

Class 180 polyester coated imide film insulated round copper magnet wire

Table1 Specifications

Insulation Material	Polyester/imide/amide
Heat Rating	180
Size/mm	Single:14-56 AWG Multiple: 4-50 AWG Three:14-44 AWG
Certificate	UL



Table 2 Properties

Adhesion and Flexibility	Thin film coating with no visible cracks
Elongation	Not less than 7-33
Thermal Shock	No visible cracks in thin film coating after conditioning at 200°C
Springback	14-30 AWG: Maximum angle per turn: not more than the value in the range of 42-70 Mandrel diameter (mm): not more than the value in the range of 82.6±0.127-19.0±0.127 Tension (±2%): not more than the value in the range of 4.45±2%-0.56±2% 4-13 AWG: No more than 5°
Dielectric breakdown	4-9 AWG: not less than 3400v-3700v 10-23.5 AWG: not less than 2740v-3740v 24-37 AWG: not less than 360v-2710v 38-44 AWG: not less than 300v-500v

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Table 2 Properties

Continuity	14-44 AWG: Maximum discontinuities comply with 350 $\pm 5\%$ – 2500 $\pm 5\%$ Maximum discontinuities comply with 3-15. 45-56 AWG: Maximum discontinuities comply with 10-25.
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Table 3 Periodic conformance tests

Thermoplastic Flow	The median value is not less than 300°C
Solubility	Samples immersed in xylene and 50/50 xylene/butyl cellosolve should not soften enough to expose bare conductors
Dielectric breakdown at rated temperature	The average value is not less than 75% of the required value at room temperature

Features

- High heat resistance
- Corrosion resistance
- Mechanical strength
- Easy to process
- Chemical stability
- Excellent insulation performance

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Scratch resistance

Helical Coil Preparation and Bond Retention

Wire Size Range AWG	Mandrel Diameter (inches)	Maximum Winding Force (grams)	Load on Coil During Bonding (grams)	Peel Strength at Room Temperature (grams)	Peel Strength at Elevated Temperature (grams)
14-14.5	0.55	1200	675	850	350
15-15.5	0.47	1200	500	650	250
16-16.5	0.43	1200	450	600	225
17-17.5	0.39	1200	400	500	200
18-18.5	0.35	500	350	425	175
19-19.5	0.31	500	250	350	125
20-20.5	0.28	500	200	285	100
21--21.5	0.24	500	175	225	90
22-23.5	0.20	200	125	160	65
24-25.5	0.16	200	75	110	35
26-27.5	0.12	80	50	70	25
28-31.5	0.08	80	35	35	20
32-33.5	0.04	30	25	25	10
34-37.5	0.04	12	15	12	10
38-40.5	0.04	5	5	8	5
41-41	0.04	5	5	5	5



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郑州蓝普实业有限公司

Zhengzhou LP Industry CO., LTD.

Phone: 0086-19337889070

Web: <https://lpwindingwire.com>

Email: office@cnlpzz.com

Add: NO. 86 Jingsan Road, Jinshui District, Zhengzhou, China