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XIHARI

No. 221250J

Test Report

TYPE: U70B146/320N16W

DESIGNATION: Suspension Ceramic Insulator

CLIENT: Jiangxi Huayang Insulator Manufacturing Co., Ltd.

MANUFACTURER: Jiangxi Huayang Insulator Manufacturing Co., Ltd.

TEST CLASSIFICATION: Prototype Tests

XI'AN HIGH VOLTAGE APPARATUS RESEARCH INSTITUTE CO., LTD.



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Summary					
Test object		U70B146/320N16W Suspension Ceramic Insulator			
Client	Name	Jiangxi Huayang Insulator Manufacturing Co., Ltd.			
	Connection	No.36, Gaokeng Industrial Park, Anyuan District, Pingxiang City, Jiangxi Province, P.R. China Postal code:337000 Tel:+86 13607993017 Fax: +86 799 6370555			
Manufacturer		Jiangxi Huayang Insulator Manufacturing Co., Ltd.			
Manufacture date		/			
Rated value assigned by the client/manufacturer		Specified load kN		70	
		Height mm		146	
		Diameter of disk mm		255	
		Creepage distance mm		320	
		Puncture withstand voltage kV		110	
		Dry lightning impulse withstand voltage (5 pieces) kV		450	
		Wet power-frequency withstand voltage (5 pieces) kV		180	
		Radio interference voltage(at 10kV) μV		≤50	
		Visual corona voltage kV		Cap≥22, Pin≥18	
The tested object is guaranteed by the client		No.HY001-U-2022		Suspension Ceramic Insulator Technical Conditions	
		No.HY002-U-2022		Suspension Ceramic Insulator Test Program	
		HY/U70B-003		U70B/146,255,320 Suspension Ceramic Insulator Drawing	
Note		/			
Representation of client		Zuo Zhiyu			
Note: The above information and data are provided by client/manufacturer and the laboratory is not responsible for its accuracy.					
Serial No.		No.1~No.80			
The Reception date		2023-02-13			
Date of tests		From 2023-02-14 To 2023-02-24			
Test address		All tests were carried out at No.642, Daqing Road, Xian, Shaanxi, China.			



Test Conclusion

Client: Jiangxi Huayang Insulator Manufacturing Co., Ltd.

Test object: U70B146/320N16W

Suspension Ceramic Insulator

Manufacturer: Jiangxi Huayang Insulator Manufacturing Co., Ltd.

Test classification: Prototype Tests

Tests have been performed:

Routine test Visual Inspection

Mechanical Test

Electrical Test

Sample test Verification of the Dimensions

Verification of the Displacements

Verification of the Locking System

Temperature Cycle Test

Galvanizing Test

Radio Interference Voltage Test

Electro-mechanical Failing Load Test

Puncture Withstand Test

Residual Mechanical Strength Test

Porosity Test

Type test Verification of the Dimensions

Dry Lightning Impulse Withstand Voltage Test

Wet power-frequency Withstand Voltage Test

Residual Mechanical Strength Test

Electro-mechanical Failing Load Test

Thermal-mechanical Performance Test

Radio Interference Voltage Test

Visual Corona Voltage Test

Puncture Withstand Test

The tests have been performed in accordance with:

GB/T 1001.1-2021 Insulators for overhead lines with a nominal voltage above 1000V Part1: Ceramic or glass insulator units for a. c. systems—Definitions, test methods and acceptance criteria (IEC 60383-1:1993, MOD)

Conclusion:

The results of the prototype tests (routine tests, sample tests and type tests) met the requirements of the standards and technical specifications.

Edited: 刘子新

Checked: 何立华

Approved: 刘志强

Edited Date: 2026-04-17

Checked Date: 2026-04-17

Approved Date: 2026-04-20

Note: This report is translated from Chinese version. The approved date of original version is 2023.03.13.



