

Test Data Compilation



Guy Strain “Johnny Ball” Insulators L502, L504, L506

Rev A – 10-06-2020 – Initial Release.

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1. Introduction

The purpose of this report is to compile all test data for the L50X series of guy strain insulators into one report. Data is in accordance with ANSI C29.4.

Table 1: Guy Strain Catalog to ANSI Class

Guy Strain Insulator, "Johnny Ball"		
Catalog Number	Max. Cable Size	ANSI Class
L502	3/8"	54-1
L504	1/2"	54-2
L506	5/8"	54-3

2. Data

2.1 – Dimensional, Visual, and Porosity Requirements

For the visual requirements, insulators are selected at random and inspected for imperfections in the glaze. None were found. These samples were then tested.

Table 2: L502 Dimensional Verification – Class 54-1

L502 Dimensions				
Item	ANSI C29.4 Requirement	Measured value (mm)		
		Sample 1	Sample 2	Sample 3
Total Height	89 ± 5.8	91.5	91.8	92.2
Hole Diameter	16 ± 1.5	15.8	16	16.1
Distance between Holes	44 ± 3	44	44	44
Width	64 ± 4.5	61.5	60.8	61.4
Thickness	44 ± 1.5	43	43	43
Leakage Distance	41 - 3.14	39	40	39

Table 3: L504 Dimensional Verification – Class 54-2

L504 Dimensions				
Item	ANSI C29.4 Requirement	Measured value (mm)		
		Sample 1	Sample 2	Sample 3
Total Height	108 ± 5.8	108.8	112.4	110.6
Hole Diameter	22 ± 1.5	23.5	23	23.5
Distance between Holes	57 ± 3	58.2	59	57.6
Width	73 ± 4.5	76.4	75.2	76
Thickness	54 ± 1.5	55	55.2	54.8
Leakage Distance	48 - 3.14	48	50	49

Table 4: L506 Dimensional Verification – Class 54-3

L506 Dimensions				
Item	ANSI C29.4 Requirement	Measured value (mm)		
		Sample 1	Sample 2	Sample 3
Total Height	140 ± 5.8	144.5	144.8	144
Hole Diameter	25.4 ± 1.5	25.6	25.8	25.6
Distance between Holes	79 ± 3	78.5	79	78.5
Width	86 ± 4.5	86.2	86	85.5
Thickness	60 ± 1.5	61	60.8	60.8
Leakage Distance	48 - 3.14	69	68	69

For the porosity test, samples were chosen from the broken fragments of the below tensile tests and tested in accordance with ANSI C29.1. The results for all samples tested passed, and no dye penetrated the body of the dielectric.

2.2 – Low Frequency Dry and Wet Flashover Tests

Table 5: L502 Flashover Results - Class 54-1

L502 Low Frequency Dry Flashover					
ANSI C29.4 Requirement	Sample 1	Sample 2	Sample 3	AVG	Pass/Fail
95% of 25 kV	24.6 kV	24.5 kV	24.5 kV	24.5 kV	Pass
L502 Low Frequency Wet Flashover					
ANSI C29.4 Requirement	Sample 1	Sample 2	Sample 3	AVG	Pass/Fail
90% of 12 kV	11.3 kV	11.5 kV	11.3 kV	11.4 kV	Pass

Table 6: L504 Flashover Results - Class 54-2

L504 Low Frequency Dry Flashover					
ANSI C29.4 Requirement	Sample 1	Sample 2	Sample 3	AVG	Pass/Fail
95% of 30 kV	31.6 kV	32 kV	31.4 kV	31.7 kV	Pass
L504 Low Frequency Wet Flashover					
ANSI C29.4 Requirement	Sample 1	Sample 2	Sample 3	AVG	Pass/Fail
90% of 15 kV	14.8 kV	15.4 kV	15.0 kV	15.1 kV	Pass

Table 7: L506 Flashover Results - Class 54-3

L506 Low Frequency Dry Flashover					
ANSI C29.4 Requirement	Sample 1	Sample 2	Sample 3	AVG	Pass/Fail
95% of 35 kV	24.6 kV	24.5 kV	24.5 kV	24.5 kV	Pass
L506 Low Frequency Wet Flashover					
ANSI C29.4 Requirement	Sample 1	Sample 2	Sample 3	AVG	Pass/Fail
90% of 18 kV	11.3 kV	11.5 kV	11.3 kV	11.4 kV	Pass

