



High-temperature wire

UL AWM 3239

High-Voltage Silicone Lead Wire

UL 758 Style 3239 3 kV to 50 kV DC corona-resistant silicone high-voltage lead wire



UL AWM Style 3239

3 kV to 50 kV DC

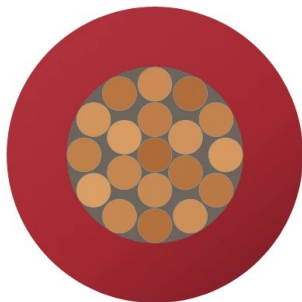
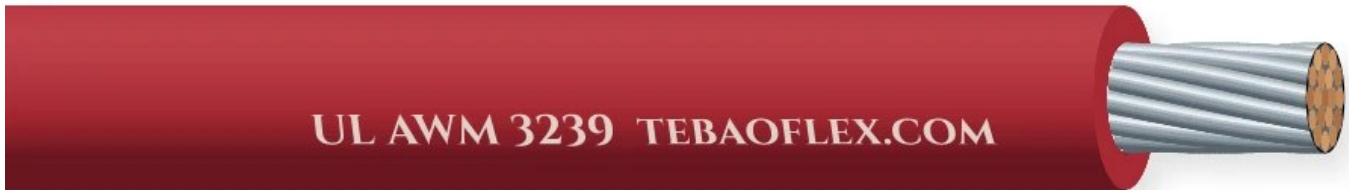
UL VW-1 Silicone

Application

UL AWM Style 3239 flexible high-voltage DC silicone lead wire with stranded tinned copper conductors (28–10 AWG) and void-free extruded silicone rubber insulation in voltage classes from 3 kV DC to 50 kV DC (-60 °C to +150/+200 °C, UL VW-1).

Typical uses: HV DC Power Supplies & Lasers, Medical X-Ray & CT Scanners, Electrostatic Precipitators & Ionisers, Semiconductor Ion Implanters, Analytical & Mass Spectrometers

Construction



Cross-section, not to scale

- 1 Flexible stranded tinned copper
- 2 Void-free extrusion boundary
- 3 Graded HV silicone dielectric
- 4 UL VW-1 anti-tracking surface

Technical data

Typical values

UL rated DC voltage classes	3, 6, 10, 15, 20, 25, 30, 40, 50 kV DC	UL dielectric withstand test	7.5 kV to 75 kV DC (per voltage grade)
Volume resistivity	$\geq 1 \times 10^{15} \Omega \cdot \text{cm}$ at +20 °C	Dielectric constant (1 kHz)	2.9 to 3.1 (low capacitive loading)
UL rated temperature	-60 °C to +150 °C (UL 3239 standard)	Compound thermal capability	Up to +200 °C continuous in air
Cold flexibility limit	-60 °C without cracking	Conductor size range	28 AWG to 10 AWG (0.08 to 5.26 mm ²)
Insulation wall range	30 mil (0.76 mm) to 150 mil (3.81 mm)	Min. bending radius	5 × overall wire diameter (fixed)
Flame retardance	UL 1581 VW-1 vertical wire flame pass	Corona & ozone resistance	Excellent HV corona & ozone stability
Halogen-free compound	IEC 60754-1/2 halogen-free silicone	Standards	UL 758 AWM Style 3239

Sizes

10 standard constructions

Tick the sizes you need and send this page to info@tebaoflex.com or WhatsApp +86 185 9591 3361.