Visual Inspection (Routine test)

Date of tests: 2023-02-14

Specimens No.1 ~ No.80 had fair appearance. The ceramic were labelled "70kN". No defects exceeding standard permission were observed, met the test basis satisfactory. The result met test standard and the technical specifications.



Photograph 1

Mechanical Test (Routine test)

Date of tests: 2023-02-14

A tensile load of 35kN was applied to specimens No.1 ~ No.80 for 3s, the specimens passed the test successfully. The result met test standard and the technical specifications.

Electrical Test (Routine test)

Date of tests: 2023-02-14

Specimens No.1 ~ No.80 withstood power-frequency sparking voltage for 3min, no specimens was punctured. The result met test standard and the technical specifications.

Verification of the Dimensions (Sample test)

Date of tests: 2023-02-15

16B Mark

Units: mm

Specimen No.	Spacing	Diameter of disk	Creepage distance
9	146.0	254.0	327
10	145.0	254.6	324
11	145.5	254.5	326
12	145.5	253.8	324
Specifications	146±4.6	255±11.7	320±14.3

Specimen No.1 ~ No.12 passed the gauging of ball and socket verification.

The length of string (No.1 ~ No.6) was 879mm, met the requirement of (876±19)mm.

The result met test standard and the technical specifications.

Verification of the Displacements (Sample test)

Date of tests: 2023-02-15

Units: mm

Specimen No.	Variation on A	Variation on B
1	4.7	4.2
2	4.5	3.9
3	3.4	2.6
4	2.7	3.5
5	4.4	3.4
6	3.2	4.5
7	4.3	2.1
8	2.7	2.4
9	3.3	4.2
10	4.1	4.7
11	2.2	4.0
12	4.5	3.7
Specifications	≤ 10.2	≤ 7.6

The result met test standard and the technical specifications.

Verification of the Locking System (Sample test)

Date of tests: 2023-02-15

16BW Steeliness clip

1 Conformity of the locking device

The verification of the locking device had been confirmed by the insulator manufacturer, meets the requirement of the test basis.

2 Verification of locking

The insulators were connected in strings of two units. The locking device was placed in the locking position, then by applying movements comparable to those experienced in service. No uncoupling occurred.

3 Operation test

Specimen No.	Load caused locking device to move to the coupling position N			Position of locking device under max. load of 250N
	First	Second	Third	
9	119	138	126	No removal from the socket
10	109	136	142	No removal from the socket
11	134	141	119	No removal from the socket
12	109	130	117	No removal from the socket
Specifications	25 ~ 250			No removal from the socket

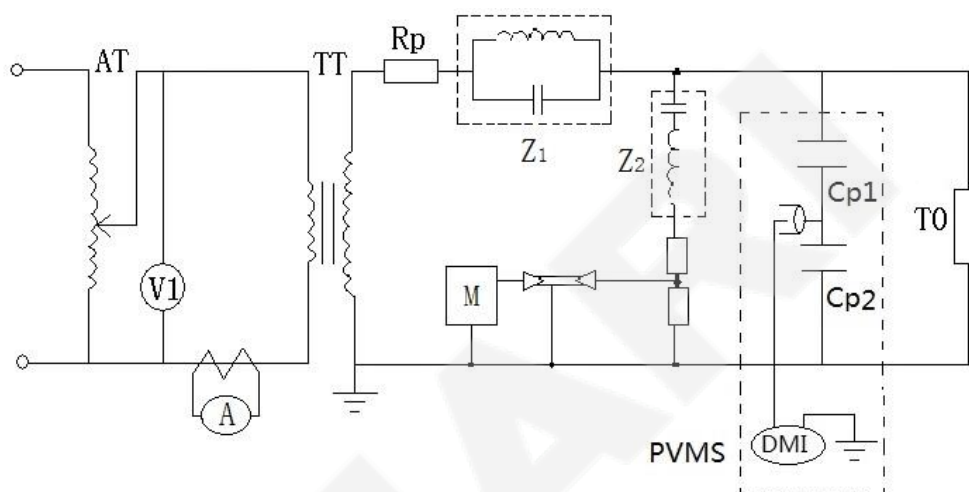
The result met test standard and the technical specifications.

