

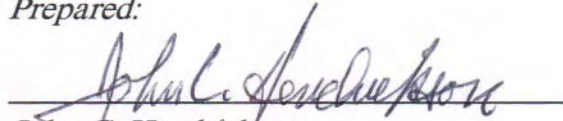
PRODUCT ENGINEERING

TEST REPORT

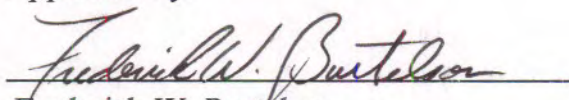


ENGINEERING REPORT NUMBER J1368Z-1
JOSLYN J1368Z STEEL POLE TOP PIN ... LONGITUDINAL TEST
DATE: MAY 1, 1995

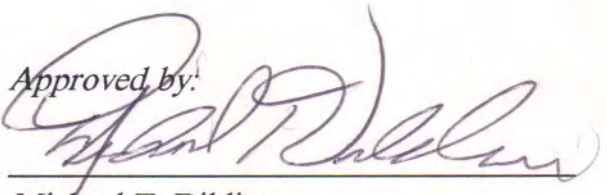
Prepared by:


John C. Hendrickson
Associate Engineer

Approved by:


Frederick W. Burtelson
Engineering Manager

Approved by:


Michael T. Dildine
Quality Assurance Manager

TEST REPORT

SUBJECT: LONGITUDINAL TEST ON THE J1368Z STEEL POLE TOP PIN WITH NYLON ALLOY 1" THREADS

PURPOSE

To determine the capability of the J1368Z Pole Top Pin to meet the longitudinal test set forth in ANSI C135.22.

PROCEDURE

A J1368Z Steel Pole Top Pin was mounted to a steel test fixture and placed on the moveable crosshead of the Baldwin Tate-Emery Test Machine. A steel thimble was attached to the Nylon Alloy Threads to accommodate a 9" moment arm. A strandvise was then looped over the steel thimble and secured in the stationary crosshead of the test machine. A 1,200 lb. load was applied. **(See Test-up Illustration.)**

RESULTS

Sample Number	Minimum Load 10° Deflection 1,200 lbs.
1	PASS
2	PASS
3	PASS
4	PASS
5	PASS
6	PASS

TEST REPORT

SUBJECT: LONGITUDINAL TEST ON THE J1368Z STEEL POLE TOP PIN WITH
NYLON ALLOY 1" THREADS

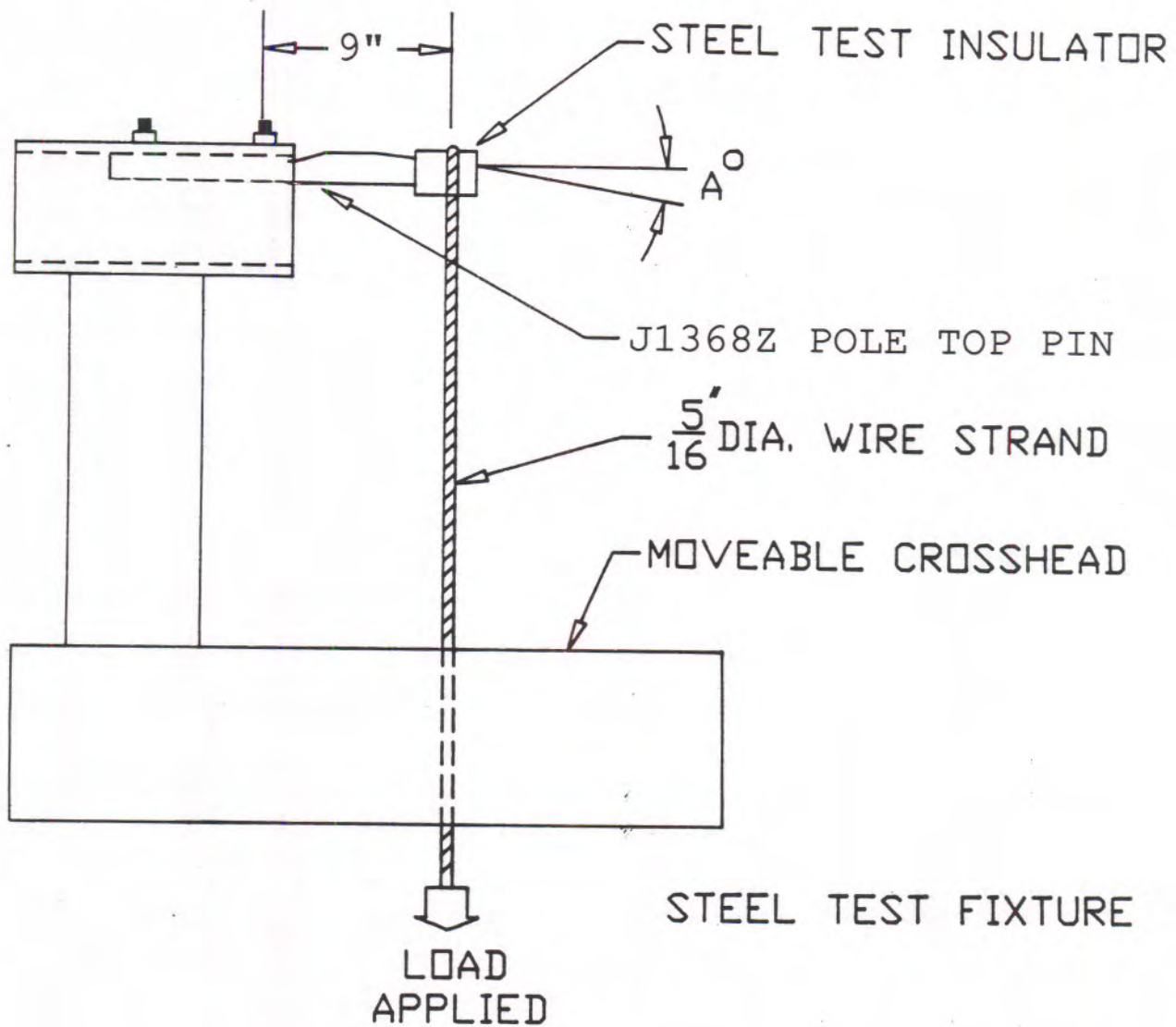
CONCLUSION

In each of the samples tested, no actual failure of material was observed. The J1368Z Pole Top Pin with Nylon Alloy Threads satisfies the strength requirements of ANSI C135.22 which states that a steel insulator pin must maintain a minimum longitudinal load of 1,200 lbs. without exceeding a 10° deflection.

