Class 200 Polyester Glass Fiber Covered Film-Insulated Square Copper Magnet Wire

1. Specifications

Insulation materials	Polyester Glass Fiber Film(Silicone Treated)
Thermal Class	200
Conductor	Copper
Insulation thickness	Single/Double
Certificate	MW-48C

2. Wire Types

a. Polyester Glass Fiber Covered Silicone Treated Bare Square Copper Magnet Wire

b. Polyester Glass Fiber Covered Silicone Treated Film-Insulated Square Copper Magnet Wire

c. Polyester Glass Fiber Covered Bare Square Copper Magnet Wire

d. Polyester Glass Fiber Covered Film-Insulated Square Copper Magnet Wire

3.Dimensions

Table1 (mm) Heavy and Quad Film-Insulated Square Magnet Wire Increase in Dimensions Due to Film Coating

Square AWG Size	Bare Wire Dimensions			Radii (± 25%) Nominal	Heavy		Quadruple	
	Minimum	Nominal	Maximum		Minimum Increase	Maximum Overall	Minimum Increase	Maximum Overall
1	7.275	7.348	7.422	1.00	0.080	7.549	0.127	7.600
2	6.477	6.543	6.609	1.00	0.080	6.736	0.127	6.787
3	5.768	5.827	5.885	1.00	0.080	6.012	0.127	6.063
4	5.138	5.189	5.240	1.00	0.080	5.367	0.127	5.418
5	4.575	4.620	4.666	1.00	0.080	4.793	0.127	4.844
6	4.074	4.115	4.155	0.80	0.080	4.282	0.127	4.333
7	3.630	3.665	3.701	0.80	0.080	3.828	0.127	3.879
8	3.231	3.264	3.297	0.80	0.080	3.424	0.127	3.475
9	2.878	2.906	2.934	0.67	0.080	3.061	0.127	3.112

10	2.563	2.588	2.614	0.67	0.080	2.741	0.127	2.791
11	2.278	2.304	2.329	0.50	0.080	2.456	0.127	2.507
12	2.027	2.052	2.078	0.50	0.080	2.205	0.127	2.256
13	1.803	1.829	1.854	0.40	0.080	1.981	0.127	2.032
14	1.603	1.628	1.654	0.40	0.080	1.781	0.127	1.831

Table2 (mm) Single Polyester Glass Fiber Covered Heavy Film-Insulated Square Copper Magnet Wire (Minimum Increase and Maximum Overall Dimensions Due to Insulation)

AWG Size	Bare Wire Dimensions			Radii (±25%) Nominal	Heavy Film-Coated Single Polyester Glass Covered	
	Minimum	Nominal	Maximum		Minimum Increase	Maximum Overall
1/0	8.176	8.252	8.329	1.00	0.229	8.661
1	7.275	7.348	7.422	1.00	0.229	7.747
2	6.477	6.543	6.609	1.00	0.203	6.909
3	5.768	5.827	5.885	1.00	0.203	6.198
4	5.138	5.189	5.240	1.00	0.203	5.563
5	4.575	4.620	4.666	1.00	0.203	4.978
6	4.074	4.115	4.155	0.80	0.203	4.445
7	3.630	3.665	3.701	0.80	0.203	3.988
8	3.231	3.264	3.297	0.80	0.203	3.581
9	2.878	2.906	2.934	0.67	0.203	3.226
10	2.563	2.588	2.614	0.67	0.178	2.870
11	2.278	2.304	2.329	0.50	0.178	2.591
12	2.027	2.052	2.078	0.50	0.178	2.337
13	1.803	1.829	1.854	0.40	0.178	2.134
14	1.603	1.628	1.654	0.40	0.178	1.930

Table3 (mm) Double Polyester Glass Fiber Covered, Bare or Heavy Film-Insulated Square Copper Magnet Wire — Minimum Increase and Maximum Overall Dimensions Due to Insulation

