



High-temperature wire

UL AWM 5170

450°C Mica-Tape and Glass-Braid High-Temperature

UL 758 Style 5170 +450 °C 600 V AC mica-tape and E-glass single-core appliance wire



UL AWM Style 5170

+450 °C Continuous

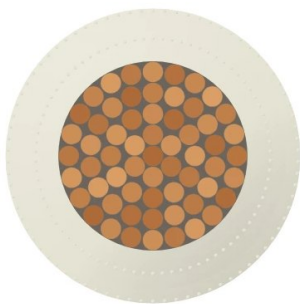
600 V AC · UL VW-1

Application

UL AWM Style 5170 (+450 °C, 600 V AC) high-temperature appliance wire engineered with a 27 % nickel-plated copper (ASTM B355 Class 27) or pure Nickel 200 core, lapped phlogopite mica tapes, and a treated E-glass outer braid (24–4/0 AWG).

Typical uses: Commercial Pizza & Deck Ovens, Plastics Extruder Band Heaters, Industrial Cartridge & Strip Heaters, Glass & Metal Heat-Treating, Semiconductor Thermal Chucks

Construction



Cross-section, not to scale

- 1 27 % nickel-plated copper or pure nickel
- 2 Lapped phlogopite mica tapes
- 3 Continuous-filament E-glass braid
- 4 Anti-fray high-temp saturant

Technical data

Typical values

UL / CSA rated voltage	600 V AC rms	Dielectric withstand test	2,000 V AC rms (1 min) · 6.0 kV spark
Conductor conductivity	~75 % IACS (27 % Ni-Cu) · ~18 % IACS (Ni 200)	Insulation resistance (+20 °C)	≥ 500 MΩ·km dry
UL continuous temperature	-60 °C to +450 °C	Short-term thermal peak	+500 °C (27 % Ni-Cu) · +550 °C (Ni 200)
Initial bake-in note	Organic saturant cures off harmlessly > +300 °C	Conductor size range	24 AWG to 4/0 AWG (0.20 to 107 mm²)
Composite wall thickness	0.76 mm (30 mil) to 1.90 mm (75 mil)	Min. bending radius	6 × overall wire diameter (fixed)
Flame test	UL 1581 VW-1 & CSA FT1 vertical flame pass	Abrasion & cut-through	Reinforced by saturated E-glass outer braid
Halogen-free build	Halogen-free mica & E-glass insulation	Standards	UL 758 Style 5170 · CSA AWM I A/B 450 °C

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 5170 configurations 10 sizes							
☐ UL 5170 1×0.35 (22 AWG)	0.35 mm² (22 AWG)	7×0.25 mm 27% Ni-Cu	0.85	2.50	3.4	10.5	15
☐ UL 5170 1×0.52 (20 AWG)	0.52 mm² (20 AWG)	10×0.25 mm 27% Ni-Cu	0.85	2.70	5.2	13.0	16
☐ UL 5170 1×0.82 (18 AWG)	0.82 mm² (18 AWG)	16×0.25 mm 27% Ni-Cu	0.90	3.00	8.2	17.5	18
☐ UL 5170 1×1.31 (16 AWG)	1.31 mm² (16 AWG)	26×0.25 mm 27% Ni-Cu	0.90	3.30	13.0	24.0	20
☐ UL 5170 1×2.08 (14 AWG)	2.08 mm² (14 AWG)	41×0.25 mm 27% Ni-Cu	0.95	3.80	20.5	34.0	23
☐ UL 5170 1×3.31 (12 AWG)	3.31 mm² (12 AWG)	65×0.25 mm 27% Ni-Cu	0.95	4.30	32.5	48.0	26
☐ UL 5170 1×5.26 (10 AWG)	5.26 mm² (10 AWG)	105×0.25 mm 27% Ni-Cu	1.05	5.10	51.5	72.0	31
☐ UL 5170 1×8.37 (8 AWG)	8.37 mm² (8 AWG)	133×0.28 mm 27% Ni-Cu	1.15	6.30	82.0	112.0	38
☐ UL 5170 1×13.3 (6 AWG)	13.3 mm² (6 AWG)	133×0.36 mm 27% Ni-Cu	1.25	7.60	130.0	172.0	46
☐ UL 5170 1×21.2 (4 AWG)	21.2 mm² (4 AWG)	133×0.45 mm 27% Ni-Cu	1.40	9.20	208.0	265.0	55

– Outer diameters and weights are nominal engineering values for UL AWM 5170 subject to standard manufacturing tolerances per UL 758 AWM Style 5170 (450 °C, 600 V AC).

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
1×0.35 mm² (22 AWG)	62.00	9.0	4.0	2,000
1×0.52 mm² (20 AWG)	40.50	12.0	6.0	2,000
1×0.82 mm² (18 AWG)	25.50	16.0	8.0	2,000
1×1.31 mm² (16 AWG)	16.00	22.0	11.0	2,000
1×2.08 mm² (14 AWG)	10.10	30.0	15.0	2,000
1×3.31 mm² (12 AWG)	6.40	40.0	20.0	2,000
1×5.26 mm² (10 AWG)	4.00	55.0	28.0	2,000
1×8.37 mm² (8 AWG)	2.55	75.0	38.0	2,000
1×13.3 mm² (6 AWG)	1.60	100.0	50.0	2,000
1×21.2 mm² (4 AWG)	1.02	135.0	68.0	2,000

– Electrical resistance at +20 °C and dielectric withstand voltages verified per UL 758 AWM Style 5170 (450 °C, 600 V AC).

Standards and approvals

- ✓ UL 758 AWM Style 5170 (450 °C, 600 V AC)
- ✓ 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

+86 185 9591 3361

Email

info@tebaoflex.com

Web

tebaoflex.com/cables/ul-awm-5170-450-c-mica-tape-and-glass-braid-high-temperature-appliance-wire



Typical values for this cable type, based on UL 758 AWM Style 5170 (450 °C, 600 V AC). Values for your order are confirmed in the quotation. Subject to change without notice. Jiangsu Tebaoflex Special Cable Co., Ltd., Taicang, Jiangsu, China.