TEST REPORT

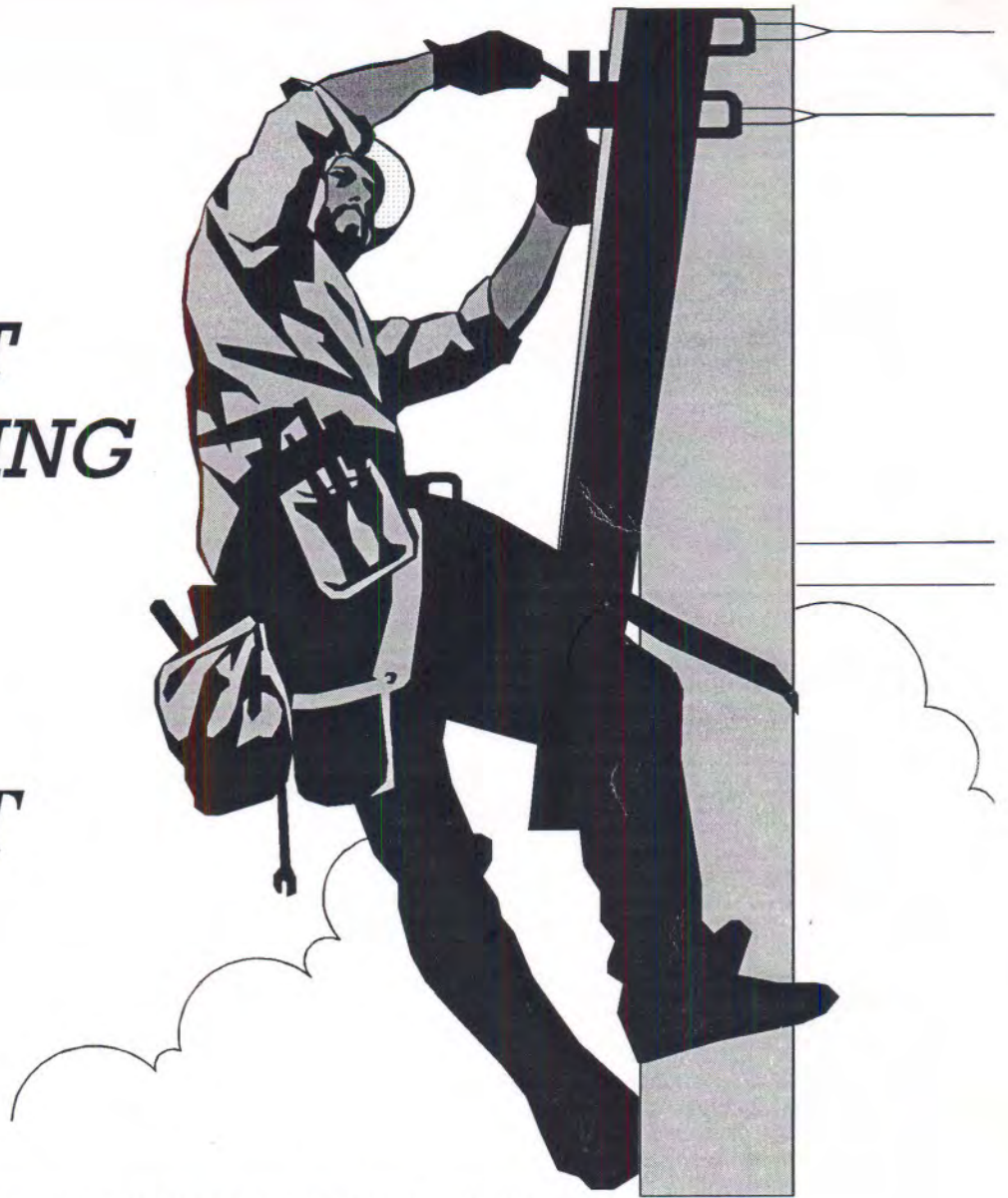
SUBJECT: LONGITUDINAL TEST ON THE J1368Z STEEL POLE TOP PIN WITH NYLON ALLOY 1" THREADS

TEST SET-UP



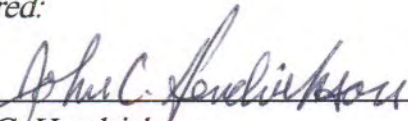
PRODUCT ENGINEERING

TEST REPORT



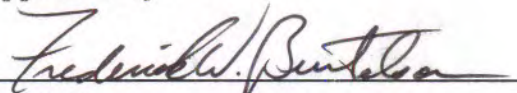
ENGINEERING REPORT NUMBER J1368Z-1A
JOSLYN J1368Z STEEL POLE TOP PIN ... TRANSVERSE TEST
DATE: MAY 1, 1995

Prepared:



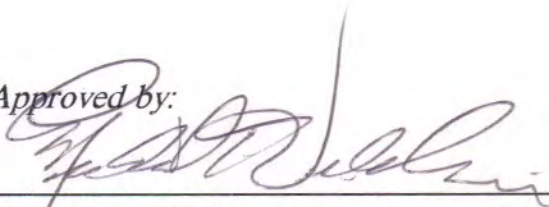
John C. Hendrickson
Associate Engineer

Approved by:



Frederick W. Burtelson
Engineering Manager

Approved by:



Michael T. Dildine
Quality Assurance Manager

TEST REPORT

SUBJECT: TRANSVERSE TEST ON THE J1368Z STEEL POLE TOP PIN WITH
NYLON ALLOY 1" THREADS

PURPOSE

To determine the capability of the J1368Z Pole Top Pin to meet the transverse test set forth in ANSI C135.22.

PROCEDURE

A J1368Z Steel Pole Top Pin was mounted to a steel test fixture and placed on the moveable crosshead of the Baldwin Tate-Emery Test Machine. A steel thimble was attached to the Nylon Alloy Threads to accommodate a 9" moment arm. A strand vise was then looped over the steel thimble and secured in the stationary crosshead of the test machine. A 1,500 lb. load was applied. **(See Test Set-up Illustration.)**

RESULTS

Sample Number	Minimum Load 10° Deflection 1,500 lbs.
1	PASS
2	PASS
3	PASS
4	PASS
5	PASS
6	PASS

PRODUCT ENGINEERING

Date 05-01-95

TEST REPORT

**SUBJECT: TRANSVERSE TEST ON THE J1368Z STEEL POLE TOP PIN WITH
NYLON ALLOY 1" THREADS**

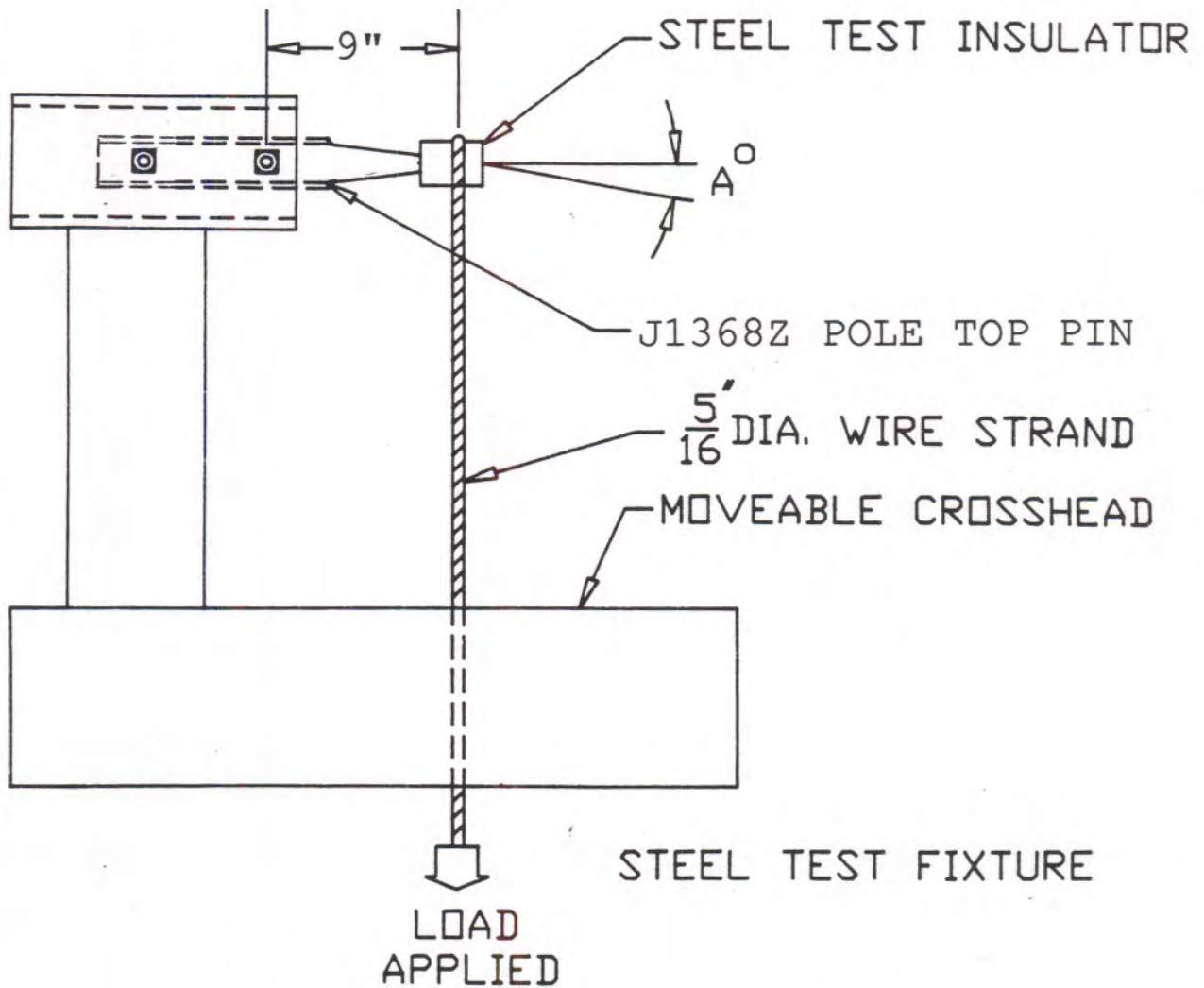
CONCLUSION

In each of the samples tested, no actual failure of material was observed. The J1368Z Pole Top Pin with Nylon Alloy Threads satisfies the strength requirements of ANSI C135.22 which states that a steel insulator pin must maintain a minimum transverse load of 1,500 lbs. without exceeding a 10° deflection.