The result met test standard and the technical specifications.

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Galvanizing Test (Sample test)						
Date of tests: 2023-02-15						
Units: μm						
Specimen No.	Minimum values of single specimen		Average values of single specimen		Average values of all specimen	
	Cap	Pin	Cap	Pin	Cap	Pin
9	104	97	128	128	120	118
10	87	90	108	121		
11	93	88	126	113		
12	94	90	118	109		
Specifications	/		≥ 70		≥ 85	
The result met test standard and the technical specifications.						

Radio Interference Voltage Test (Sample test)

Diagram of radio interference voltage test circuit



AT: Regulators

R_p : Protection resistance

TT: Testing transformer

TO: Test object

V1: Voltmeter

A: Ammeter

C_{p1}/C_{p2} : H.V/ L.V arm capacitance

DMI: Digital measuring instrument

Z_1 : Blocking impedance

Z_2 : Coupling impedance

M: RIV measuring device

PVMS: Power frequency voltage measuring system

Main parameters of testing equipment

U/W (kV/ kVA)	f_{TT} (Hz)	C_{p1} (pF)	C_{p2} (μ F)
150/150	50	278.8	0.2785

Radio Interference Voltage Test (Sample test)

Date of tests: 2023-02-24

 $t = 21.3^{\circ}\text{C}$, $\text{RH} = 55\%$, $P = 98.3\text{kPa}$

Test frequency: 1.0MHz. Specimen mounted: Vertical as in service. Background noise level: 26.25dB.

Radio interference $V = V_m + A + R$. $A + R = 22.11\text{dB}$, V_m is measuring decibels.

The test was carried out according to the "standard procedure", RIV obtained during the last decreasing run at the specified test voltage was as follows.

Specimen No.	Voltage applied kV	Decibel measurement V_m dB	Field density V dB	Radio interference voltage μV
9	10.0	6.83	28.94	28.2
10	10.0	6.24	28.35	25.1
11	10.0	7.22	29.33	28.2
12	10.0	6.75	28.86	28.2
Specifications	10	/	/	≤ 50

The result met test standard and the technical specifications.

Electro-mechanical Failing Load Test (Sample test)

Date of tests: 2023-02-16

The tensile load was applied between cap and pin in line with the axis of the specimen. The load was started at zero smoothly brought up to the failing point. Simultaneously, a power frequency voltage of 36kV was applied to the test specimen.

Specimen No.	Failing load kN	Failing at	Result
1	101.7	Cap	$\bar{X}_1=93.775\text{kN}$ $\sigma_1=6.847\text{kN}$ $C_1=1.42$ $SFL=70\text{kN}$ $SFL+C_1\sigma_1=79.723\text{kN}$ $\bar{X}_1>SFL+C_1\sigma_1$
2	100.9	Cap	
3	88.7	Punctured	
4	92.6	Cap	
5	87.3	Punctured	
6	86.2	Ceramic	
7	102.5	Cap	
8	90.3	Cap	

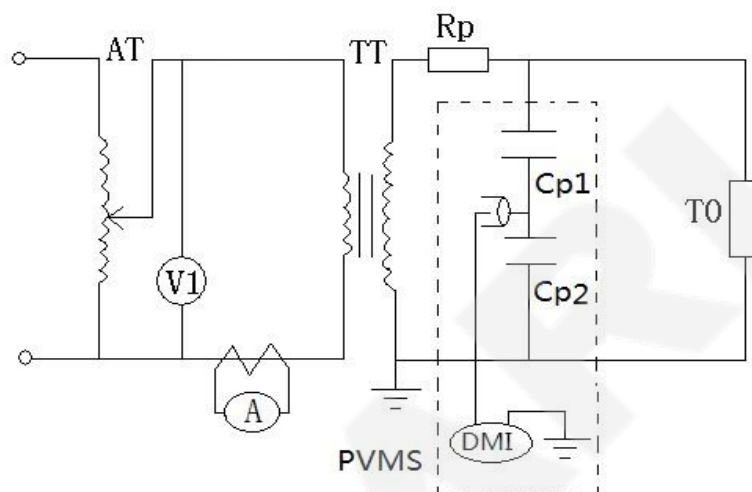
The result met test standard and the technical specifications.



