



# Bondable Products

Magnet Wire / Winding Wire

	18 Polybondex® T #2 Bond S		18 Polybondex® T #2 Bond E		18 Polybondex® T #2 Bond M		18 Polybondex® G #2 Bond S		18 Polybondex® G #2 Bond E		18 Polybondex® G #2 Bond M	
	Typical Performance	Required Performance	Typical Performance	Required Performance	Typical Performance	Required Performance	Typical Performance	Required Performance†	Typical Performance	Required Performance†	Typical Performance	Required Performance
<b>PHYSICAL PROPERTIES</b>												
CONDUCTOR ELONGATION	38%	32%, minimum	38%	32%, minimum	38%	32%, minimum	38%	32%, minimum	38%	32%, minimum	38%	32%, minimum
SPRINGBACK	54°	62°, maximum	54°	62°, maximum	54°	62°, maximum	54°	62°, maximum	54°	62°, maximum	54°	62°, maximum
FLEXIBILITY	Pass	20%, 3XD, No exposed bare	Pass	20%, 3XD, No exposed bare	Pass	20%, 3XD, No exposed bare	Pass	20%, 3XD, No exposed bare	Pass	20%, 3XD, No exposed bare	Pass	20%, 3XD, No exposed bare
ABRASION RESISTANCE: REPEATED SCRAPE	42 avg. strokes	No Requirement Established	109 avg. strokes	No Requirement Established	87 avg. strokes	No Requirement Established	120 avg. strokes	No Requirement Established	159 avg. strokes	No Requirement Established	99 avg. strokes	No Requirement Established
ABRASION RESISTANCE: UNILATERAL SCRAPE	2448 2568	Actual Performance Avg. Performance	3060 3145	Actual Performance Avg. Performance	2513 2563	Actual Performance Avg. Performance	2700 2760	Actual Performance Avg. Performance	3195 3240	Actual Performance Avg. Performance	2100 2175	Actual Performance Avg. Performance
COEFFICIENT OF FRICTION	.02 - .06	No Requirement Established	.02 - .06	No Requirement Established	.02 - .06	No Requirement Established	.02 - .06	No Requirement Established	.02 - .06	No Requirement Established	.02 - .06	No Requirement Established
<b>CHEMICAL PROPERTIES</b>												
SOLUBILITY (Xylene)	Pass	Xylene, No exposed bare	Pass	Xylene, No exposed bare	Pass	Xylene, No exposed bare	Pass	Xylene, No exposed bare	Pass	Xylene, No exposed bare	Pass	Xylene, No exposed bare
SOLUBILITY (Xylene/Butyl)	Pass	Xylene/butyl cellosolve, No exposed bare	Pass	Xylene/butyl cellosolve, No exposed bare	Pass	Xylene/butyl cellosolve, No exposed bare	Pass	Xylene/butyl cellosolve, No exposed bare	Pass	Xylene/butyl cellosolve, No exposed bare	Pass	Xylene/butyl cellosolve, No exposed bare
<b>THERMAL PROPERTIES</b>												
HEAT SHOCK RESISTANCE	Pass	20%, 3XD @ 200° No exposed bare	Pass	20%, 3XD @ 200° No exposed bare	Pass	20%, 3XD @ 200° No exposed bare	Pass	20%, 3XD @ 200° No exposed bare	Pass	20%, 3XD @ 200° No exposed bare	Pass	20%, 3XD @ 200° No exposed bare
THERMOPLASTIC FLOW	> 350°C	Median min. 300°C	> 350°C	Median min. 300°C	> 350°C	Median min. 300°C	> 375°C	Median min. 300°C	> 375°C	Median min. 300°C	> 375°C	Median min. 300°C
<b>ELECTRICAL PROPERTIES</b>												
DIELECTRIC BREAKDOWN VOLTAGE ROOM TEMPERATURE	12,200 volts, avg.	5,700 volts, minimum	12,200 volts, avg.	5,700 volts, minimum	12,200 volts, avg.	5,700 volts, minimum	12,200 volts, avg.	5,700 volts, minimum	12,200 volts, avg.	5,700 volts, minimum	12,200 volts, avg.	5,700 volts, minimum
DIELECTRIC BREAKDOWN VOLTAGE RATED TEMPERATURE	10,300 volts, avg.	4,275 volts, minimum	10,300 volts, avg.	4,275 volts, minimum	10,300 volts, avg.	4,275 volts, minimum	10,300 volts, avg.	4,275 volts, minimum	10,333 volts, avg.	4,275 volts, minimum	10,333 volts, avg.	4,275 volts, minimum
CONTINUITY @ 1,500 VOLTS	≤ 1 faults/100 ft.	5 faults/100 ft.	≤ 1 faults/100 ft.	5 faults/100 ft.	≤ 1 faults/100 ft.	5 faults/100 ft.	≤ 1 faults/100 ft.	5 faults/100 ft.	≤ 1 faults/100 ft.	5 faults/100 ft.	≤ 1 faults/100 ft.	5 faults/100 ft.
BOND STRENGTH @ ROOM TEMPERATURE Bond M and E Bonded @ 200°C - 1 hour Bond S Bonded @ 220°C - 1 hour	34.35	No specification	30.38	No specification	33.92	No specification	45.41	30 lbs. - min.	38.49	30 lbs. - min.	47.00	No specification
BOND STRENGTH @ 100°C	27.79	No specification	11.95	No specification	10.38	No specification	24.31	No specification	10.57	No specification	8.78	No specification
BOND STRENGTH @ 130°C	25.42	No specification	9.58	No specification	3.30	No specification	22.05	No specification	8.46	No specification	2.18	No specification
BOND STRENGTH @ 150°C	20.78	No specification	7.47	No specification	No Bond Strength	No specification	16.51	No specification	7.14	No specification	No Bond Strength	No specification
BOND STRENGTH @ 180°C	6.51	No specification	4.29	No specification	-	-	7.37	3 lbs. - min.†	4.24	3 lbs. - min.†	-	-

Note: The values shown represent typical average results and are not intended to be used as design data or specification limits.  
† Requirements of NEMA MW 1000; Section MW 102. Typical performance of base coat.

For customized or engineered bondable constructions, please consult Essex Furukawa Magnet Wire Marketing.

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