TEST REPORT

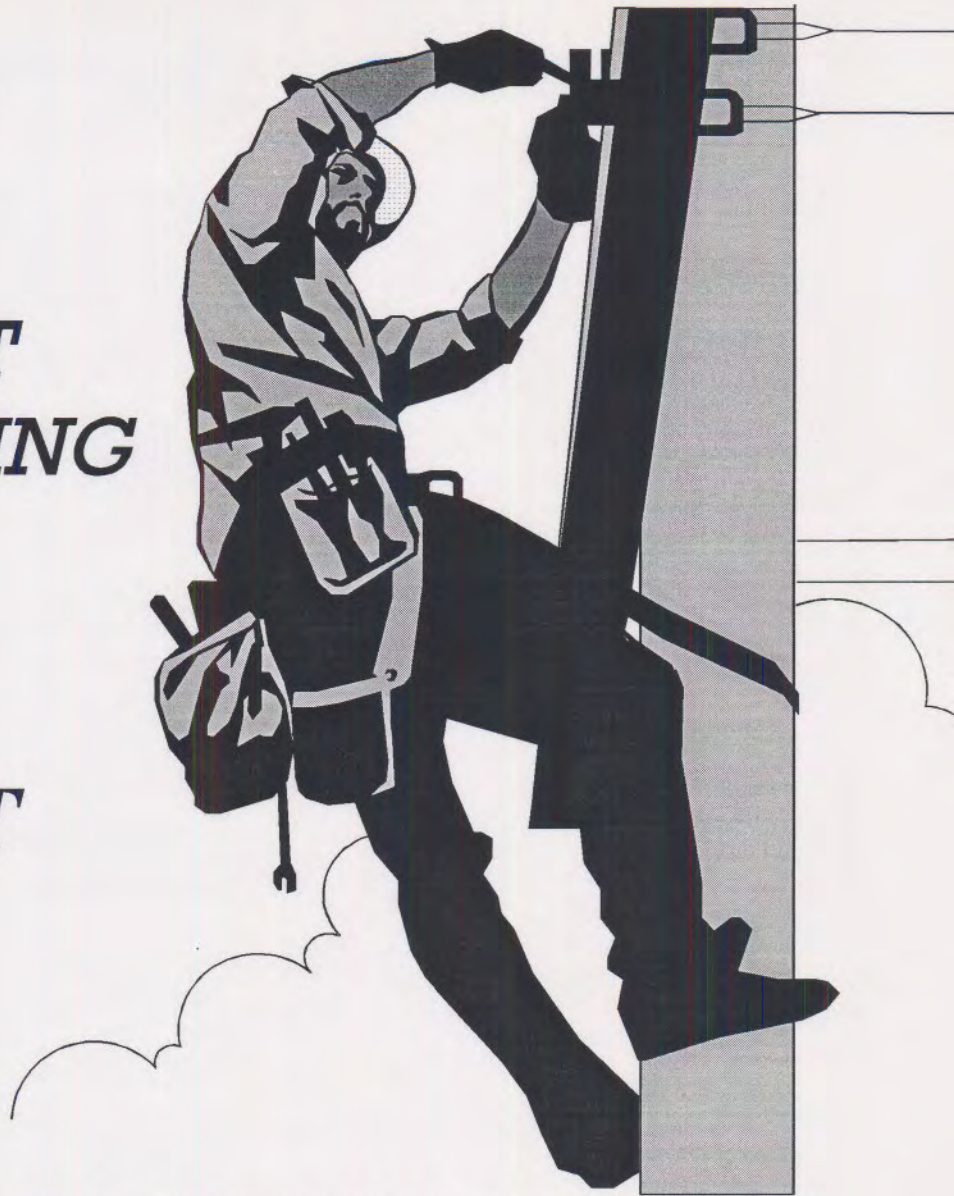
SUBJECT: TRANSVERSE TEST ON THE J1368Z STEEL POLE TOP PIN WITH NYLON ALLOY 1" THREADS

TEST SET-UP



PRODUCT ENGINEERING

TEST REPORT



ENGINEERING REPORT NUMBER J1368Z-8
JOSLYN J1368Z STEEL POLE TOP PIN ... RIV TEST
DATE: JUNE 12, 1995

Prepared by:

John C. Hendrickson
Associate Engineer

Approved by:

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Engineering Manager

Approved by:

Michael T. Dildine
Quality Assurance Manager

TEST REPORT

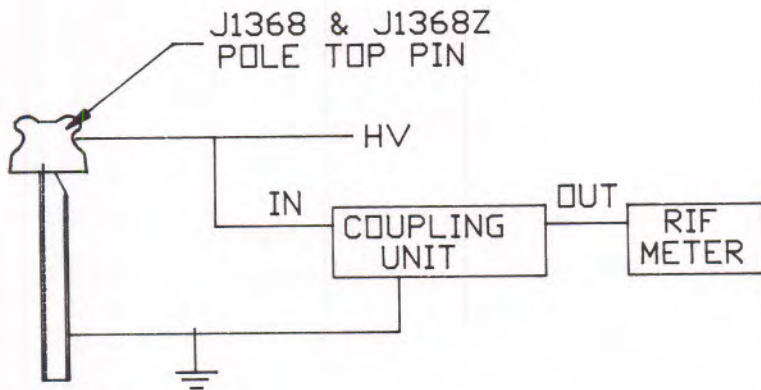
SUBJECT: RIV TEST ON J1368Z (NYLON ALLOY THREADS) AND J1368 (LEAD THREADS) STEEL POLE TOP PIN

PURPOSE

To compare the RIV levels of Steel Pole Top Pins having Nylon Alloy and Lead Threads.

PROCEDURE

A J1368 Pin (Lead Thread) was mounted as shown in Figure 1. The voltage was increased to determine the level of RIV of the assembly. After the J1368 Pins (Lead Thread) were tested, the J1368Z Pins (Nylon Alloy Thread) were tested.



TEST REPORT

SUBJECT: RIV TEST ON J1368Z (NYLON ALLOY THREADS) AND J1368 (LEAD THREADS) STEEL POLE TOP PIN

RESULTS

Voltage (kV)	Microvolts RIV					
	Lead			Nylon Alloy		
	Test Number			Test Number		
	1	2	3	1	2	3
7	0	0	0	0	0	0
8	0	0	0	0	0	0
10	0	0	0	0	0	0
13	0	0	0	0	0	0
15	0	0	0	0	0	0
20	0	0	0	0	0	0

CONCLUSION

The Nylon Alloy Threads and Lead Threads had zero (0) microvolts RIV at 20kV.

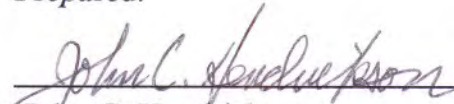
PRODUCT ENGINEERING

TEST REPORT



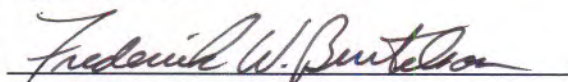
ENGINEERING REPORT NUMBER J1368Z-9
JOSLYN J1368Z STEEL POLE TOP PIN
TEMPERATURE CYCLE AND RIV TESTS
DATE: JUNE 12, 1995

Prepared:



John C. Hendrickson
Associate Engineer

Approved by:



Frederick W. Burtelson
Engineering Manager

Approved by:



Michael T. Dildine
Quality Assurance Manager

TEST REPORT

SUBJECT: TEMPERATURE CYCLE AND RIV TESTS ON J1368Z (NYLON ALLOY THREADS) AND J1368 (LEAD THREADS) STEEL POLE TOP PINS

PURPOSE

To compare the RIV levels of Steel Insulator Pins having Nylon Alloy and Lead Threads after assemblies subject to 102 temperature cycles of -40°F to $+180^{\circ}\text{F}$.