Photograph 1

Puncture Withstand Test (Sample test)

Diagram of power frequency voltage circuit



AT: Regulators

R_p : Protection resistance

TT: Testing transformer

TO: Test object

V1: Voltmeter

A: Ammeter

C_{p1}/C_{p2} : H.V/L.V arm capacitance

DMI: Digital measuring instrument

PVMS: Power frequency voltage measuring system

Main parameters of testing equipment

U/W (kV/kVA)	f_{TT} (Hz)	C_{p1} (pF)	C_{p2} (μ F)
300/1200	50	1000	2.01

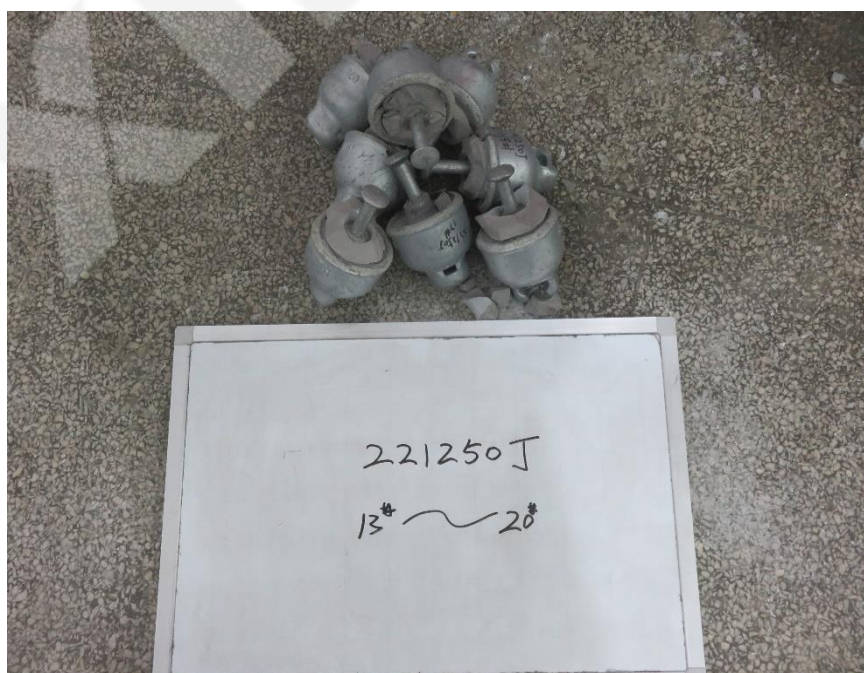
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Puncture Withstand Test (Sample test)		
Date of tests: 2023-02-24		
t= 21.3℃, RH= 55%, P= 98.3kPa		
1 Puncture withstand test		
Specimen No.	Voltage applied kV	Result
9	110.0	No punctured
10	110.0	No punctured
11	110.0	No punctured
12	110.0	No punctured
Specifications	110	No punctured
The result met test standard and the technical specifications.		
2 Puncture test		
Specimen No.	Voltage applied kV	Result
9	131.3	Punctured at head
10	138.5	Punctured at neck
11	134.8	Punctured at head
12	137.2	Punctured at neck
Provided the test datum only.		