Square AWG Size	Bare Wire Dimensions			Nominal Radii ±25% mm	Bare Double Glass Covered		Heavy Film-Insulated Double Glass Covered	
	Minimu	Nomina	Maximu		Minimum Increase	Maximum Overall	Minimum	Maximum Overall
1/0	8.171	8.252	8.334	1.00	0.305	8.738	0.381	8.865
1	7.275	7.348	7.422	1.00	0.305	7.823	0.381	7.950
2	6.477	6.543	6.609	1.00	0.305	7.010	0.381	7.137
3	5.768	5.827	5.885	1.00	0.305	6.299	0.381	6.426
4	5.138	5.189	5.240	1.00	0.305	5.639	0.381	5.766
5	4.575	4.620	4.666	1.00	0.279	5.055	0.356	5.182
6	4.074	4.115	4.155	0.80	0.279	4.547	0.356	4.674
7	3.630	3.665	3.701	0.80	0.254	4.064	0.330	4.191
8	3.231	3.264	3.297	0.80	0.229	3.632	0.305	3.759

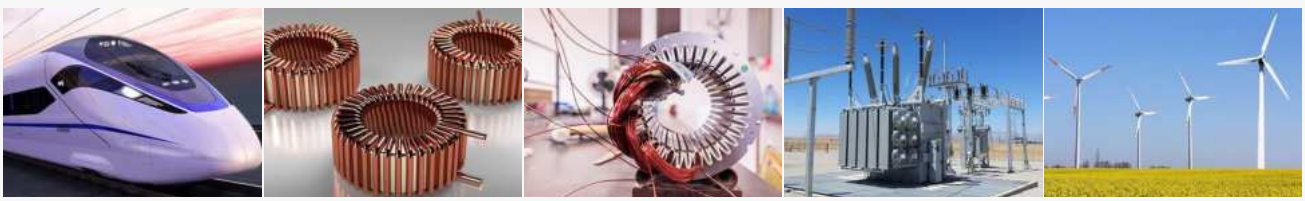
9	2.878	2.906	2.934	0.67	0.229	3.277	0.305	3.404
10	2.563	2.588	2.614	0.67	0.203	2.921	0.279	3.048
11	2.278	2.304	2.329	0.50	0.203	2.616	0.279	2.743
12	2.027	2.052	2.078	0.50	0.203	2.362	0.279	2.489
13	1.803	1.829	1.854	0.40	0.203	2.134	0.279	2.261
14	1.603	1.628	1.654	0.40	0.203	1.930	0.279	2.057

4.General Requirements

Properties	**Requirement**
DIMENSIONS	Square Wire: 1. Radii in accordance with 0.40-1.00mm (**±25%**) 2. Thickness and width tolerances in accordance with **Table1** 3. Dimensions and increase in thickness: Single: in accordance with **Table2** Double: in accordance with **Table3**
ADHERENCE AND FLEXIBILITY	Single or Double with underlying film: no cracks visible in the film insulation after 20% elongation. Examine with normal vision and without removing the polyester glass fiber covering. * Double without underlying film: not less than 75 V/mil (2950 V/mm) of minimum thickness of the polyester glass fiber covering on one side. *
ELONGATION	Not less than 32% for a thickness less than 0.049 in. (1.25 mm) and greater or 30% for a thickness less than 0.049 in. (1.25 mm)
SPRINGBACK	Polyester glass fiber covered bare: not greater than 5º Polyester glass fiber covered Heavy film-insulated: not greater than 5.5º
DIELECTRIC BREAKDOWN	Not less than 90 V/mil (3543 V/mm) of the minimum thickness of the glass fiber covering on one side plus the minimum breakdown given in **Table4** for the film-insulated wire, if applicable

Table 4 Dielectric Breakdown, Film-Insulated Rectangular and Square Magnet Wire

	Minimum Breakdown Voltage	
Film Insulation	**Any Three of Four Values**	**Fourth Value**
Heavy	1500	500
Quad	2500	900



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