PROCEDURE

Pin and insulator assemblies were placed in a test chamber and subjected to 102 cycles of -40°F to $+180^{\circ}\text{F}$. After testing, a J1368 Pin (Lead Thread) was mounted as shown in Figure 1. The voltage was increased to determine the level of RIV of the assembly. After the J1368 Pins (Lead Thread) were tested, the J1368Z Pins (Nylon Alloy Thread) were tested.

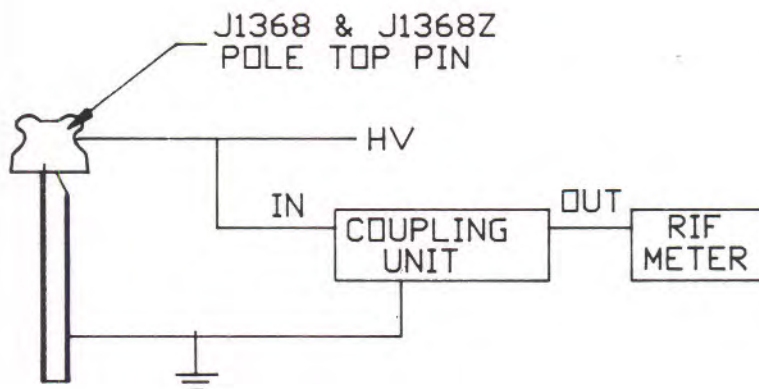


FIGURE 1

TEST REPORT

SUBJECT: TEMPERATURE CYCLE AND RIV TESTS ON J1368Z (NYLON ALLOY THREADS) AND J1368 (LEAD THREADS) STEEL POLE TOP PINS

RESULTS

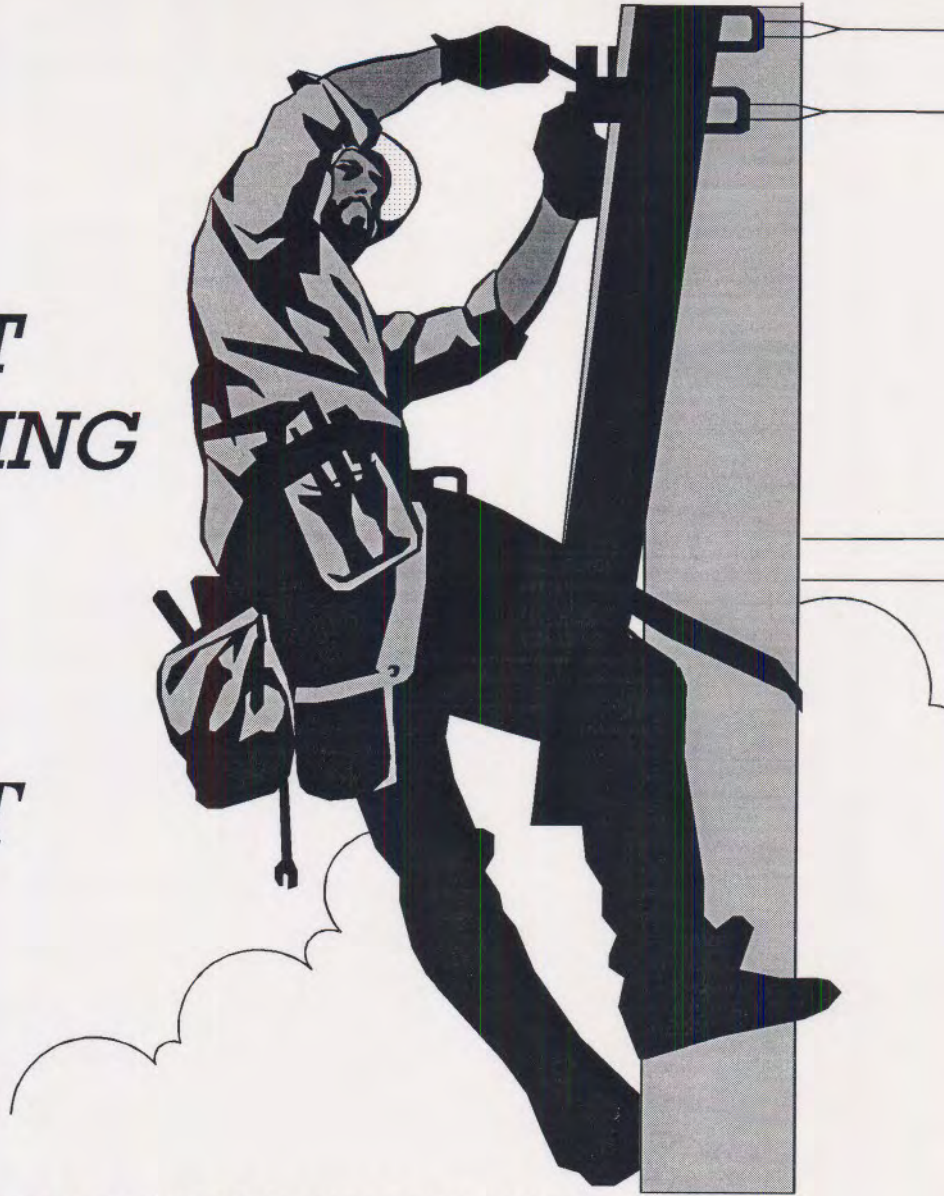
Voltage (kV)	Microvolts RIV			
	Lead		Nylon Alloy	
	Test Number		Test Number	
	1	2	3	4
7	0	0	0	0
8	0	0	0	0
10	0	0	0	0
13	0	2	0	0
15	3	10	0	2

CONCLUSION

The Nylon Alloy Threads showed better performance than the Lead Threads at the 15kV level. Temperature cycling of -40° F to +180° F had no detrimental affect on RIV performance of the Nylon Alloy Threads.

PRODUCT ENGINEERING

TEST REPORT



ENGINEERING REPORT NUMBER J1368Z-3

JOSLYN J1368Z STEEL POLE TOP PIN ... PARTIAL DISCHARGE (CORONA) TEST

DATE: JUNE 12, 1995

Prepared by:

John C. Hendrickson

John C. Hendrickson
Associate Engineer

Tested by:

Matthew May

Matthew May
Senior Lab Technician

Approved by:

Frederick W. Burtelson

Frederick W. Burtelson
Engineering Manager

Approved by:

Michael T. Dildine

Michael T. Dildine
Quality Assurance Manager

TEST REPORT

SUBJECT: PARTIAL DISCHARGE (CORONA) TEST ON J1368Z (NYLON ALLOY THREADS) AND J1368 (LEAD THREADS) STEEL POLE TOP PINS

PURPOSE

To compare the Partial Discharge (Corona) Inception and Extinction voltages of Pole Top Pins having Nylon Alloy and Lead Threads.

PROCEDURE

A J1368 Pin (Lead Thread) was mounted as shown in Figure 1. The voltage was increased and decreased to determine the inception and extinction voltages of the assembly. After all J1368 Pins (Lead Thread) were tested, the J1368Z Pins (Nylon Alloy Thread) were tested.