Residual Mechanical Strength Test (Sample test)

Date of tests: 2023-02-16

Specimen No.	Failing load kN	Failing at	There were 6 specimens who failed at its metal fittings, the failing loads were 97.2kN~109.8kN, none of them was less than SFL(70kN). There were 2 specimens whose failing status was separated of cap or pin, the failing load were 92.9kN~102.5kN, none of them was less than 0.65SFL(45.5kN).
13	99.7	Cap	
14	105.0	Cap	
15	109.8	Cap	
16	104.6	Cap	
17	102.5	Separate	
18	92.9	Separate	
19	99.3	Cap	
20	97.2	Cap	

The result met test standard and the technical specifications.



Photograph 1

Porosity Test (Sample test)

Date of tests: 2023-02-17

Ceramic fragments from the electro-mechanical failing load test.

Specimen No.	Percentage concentration	Pressure MPa	Duration h	Pressure × duration MPa·h	Result
1	3%	30	6	180	No dye penetration
2	3%	30	6	180	No dye penetration
3	3%	30	6	180	No dye penetration
4	3%	30	6	180	No dye penetration
5	3%	30	6	180	No dye penetration
6	3%	30	6	180	No dye penetration
7	3%	30	6	180	No dye penetration
8	3%	30	6	180	No dye penetration
Specifications	3%	≥ 15	/	≥ 180	No dye penetration

The result met test standard and the technical specifications.

Verification of the Dimensions (Type test)

Date of tests: 2023-02-15

16B Mark

Units: mm

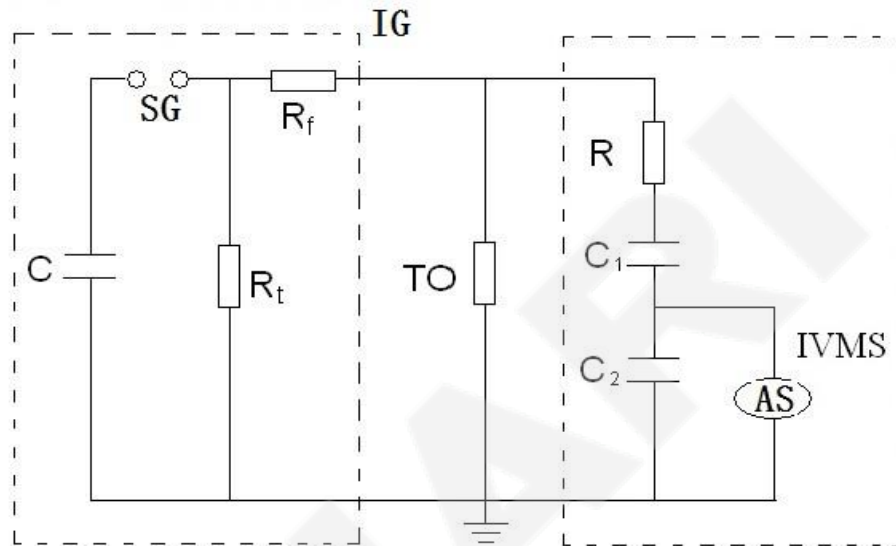
Specimen No.	Spacing	Diameter of disk	Creepage distance
21	145.5	255.0	325
22	145.5	255.6	322
23	146.0	255.3	323
24	145.5	253.9	324
25	145.5	254.3	326
26	145.5	254.0	321
27	145.0	253.5	327
28	146.0	254.4	321
29	146.0	255.6	325
30	146.0	253.4	325
Specifications	146±4.6	255±11.7	320±14.3

Specimen No.21 ~ No.30 passed the gauging of ball and socket verification.

The result met test standard and the technical specifications.

