

Arctic Ultraflex Blue® Premier Arctic Grade Wire

ARCTIC ULTRAFLEX BLUE®

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Arctic Ultraflex Blue® continues to be the premier **arctic grade** wire rated and proven to work in extreme temperature ranges of -55°C to 105°C. This highly flexible wire combines finely stranded copper construction with a durable jacket material that resists the abuses of oil and gasoline, sunlight, saltwater, acids, and chemicals.

Arctic Ultraflex Blue® is highly abrasion resistant and can be used in most 600 VOLT applications. UL Listed as AWM (Appliance Wiring Material).

Arctic Ultraflex Blue® has numerous applications, including those approved under NEC article 400 and associated articles.

Applications

- UL 508A Industrial control panels
- Internal appliance and equipment wiring
- Inverter cables and wiring
- Industrial machines and robotics
- Construction equipment, forklifts, golf carts
- Marine, RV and automotive wiring
- Medium and heavy-duty trucks and trailers
- Load banks, motor leads, welding cable
- Batteries and chargers
- Power hookup cable



-55°C TO 105°C



Arctic Ultraflex Blue®

500 MCM - 5054/30
UL Class K Stranding
per conductor





Typical Legend

E196955  AWM 500MCM OIL RESISTANT 600V VW-1
 ... ARCTIC ULTRAFLEX BLUE® -55°C TO 105°C ...
 CSA 234608 TEW 105°C 600V FT1

Insulation Properties

Properties	Test Method	Performance
Specific Gravity (±.02)	ASTM D-792	1.30
Durometer Shore "A" (±.02) INST./15 seconds	ASTM D-2240	77/65
Tensile Strength (60 mil)	ASTM D-412	2000
Elongation (%)	ASTM D-412	300
Brittle Point (C)	ASTM D-746	-55°C
Oxygen Index %	ASTM D-2863	25.0
Oil Aged 18 Hours @ 121°C		
% Retention of Tensiles	UL Standard	129%
% Retention of Elongation	UL Standard	72%
Air Aged 7 Days @ 136°C		
% Retention of Tensiles	ASTM D412-80	109%
% Retention of Elongation	ASTM D412-80	100%
Oil Aged 7 Days @ 60°C		
% Retention of Tensiles	ASTM D412-80	124%
% Retention of Elongation	ASTM D412-80	89%
VW-1 Flame Test	UL Standard	Pass
Product Cold Bend Test	UL Standard	Pass
Voltage Rating	UL Standard	600

Class K Copper Stranded Construction Specifications

Size	Class K Copper Strand Qty/AWG	Class K Copper Strand Style	Nominal Conductor Outside Diameter	Insulation Thickness	Minimum Finished Outside Diameter	Ampacity* 30°C (86°F)	Ampacity* 40°C (104°F)
18 AWG	16/30	Tinned	.047"	.030"	.105"	n/a	n/a
16 AWG	26/30	Tinned	.059"	.030"	.118"	26	24
14 AWG	41/30	Tinned	.074"	.030"	.130"	38	36
12 AWG	65/30	Tinned	.093"	.030"	.150"	44	41
10 AWG	105/30	Tinned	.118"	.030"	.180"	60	56
8 AWG	168/30	Bare	.150"	.045"	.240"	85	81
6 AWG	266/30	Bare	.190"	.060"	.310"	115	106
4 AWG	420/30	Bare	.240"	.060"	.360"	150	142
2 AWG	665/30	Bare	.310"	.060"	.430"	205	193
1 AWG	836/30	Bare	.335"	.080"	.495"	240	223
1/0 AWG	1064/30	Bare	.390"	.080"	.550"	285	264
2/0 AWG	1330/30	Bare	.435"	.080"	.600"	325	304
3/0 AWG	1672/30	Bare	.490"	.080"	.650"	380	355
4/0 AWG	2109/30	Bare	.530"	.085"	.710"	440	411
250 MCM	2451/30	Bare	.685"	.095"	.875"	495	461
350 MCM	3458/30	Bare	.820"	.095"	1.010"	620	512
500 MCM	5054/30	Bare	.995"	.110"	1.220"	760	710

*Ampacities of 600V and 1000V 105°C AWM wires in air. **Note:** Ampacities based on single conductor in free air, 30°C (86°F) or 40°C (104°F) ambient temperature as specified, 105°C (221°F) conductor temperature, per table 310-17 of the NEC (adjusted for 105°C). Free air ratings assume a one-cable diameter spacing between adjacent conductors.

Polar Wire Products is the exclusive manufacturer
 of **Arctic Ultraflex Blue®**
 Premium Arctic Grade Wire