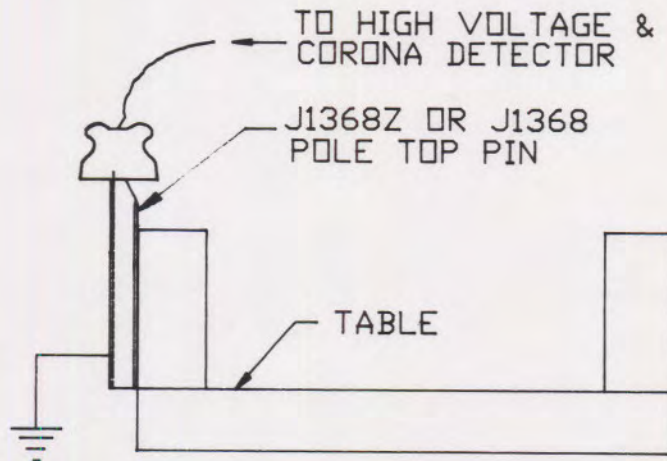


FIGURE 1

TEST REPORT

SUBJECT: PARTIAL DISCHARGE (CORONA) TEST ON J1368Z (NYLON ALLOY THREADS) AND J1368 (LEAD THREADS) STEEL POLE TOP PINS

RESULTS

Sample Number	Partial Discharge (Corona) [kV]	
	Inception	Extinction
J1368 LEAD		
1	28	25
2	29	24
3	30	24
4	30	25
5	29	24
J1368Z NYLON ALLOY		
1	30	25
2	29	24
3	30	24
4	29	24
5	29	24

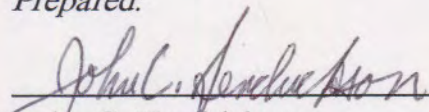
PRODUCT ENGINEERING

TEST REPORT



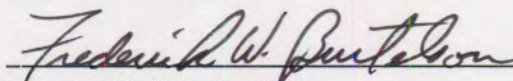
ENGINEERING REPORT NUMBER J1368Z-5
UV TEST ON NYLON ALLOY PLAQUES
DATE: MARCH 31, 1995

Prepared by:



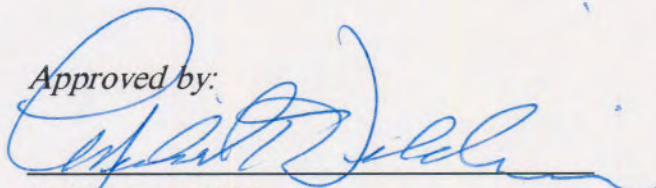
John C. Hendrickson
Associate Engineer

Approved by:



Frederick W. Burtelson
Engineering Manager

Approved by:



Michael T. Dildine
Quality Assurance Manager

TEST REPORT

SUBJECT: UV TEST ON NYLON ALLOY PLAQUES

PURPOSE

Perform Accelerated Weathering tests on plaques molded from the same material as the Nylon Alloy Threads to determine UV stability of material.

PROCEDURE

Sample plaques were placed into a Q-U-V Accelerated Weathering Tester which conforms to ASTM G-53 light/water exposure non-metallic materials requirements.

RESULTS

After 2,000 hours of exposure, there were no material deterioration.

CONCLUSION

The J1368Z Steel Pins with Nylon Alloy Threads will perform satisfactorily for an extended period of time without being adversely affected by UV.

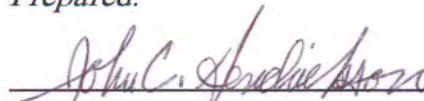
PRODUCT ENGINEERING

TEST REPORT



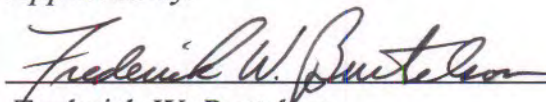
ENGINEERING REPORT NUMBER J1368Z-7
JOSLYN J1368Z STEEL POLE TOP PIN ... COLD TEMPERATURE IMPACT TEST
DATE: JUNE 7, 1995

Prepared by:



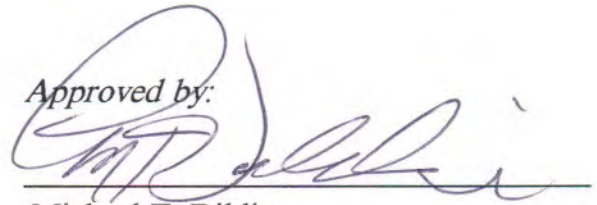
John C. Hendrickson
Associate Engineer

Approved by:



Frederick W. Burtelson
Engineering Manager

Approved by:



Michael T. Dildine
Quality Assurance Manager

TEST REPORT

SUBJECT: COLD TEMPERATURE IMPACT TEST ON THE J1368Z STEEL POLE TOP PIN WITH NYLON ALLOY 1" THREADS

PURPOSE

To determine the cold temperature impact characteristics of the Nylon Alloy 1" Threads when assembled to the J1368Z Steel Pole Top Pin body.

PROCEDURE

Six (6) J1368Z Steel Pole Top Pins were placed in a cold temperature chamber holding at a temperature of -50°C . After the test samples had soaked for 18 hours at -50°C , each sample was removed and immediately subjected to an impact load of 20 ft.-lbs. as shown in Figure 1.

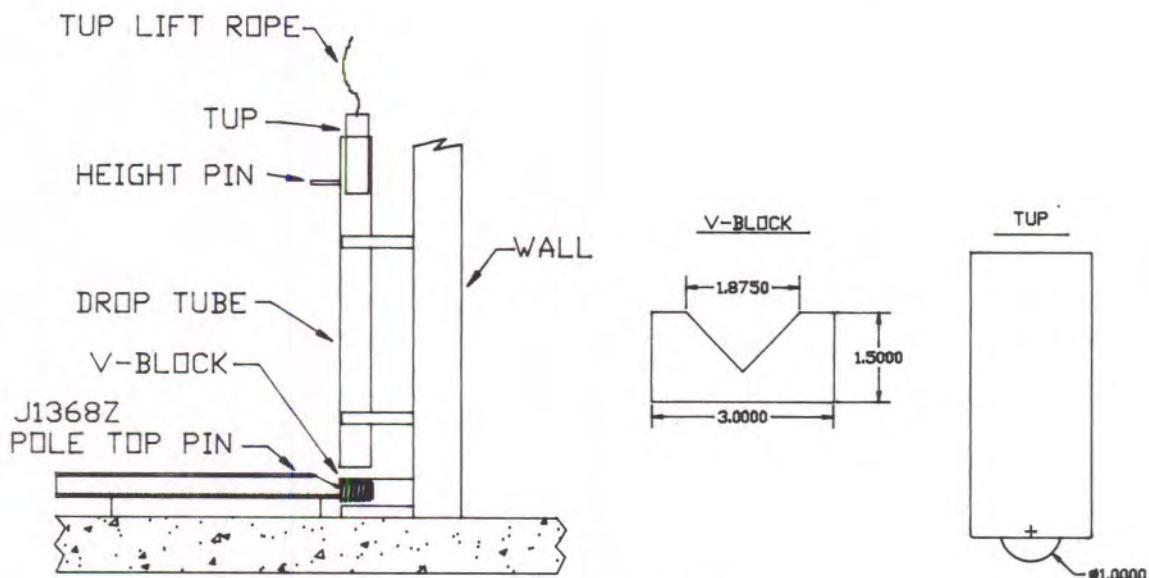


FIGURE 1

TEST REPORT

SUBJECT: COLD TEMPERATURE IMPACT TEST ON THE J1368Z STEEL POLE TOP
PIN WITH NYLON ALLOY 1" THREADS

RESULTS

Sample Number	Impact Load (ft.-lbs.)	Condition of Thread
1	20	No Detrimental Effect
2	20	No Detrimental Effect
3	20	No Detrimental Effect
4	20	No Detrimental Effect
5	20	No Detrimental Effect
6	20	No Detrimental Effect

CONCLUSION

The Nylon Alloy 1" Thread can sustain a 20 ft.-lbs. impact load at a temperature of -50°C without cracking or splitting and still be installed properly in a pin insulator.

PRODUCT ENGINEERING

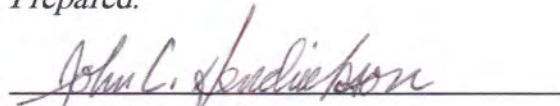
TEST REPORT



ENGINEERING REPORT NUMBER J1368Z-2C
JOSLYN J1368Z STEEL POLE TOP PIN ... THREAD INTEGRITY TEST
(POST COLD TEMPERATURE IMPACT)

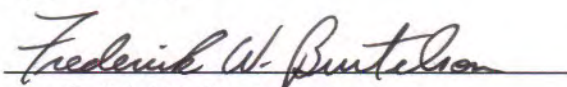
DATE: JUNE 5, 1995

Prepared:



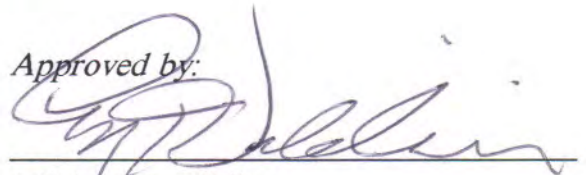
John C. Hendrickson
Associate Engineer

Approved by:



Frederick W. Burtelson
Engineering Manager

Approved by:



Michael T. Dildine
Quality Assurance Manager

TEST REPORT

SUBJECT: THREAD INTEGRITY TEST ON THE J1368Z STEEL POLE TOP PIN WITH NYLON ALLOY 1" THREADS

PURPOSE

To determine the capability of the Nylon Alloy Threads on the J1368Z Pole Top Pin to meet the torsional and tensile requirements set forth in ANSI C135.22 after sustaining an impact load of 20 ft.-lbs. at -50°C.