Dry Lightning Impulse Withstand Test (Type test)

Diagram of impulse voltage circuit



IG: Impulse generator

C: Capacitor of impulse generator

SG: Sphere gap

R_f : Front resistance

R_t : Tail resistance

TO: Test object

C_1/C_2 : H.V/L.V arm capacitance

R: Damping resistance

AS: Acquisition device

IVMS: Impulse voltage measuring system

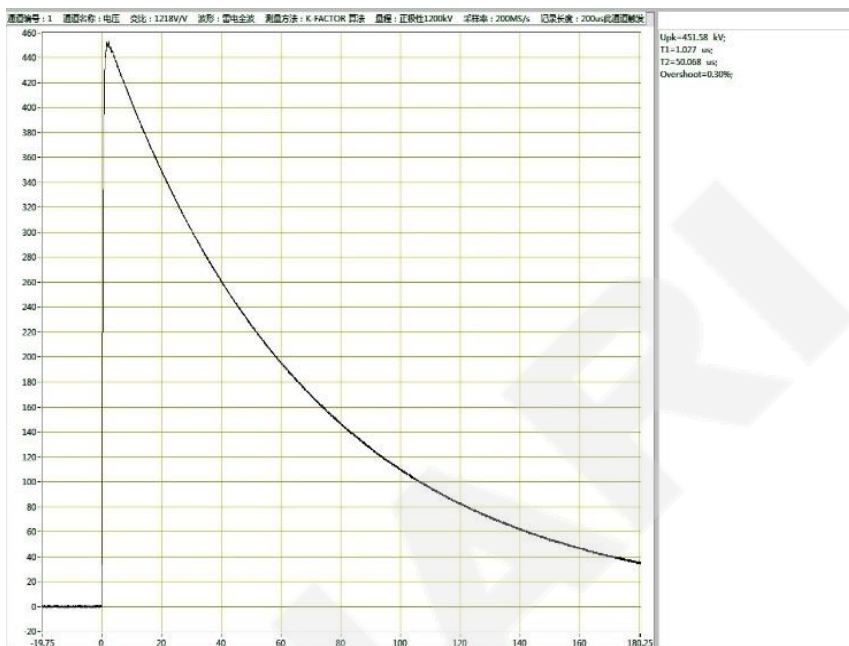
Main parameters of testing equipment

Wave shape	U/W (kV/kJ)	C(μ F)	$R_f(\Omega)$	$R_t(\Omega)$	C_1 (pF)	C_2 (pF)
Lightning impulse	1500/28	0.025	Adjustable	Adjustable	398	0.419

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Dry Lightning Impulse Withstand Test (Type test)				
Date of tests: 2023-02-24				
t= 21.3℃, RH= 55%, P= 98.3kPa, The arc distance L= 762mm				
Specifications: 450kV, Correction coefficient K _t = 0.963				
Specimen No.	Times	Voltage applied kV	Corrected voltage kV	Result
31 ~ 35 (short string)	Positive 15 shots	451~454	468.3~471.4	No flashover
	Negative 15 shots	451~453	468.3~470.4	No flashover
Specifications	15	/	≥450	Flashover times ≤ 2
The result met test standard and the technical specifications.				

Dry Lightning Impulse Withstand Voltage Test (Type test)

Typical oscillogram:



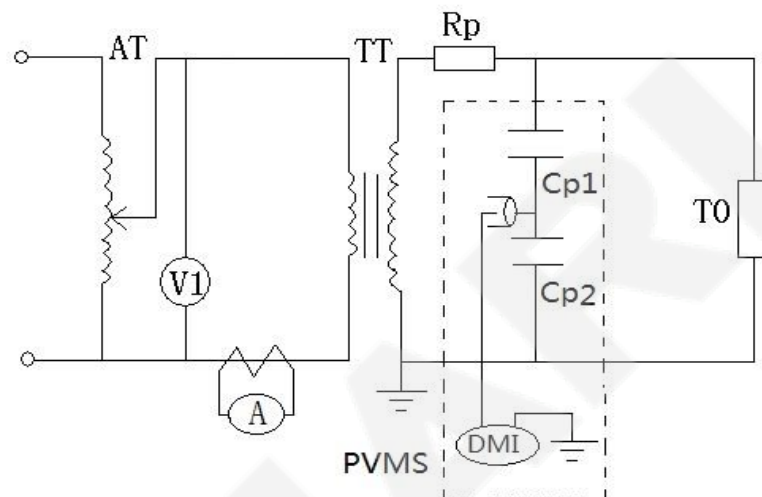
No.31 ~ No.35-1 (Positive)