Order designation	Cross-section / size	Conductor build	Wall ≈ mm	Outer Ø ≈ mm	Metal kg/km	Weight ≈ kg/km	Min. bend R fixed mm
Standard UL AWM 3239 configurations 10 sizes							
☐ UL 3239 24 AWG 3 kV DC	24 AWG (0.20 mm ²)	11×0.16 mm Sn-Cu	0.76	2.20	2.0	6.5	13
☐ UL 3239 22 AWG 6 kV DC	22 AWG (0.35 mm ²)	17×0.16 mm Sn-Cu	0.90	2.60	3.4	9.2	16
☐ UL 3239 22 AWG 10 kV DC	22 AWG (0.35 mm ²)	17×0.16 mm Sn-Cu	1.15	3.10	3.4	12.5	19
☐ UL 3239 18 AWG 10 kV DC	18 AWG (0.82 mm ²)	41×0.16 mm Sn-Cu	1.15	3.50	8.2	18.0	21
☐ UL 3239 20 AWG 15 kV DC	20 AWG (0.52 mm ²)	26×0.16 mm Sn-Cu	1.52	4.00	5.2	21.0	24
☐ UL 3239 18 AWG 20 kV DC	18 AWG (0.82 mm ²)	41×0.16 mm Sn-Cu	1.90	5.00	8.2	32.0	30
☐ UL 3239 18 AWG 25 kV DC	18 AWG (0.82 mm ²)	41×0.16 mm Sn-Cu	2.15	5.50	8.2	38.0	33
☐ UL 3239 16 AWG 30 kV DC	16 AWG (1.31 mm ²)	65×0.16 mm Sn-Cu	2.46	6.40	13.0	52.0	38
☐ UL 3239 16 AWG 40 kV DC	16 AWG (1.31 mm ²)	65×0.16 mm Sn-Cu	3.10	7.70	13.0	74.0	46
☐ UL 3239 14 AWG 50 kV DC	14 AWG (2.08 mm ²)	105×0.16 mm Sn-Cu	3.81	9.50	20.5	112.0	57

– Outer diameters and weights are nominal engineering values for UL AWM 3239 subject to standard manufacturing tolerances per UL 758 AWM Style 3239.

Electrical & rating data

10 sizes

Configuration	Max. DC R @ 20 °C Ω/km	Primary rating (A or kV)	Derated / AC rating	Dielectric test V AC rms
UL 3239 24 AWG 3 kV DC (24 AWG (0.20 mm ²))	86.00	3.0	1.0	7,500
UL 3239 22 AWG 6 kV DC (22 AWG (0.35 mm ²))	53.00	6.0	3.0	15,000
UL 3239 22 AWG 10 kV DC (22 AWG (0.35 mm ²))	53.00	10.0	4.0	22,000
UL 3239 18 AWG 10 kV DC (18 AWG (0.82 mm ²))	21.40	10.0	4.0	22,000
UL 3239 20 AWG 15 kV DC (20 AWG (0.52 mm ²))	33.80	15.0	7.0	32,000
UL 3239 18 AWG 20 kV DC (18 AWG (0.82 mm ²))	21.40	20.0	9.0	42,000
UL 3239 18 AWG 25 kV DC (18 AWG (0.82 mm ²))	21.40	25.0	11.0	50,000
UL 3239 16 AWG 30 kV DC (16 AWG (1.31 mm ²))	13.50	30.0	14.0	60,000
UL 3239 16 AWG 40 kV DC (16 AWG (1.31 mm ²))	13.50	40.0	18.0	75,000
UL 3239 14 AWG 50 kV DC (14 AWG (2.08 mm ²))	8.50	50.0	22.0	90,000

– Electrical resistance at +20 °C and dielectric withstand voltages verified per UL 758 AWM Style 3239.

Standards and approvals

- ✓ UL 758 AWM Style 3239
- ✓ CE (2014/35/EU) & RoHS 3 (2015/863/EU) Compliant
- ✓ REACH SVHC & Halogen/Asbestos Compliance Verified

Certifications



Management systems: ISO 9001, ISO 14001, ISO 45001

Request a quotation

Send the size, length and destination. An application engineer replies within 2 business hours.

WhatsApp / phone

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Email

info@tebaoflex.com

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tebaoflex.com/cables/ul-3239-high-voltage-silicone-lead-wire



Typical values for this cable type, based on UL 758 AWM Style 3239. Values for your order are confirmed in the quotation. Subject to change without notice. Jiangsu Tebaoflex Special Cable Co., Ltd., Taicang, Jiangsu, China.