PROCEDURE

A J1368Z Steel Pole Top Pin was placed with its shank in a vise. A steel thimble was installed on the Nylon Alloy Threads with a torque of 150 inch-pounds. Subsequently, an additional 180° of tightening rotation was applied.

The assembly was then mounted with the J1368Z shank restrained in the moveable crosshead of the Baldwin Tate-Emery Test Machine. A steel strand was attached to the steel thimble and secured in the stationary crosshead of the test machine. A proof load of 3,000 lbs. was applied. The test set-up is shown in Figure 1.

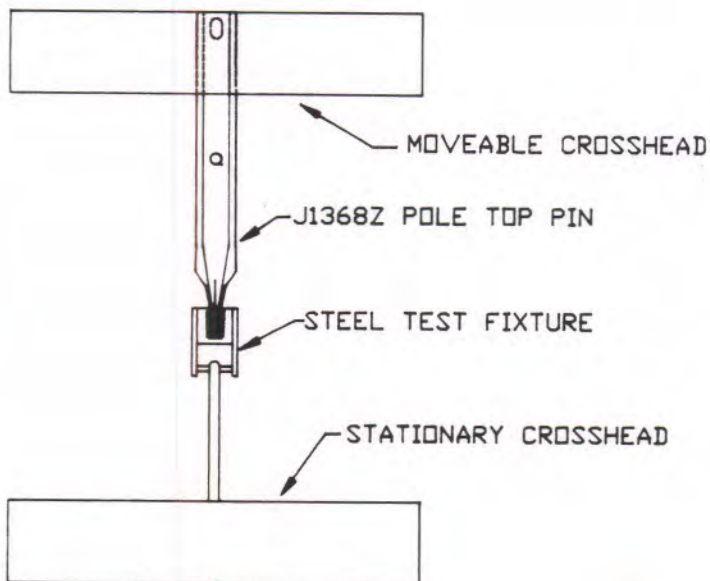


FIGURE 1

TEST REPORT

SUBJECT: THREAD INTEGRITY TEST ON THE J1368Z STEEL POLE TOP PIN WITH NYLON ALLOY 1" THREADS

RESULTS

Sample Number	Torque 150 in.-lbs.	Additional 180°	Proof Load 3,000 lbs.
1	PASS	PASS	PASS
2	PASS	PASS	PASS
3	PASS	PASS	PASS
4	PASS	PASS	PASS
5	PASS	PASS	PASS
6	PASS	PASS	PASS

NOTE: In all cases the steel thimble was removed from the Nylon Alloy Threads and there was no damage to the Nylon Alloy Threads.

CONCLUSION

The Nylon Alloy Threads met the following strength tests as required in ANSI C135.22.

TORSION TEST: After an initial application of 150 inch-pounds of torque to the steel thimble, the threads shall withstand an additional 180° of tightening rotation, without damage to the thread by stripping or breaking of the bond between the pin body and the thread.

TENSILE TEST: After installing the steel thimble on the thread with a torque of 150 inch-pounds, the thread shall withstand a minimum load of 3,000 pounds in tension without stripping or pulling off the pin. The load shall be applied to the thimble while the pin is restrained by the shank.

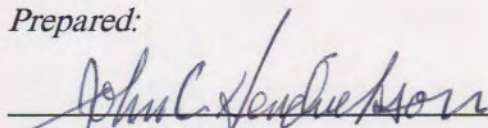
PRODUCT ENGINEERING

TEST REPORT



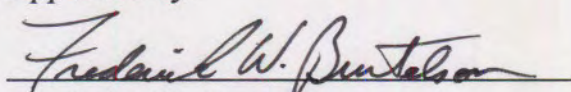
ENGINEERING REPORT NUMBER J1368Z-4
JOSLYN J1368Z STEEL POLE TOP PIN
AEOLIAN VIBRATION AND TEMPERATURE CYCLING TEST
DATE: AUGUST 10, 1995

Prepared:



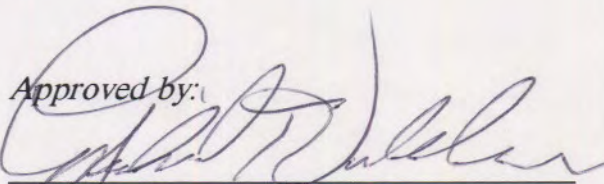
John C. Hendrickson
Associate Engineer

Approved by:



Frederick W. Burtelson
Engineering Manager

Approved by:



Michael T. Dildine
Quality Assurance Manager

TEST REPORT

SUBJECT: AEOLIAN VIBRATION AND TEMPERATURE CYCLING TEST ON J1368Z NYLON ALLOY 1" THREAD STEEL INSULATOR PINS

PURPOSE

To measure performance of the nylon alloy head molded on the J1368Z Pole Top Pins when subjected to aeolian vibration and temperature cycling.

PROCEDURE

Two (2) J1368Z Steel Pins with Nylon Alloy Threads were mounted in a test fixture as shown in Figure 1. A tensile load was applied to the conductor after which the conductor was affixed to the insulators. The conductor was driven at a central location at 23HZ which gave a standing wave with a total amplitude of 3/4". The assemblies were subjected to temperature cycles of -40° F to +180° F with dwell times of one (1) hour at the temperature extremes.

AEOLIAN VIBRATION TEST SET-UP ... TOP VIEW

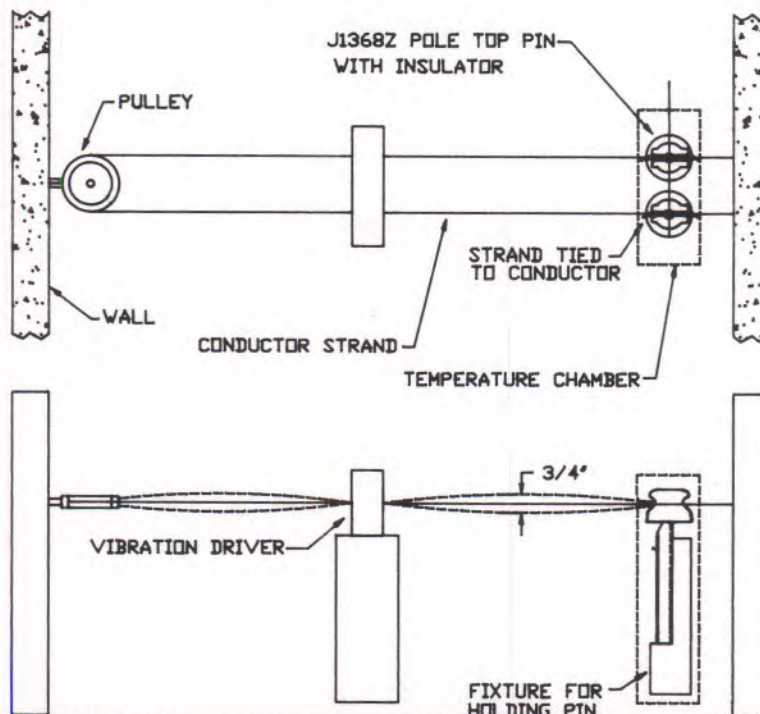


FIGURE 1

TEST REPORT

SUBJECT: AEOLIAN VIBRATION AND TEMPERATURE CYCLING TEST ON J1368Z
NYLON ALLOY 1" THREAD STEEL INSULATOR PINS

RESULTS

After 52,000,000 cycles, no degradation of the Nylon Alloy Thread was noted.