No.31 ~ No.35-1 (Negative)

Wet Power-frequency Withstand Voltage Test (Type test)

Diagram of power frequency voltage circuit



AT: Regulators

R_p : Protection resistance

TT: Testing transformer

TO: Test object

V1: Voltmeter

A: Ammeter

C_{p1}/C_{p2} : H.V/L.V arm capacitance

DMI: Digital measuring instrument

PVMS: Power frequency voltage measuring system

Main parameters of testing equipment

U/W (kV/kVA)	f_{TT} (Hz)	C_{p1} (pF)	C_{p2} (μ F)
300/1200	50	1000	2.01

Wet Power-frequency Withstand Voltage Test (Type test)

Date of tests: 2023-02-24

 $t = 21.3^{\circ}\text{C}$, $\text{RH} = 55\%$, $P = 98.3\text{kPa}$, The arc distance $L = 762\text{mm}$ $t_{\text{water}} = 18.1^{\circ}\text{C}$, Conductivity of water $\sigma = 95.6\mu\text{S/cm}$

Precipitation rate: Horizontal component is 1.29mm/min. vertical component is 1.39mm/min

Specifications: 180kV. Correction coefficient $K_t = 0.992$

Specimen No.	Voltage applied kV	Corrected voltage kV	Duration s	Result
31 ~ 35 (short string)	180.0	181.5	60	No flashover
Specifications	/	≥ 180	60	No flashover

The result met test standard and the technical specifications.

Residual Mechanical Strength Test (Type test)

Date of tests: 2023-02-15~2023-02-16

Specimens No.36 ~ No.60 passed the temperature cycle test satisfactory, the temperature of hot water at 84℃ was 70K higher than that of the cold water, specimens withstood 3 cycles of hot and cold bathing for 15min each.

Specimen No.	Failing load kN	Failing at	Specimen No.	Failing load kN	Failing at
36	97.0	Cap	53	103.1	Cap
37	86.4	Separate	54	82.5	Separate
38	96.1	Cap	55	97.9	Cap
39	92.9	Separate	56	93.9	Cap
40	97.0	Cap	57	100.3	Cap
41	98.1	Separate	58	98.5	Cap
42	79.2	Separate	59	109.0	Separate
43	84.3	Separate	60	97.5	Separate
44	80.3	Separate	There were 10 specimens who failed at its metal fittings, the failing loads were 93.9kN~109.6kN, none of them was less than SFL(70kN). There were 15 specimens whose failing status was separated of cap or pin. The results were calculated as following formulas: SFL= 70kN $\bar{X}$= 94.560kN S= 10.229kN K= 0.65 $Q_s = (\bar{X} - 1.645S) / SFL = 1.110$ $Q_s > K$		
45	93.1	Separate			
46	101.0	Separate			
47	102.3	Cap			
48	111.6	Separate			
49	99.7	Separate			
50	109.6	Cap			
51	104.7	Separate			
52	98.1	Separate			

The result met test standard and the technical specifications.



Photograph 1

Electro-mechanical Failing Load Test (Type test)

Date of tests: 2023-02-15~2023-02-16

Specimens No.21 ~ No.30 passed the temperature cycle test satisfactory, the temperature of hot water at 84℃ was 70K higher than that of the cold water, specimens withstood 3 cycles of hot and cold bathing for 15min each.

The tensile load was applied between cap and pin in line with the axis of the specimen. The load was started at zero smoothly brought up to the failing point. Simultaneously, a power frequency voltage of 36kV was applied to the test specimen.