2.3 – Tensile Test

Table 8: L502 Tensile Results - Class 54-1

L502 Tensile Test						
ANSI C29.4 Requirement	Sample 1	Sample 2	Sample 3	Sample 4	Sample 5	Pass/Fail
53 kN	57 kN	59 kN	55 kN	56 kN	60 kN	Pass

Table 9: L504 Tensile Results - Class 54-2

L504 Tensile Test						
ANSI C29.4 Requirement	Sample 1	Sample 2	Sample 3	Sample 4	Sample 5	Pass/Fail
53 kN	62 kN	60 kN	64 kN	68 kN	61 kN	Pass

Table 10: L506 Tensile Results - Class 54-3

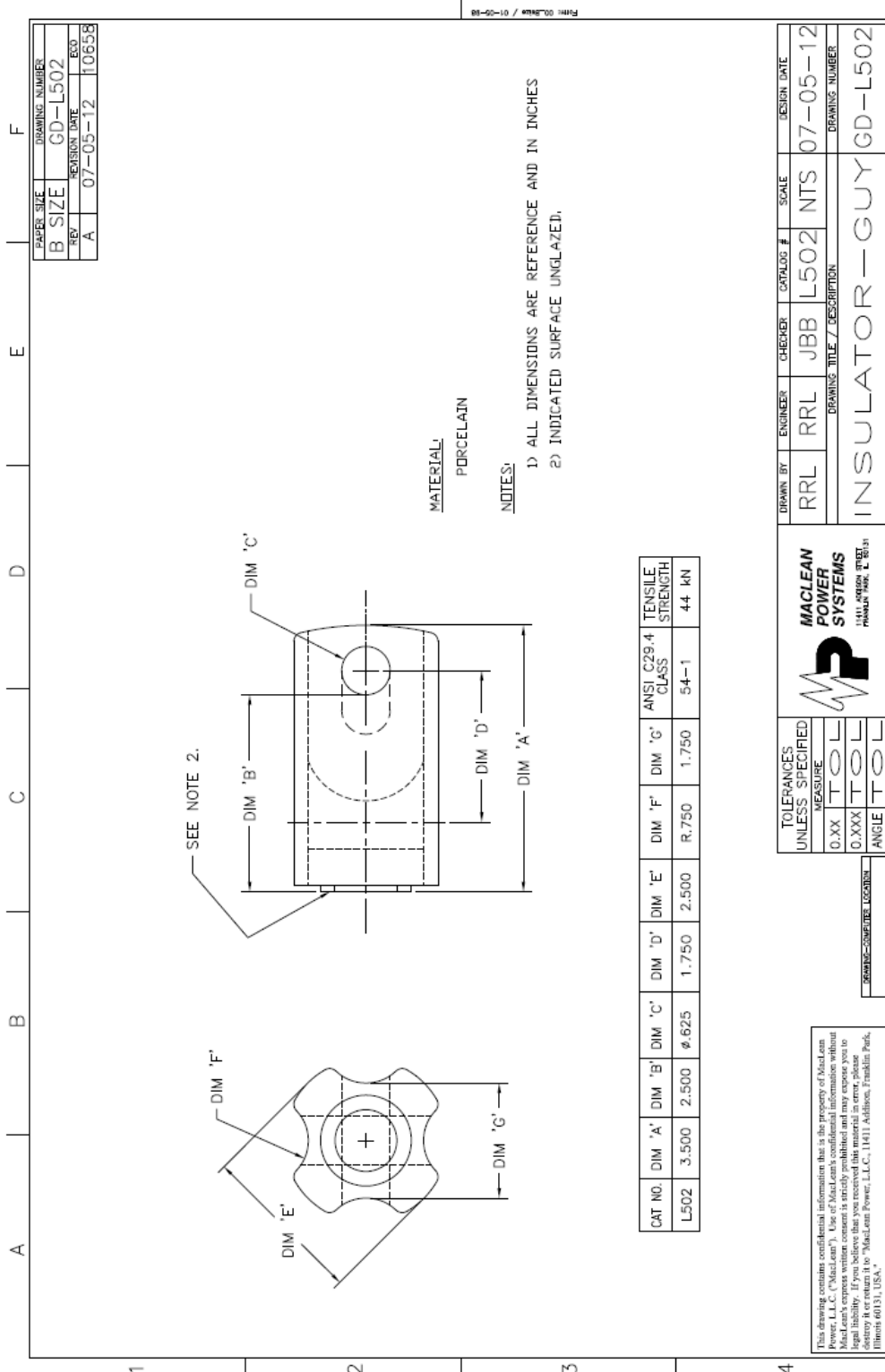
L506 Tensile Test						
ANSI C29.4 Requirement	Sample 1	Sample 2	Sample 3	Sample 4	Sample 5	Pass/Fail
89 kN	126 kN	122 kN	134 kN	124 kN	132 kN	Pass