CONCLUSION

The Nylon Alloy Thread on the J1368Z is not adversely affected by extensive aeolian vibration, while being subjected to temperature cycling between -40°F to +180°F.

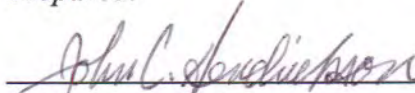
PRODUCT ENGINEERING

TEST REPORT



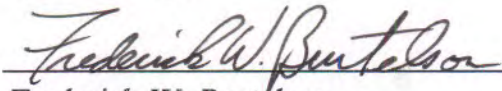
ENGINEERING REPORT NUMBER J1368Z-2B
JOSLYN J1368Z STEEL POLE TOP PIN ... THREAD INTEGRITY TEST
(POST TEMPERATURE CYCLE)
DATE: JUNE 5, 1995

Prepared by:



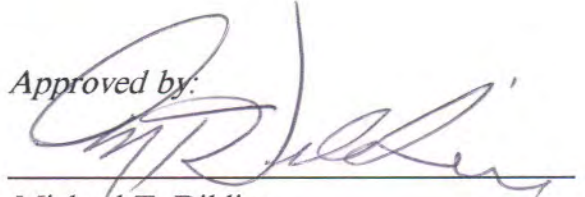
John C. Hendrickson
Associate Engineer

Approved by:



Frederick W. Burtelson
Engineering Manager

Approved by:



Michael T. Dildine
Quality Assurance Manager

TEST REPORT

SUBJECT: THREAD INTEGRITY TEST ON THE J1368Z STEEL POLE TOP PIN WITH NYLON ALLOY 1" THREADS

PURPOSE

To determine the capability of the Nylon Alloy Threads on the J1368Z Pole Top Pin to meet the torsional and tensile requirements set forth in ANSI C135.22 after temperature cycling between -40° F and +180° F for 102 cycles.

PROCEDURE

A J1368Z Steel Pole Top Pin was placed with its shank in a vise. A steel thimble was installed on the Nylon Alloy Threads with a torque of 150 inch-pounds. Subsequently, an additional 180° of tightening rotation was applied.

The assembly was then mounted with the J1368Z shank restrained in the moveable crosshead of the Baldwin Tate-Emery Test Machine. A steel strand was attached to the steel thimble and secured in the stationary crosshead of the test machine. A proof load of 3,000 lbs. was applied. The test set-up is shown in Figure 1.

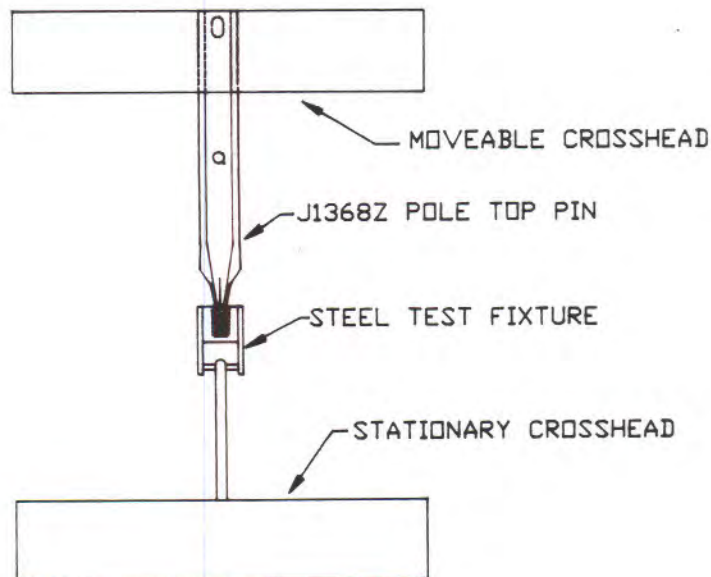


FIGURE 1

TEST REPORT

SUBJECT: THREAD INTEGRITY TEST ON THE J1368Z STEEL POLE TOP PIN WITH NYLON ALLOY 1" THREADS

RESULTS

Sample Number	Torque 150 in.-lbs.	Additional 180°	Proof Load 3,000 lbs.
1	PASS	PASS	PASS
2	PASS	PASS	PASS
3	PASS	PASS	PASS
4	PASS	PASS	PASS
5	PASS	PASS	PASS
6	PASS	PASS	PASS

NOTE: In all cases the steel thimble was removed from the Nylon Alloy Threads and there was no damage to the Nylon Alloy Threads.

CONCLUSION

The Nylon Alloy Threads met the following strength tests as required in ANSI C135.22.

TORSION TEST: After an initial application of 150 inch-pounds of torque to the steel thimble, the threads shall withstand an additional 180° of tightening rotation, without damage to the thread by stripping or breaking of the bond between the pin body and the thread.

TENSILE TEST: After installing the steel thimble on the thread with a torque of 150 inch-pounds, the thread shall withstand a minimum load of 3,000 pounds in tension without stripping or pulling off the pin. The load shall be applied to the thimble while the pin is restrained by the shank.

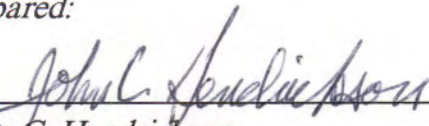
PRODUCT ENGINEERING

TEST REPORT



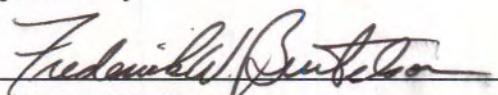
ENGINEERING REPORT NUMBER J1368Z-2
JOSLYN J1368Z STEEL POLE TOP PIN ... THREAD INTEGRITY TEST
DATE: MAY 1, 1995

Prepared:



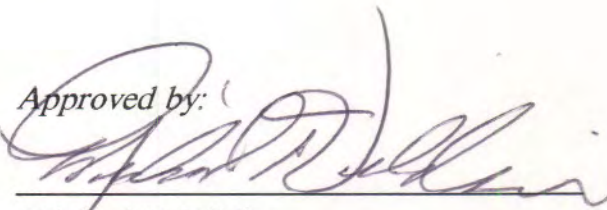
John C. Hendrickson
Associate Engineer

Approved by:



Frederick W. Burtelson
Engineering Manager

Approved by:



Michael T. Dildine
Quality Assurance Manager

TEST REPORT

SUBJECT: THREAD INTEGRITY TEST ON THE J1368Z STEEL POLE TOP PIN WITH NYLON ALLOY 1" THREADS

PURPOSE

To determine the capability of the Nylon Alloy Threads on the J1368Z Steel Pole Top Pin to meet the Torsional and tensile requirements set forth in ANSI C135.22.

PROCEDURE

A J1368Z Steel Pole Top Pin was placed with its base in a vise. A steel thimble was installed on the Nylon Alloy Threads with a torque of 150 inches-pounds. Subsequently, an additional 180° of tightening rotation was applied.

The assembly was then mounted with the J1368Z base restrained in the moveable crosshead of the Baldwin Tate-Emery Test Machine. A steel strand was attached to the steel thimble and secured in the stationary crosshead of the test machine. A proof load of 3,000 lbs. was applied.

RESULTS

Sample Number	Torque 150 in.-lbs.	Additional 180°	Proof Load 3,000 lbs.
1	PASS	PASS	PASS
2	PASS	PASS	PASS
3	PASS	PASS	PASS
4	PASS	PASS	PASS
5	PASS	PASS	PASS
6	PASS	PASS	PASS

NOTE: In all cases the steel thimble was removed from the Nylon Alloy Threads and there was no damage to the Nylon Alloy Threads.

TEST REPORT

SUBJECT: THREAD INTEGRITY TEST ON THE J1368Z STEEL POLE TOP PIN WITH NYLON ALLOY 1" THREADS

CONCLUSION

The Nylon Alloy Threads met the following strength tests as required in ANSI C135.22.

TORSION TEST: After an initial application of 150 inch-pounds of torque to the steel thimble, the threads shall withstand an additional 180° of tightening rotation, without damage to the thread by stripping or breaking of the bond between the pin body and the thread.

