split Line Conductor Insulation | 15kV

Gray split line insulation tubing. Economically optimized insulation value, ideal for areas where tree brush or other light contact is a concern. Provides **15kV** phase-to-ground protection. Can be cut to length.



Part #	Insulation Size	Conductor Size (AWG or kcmil)	Conductor (OD) Diameter Size	Length Per Box
E/INS-THIN WALL-050-G	0.50 in (12.7 mm)	2, 1/0, 2/0, 3/0, 4/0	0.251 in - 0.500 in (6.38 mm - 12.70mm)	100 ft (30.48 m)
E/INS-THIN WALL-075-G	0.75 in (19.05 mm)	266.8 - 336.4, 397.5	0.501 in - 0.750 in (12.73 mm - 19.05 mm)	100 ft (30.48 m)
E/INS-THIN WALL-100-G	1.00 in (25.4 mm)	447, 556.5, 605, 636, 666.6, 715.5	0.751 in - 1.00 in (19.08 mm - 25.4 mm)	100 ft (30.48 m)
E/INS-THIN WALL-125-G	1.25 in (31.75 mm)	795, 900, 954, 1033.5, 1113	1.001 in - 1.25 in (25.65 mm - 31.75 mm)	100 ft (30.48 m)

E/Insulation Installation Tools

Accessories sold separately to improve ease of installation, ideal for use on large projects. Compatible with split line E/Insulation products.



Hand Glider

Product Name	Part #	Drawing	Material	Compatible with E/Insulation Part #
E/Insulation 750 Hand Glider Tool	E-INS-GLIDER-750	329-00-01	Polycarbonate	E/INS-025-G, E/INS-050-G, E/INS-075-G, E/INS-THIN WALL-050-G, E/INS-THIN WALL-075-G

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Seamless Conductor Insulation E/Tube | 40kV

Gray silicone rubber insulation tubing. For use on new station construction or rehabilitation. Conductor connections must be disconnected for installation. Provides **40kV** phase-to-ground protection. Can be cut to length.



Part #	Insulation Size	Conductor Size (AWG)	Conductor (OD) Diameter Size	Length Per Box
E/Tube-050/094-G	0.50 in (12.70 mm)	3/0, 4/0	0.4096 in - 0.500 in (10.40 mm - 12.70 mm)	100 ft (30.48 m)

Storage Recommendations

Store in a climate controlled environment

Temperature Range

-65°F to 500°F (-54°C to 260°C)

Related Documents

- MSG-431 E/Insulation Safety Data Sheet

Typical E/Insulation Physical Properties

Property	Test Method	Performance
Durometer	ASTM D2240	75 ±5
Tensile Strength	ASTM D412	700 psi
Elongation	ASTM D412	340%
Brittle Point	ASTM 2137	-90° F
UV Weathering	ASTM G53	5000 hrs / No change
Water Absorption	FED STD 601	3% max by weight
Flame Retardancy	UL94	V0

IEEE 1656 Standard Test Results for E/Insulation

Section	Procedure Description	Result
5.2	Wet Withstand	Pass
5.3	Wet power frequency flashover	Pass
5.4	Lightning impulse withstand	Pass
5.5	Cold temperature test	Pass
5.6	Ultraviolet aging	Pass
5.7	Salt fog aging	Pass
5.8	Retention testing	Pass
5.9	Flammability testing	Pass
5.10	Radio-influence voltage test	Pass

E/Insulation Regulatory Status

Regulation Name	Applicable Region	Status
Rural Utility Service	USA / USDA	Approved
PFAS	USA / EPA	Compliant
TSCA	USA / EPA	Compliant
Proposition 65	USA / California	Compliant
RoHS	European Union	Compliant
REACH	European Union	Compliant

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