3. Conclusion

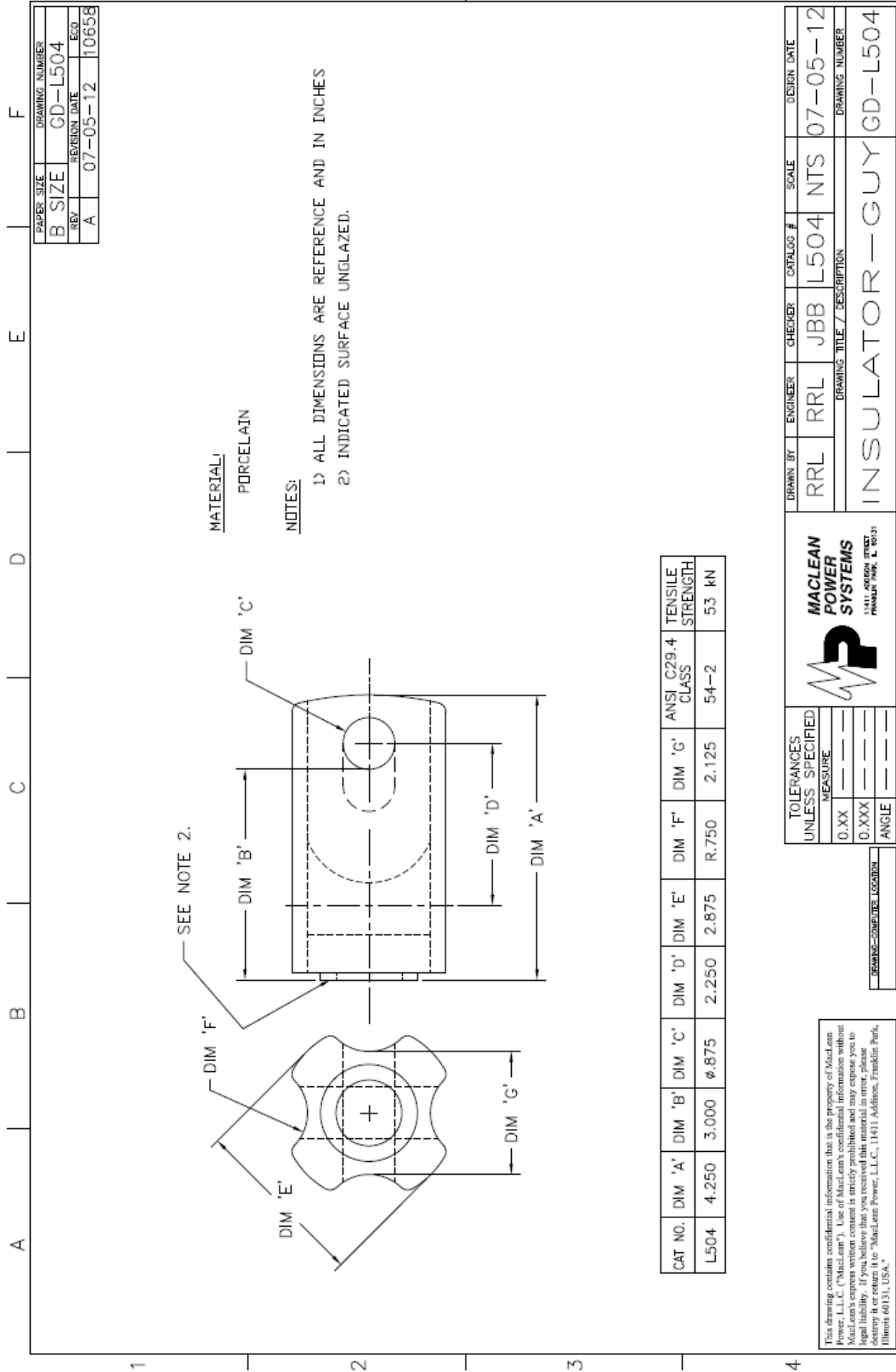
The L50X series of guy strain insulators are in accordance with ANSI C29.4 requirements.

4. Appendix

A. Customer Drawing – L502



B. Customer Drawing – L504



C. Customer Drawing – L506