TENSILE TEST: After installing the steel thimble on the thread with a torque of 150 inch-pounds, the thread shall withstand a minimum load of 3,000 pounds in tension without stripping or pulling off the pin. The load shall be applied to the thimble while the pin is restrained by the shank.


PRODUCT ENGINEERING

TEST REPORT



ENGINEERING REPORT NUMBER J1368Z-6
JOSLYN J1368Z STEEL POLE TOP PIN ... FATIGUE TEST
DATE: JUNE 1, 1995

Prepared by:




John C. Hendrickson
Associate Engineer

Approved by:



Frederick W. Burtelson
Engineering Manager

Approved by:



Michael T. Dildine
Quality Assurance Manager

TEST REPORT

SUBJECT: HORIZONTAL FATIGUE TEST ON J1368 and J1368Z STEEL POLE TOP PINS

PURPOSE

To subject J1368 and J1368Z Steel Crossarm Pins to a horizontal fatigue test to determine comparative performance characteristics.

PROCEDURE

One (1) J1368 Steel Pin with Lead Threads and one (1) J1368Z Steel Pin with Nylon Alloy Threads were mounted in a test fixture as shown in Figure 1. A load equal to 20% of the minimum required ANSI cantilever load of 1,000 lbs. at a deflection of 10° was alternately placed on the pins at a rate of 72 cycles/minute.

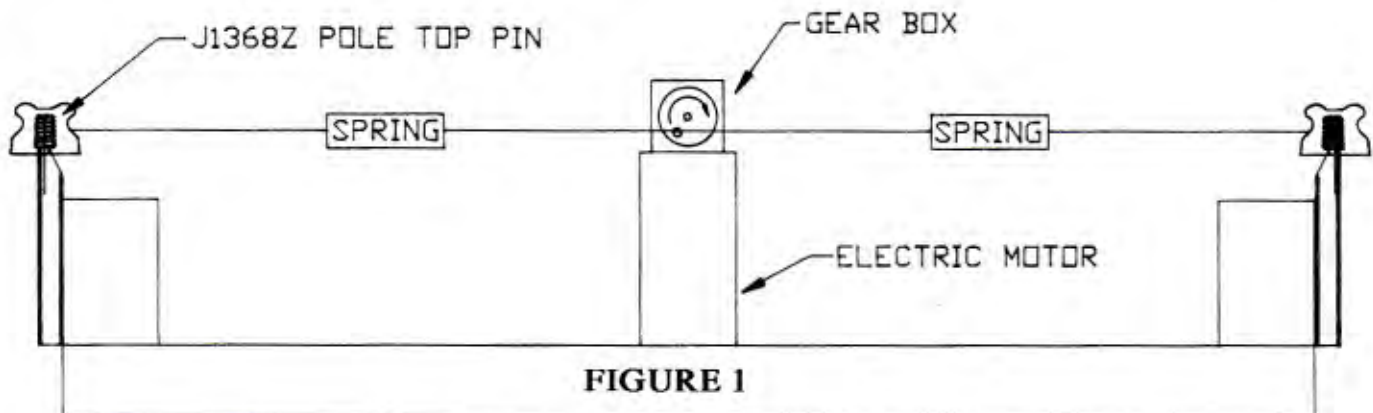


FIGURE 1

RESULTS

After over 2,000,000 cycles, no degradation of the Nylon Alloy Thread was noted.

CONCLUSION

The Nylon Alloy Thread on the J1368Z is not adversely affected by extensive fatigue tests.

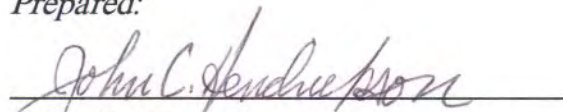
PRODUCT ENGINEERING

TEST REPORT

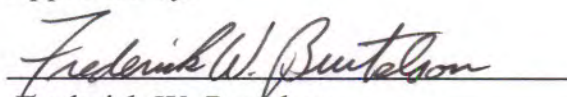


ENGINEERING REPORT NUMBER J1368Z-2A
JOSLYN J1368Z STEEL POLE TOP PIN ... THREAD INTEGRITY TEST
(POST WATER SOAK)
DATE: JUNE 5, 1995

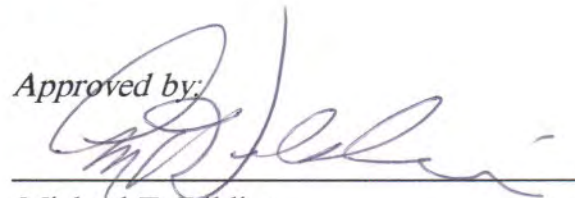
Prepared:


John C. Hendrickson
Associate Engineer

Approved by:


Frederick W. Burtelson
Engineering Manager

Approved by:


Michael T. Dildine
Quality Assurance Manager

TEST REPORT

SUBJECT: THREAD INTEGRITY TEST ON THE J1368Z STEEL POLE TOP PIN WITH NYLON ALLOY 1" THREADS

PURPOSE

To determine the capability of the Nylon Alloy Threads on the J1368Z Pole Top Pin to meet the torsional and tensile requirements set forth in ANSI C135.22 after soaking in water for 96 hours. The pins were allowed to dry 24 hours before testing.

PROCEDURE

A J1368Z Steel Pole Top Pin was placed with its shank in a vise. A steel thimble was installed on the Nylon Alloy Threads with a torque of 150 inch-pounds. Subsequently, an additional 180° of tightening rotation was applied.

The assembly was then mounted with the J1368Z shank restrained in the moveable crosshead of the Baldwin Tate-Emery Test Machine. A steel strand was attached to the steel thimble and secured in the stationary crosshead of the test machine. A proof load of 3,000 lbs. was applied. The test set-up is shown in Figure 1.

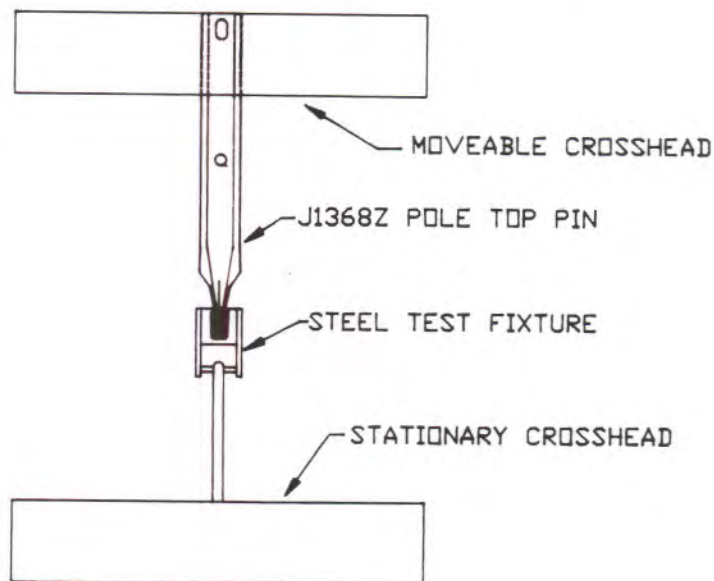


FIGURE 1

TEST REPORT

SUBJECT: THREAD INTEGRITY TEST ON THE J1368Z STEEL POLE TOP PIN WITH NYLON ALLOY 1" THREADS

RESULTS

Sample Number	Torque 150 in.-lbs.	Additional 180°	Proof Load 3,000 lbs.
1	PASS	PASS	PASS
2	PASS	PASS	PASS
3	PASS	PASS	PASS
4	PASS	PASS	PASS
5	PASS	PASS	PASS
6	PASS	PASS	PASS

NOTE: In all cases the steel thimble was removed from the Nylon Alloy Threads and there was no damage to the Nylon Alloy Threads.

CONCLUSION

The Nylon Alloy Threads met the following strength tests as required in ANSI C135.22.

TORSION TEST: After an initial application of 150 inch-pounds of torque to the steel thimble, the threads shall withstand an additional 180° of tightening rotation, without damage to the thread by stripping or breaking of the bond between the pin body and the thread.

TENSILE TEST: After installing the steel thimble on the thread with a torque of 150 inch-pounds, the thread shall withstand a minimum load of 3,000 pounds in tension without stripping or pulling off the pin. The load shall be applied to the thimble while the pin is restrained by the shank.