Specimen No.	Failing load kN	Failing at	Result
21	101.4	Cap	$\bar{X}_T=98.410\text{kN}$ $\sigma_T=5.370\text{kN}$ $C_0=2$ $\text{SFL}=70\text{kN}$ $\text{SFL}+C_0\sigma_T=80.740\text{kN}$ $\bar{X}_T > \text{SFL}+C_0\sigma_T$
22	106.7	Pin	
23	102.7	Ceramic	
24	91.5	Punctured	
25	104.4	Pin	
26	95.1	Cap	
27	93.4	Punctured	
28	100.2	Cap	
29	92.4	Ceramic	
30	96.3	Punctured	

The result met test standard and the technical specifications.



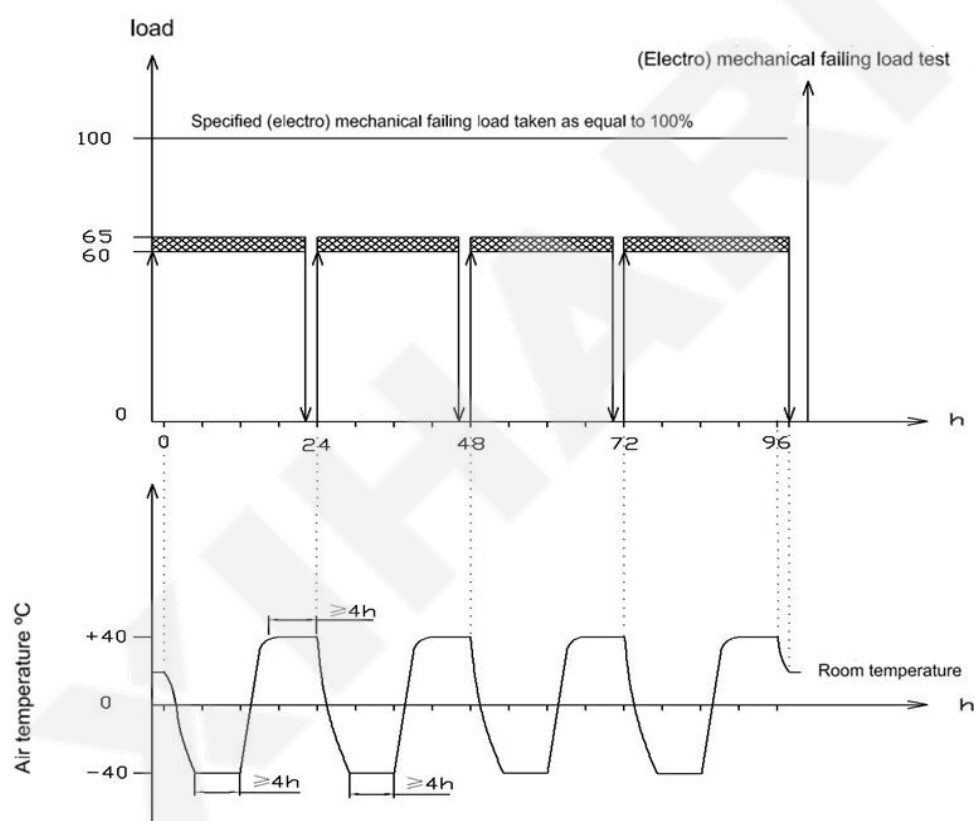
Photograph 1

Thermal-mechanical Performance Test (Type test)

Date of tests: 2023-02-19 ~ 2023-02-23

1 Cycle test

Specimen No.61 ~ No.70 were subjected to four 24-hour cycles to cooling and heating with a simultaneously applied tensile load maintained at 65% of the specified electromechanical failing load.



No insulator failed during the cycles of heating and cooling. All specimens withstood a power-frequency voltage for 1min were not punctured, the result met test standard and the technical specifications.

Thermal-mechanical Performance Test (Type test)

2 Electro-mechanical failing load test

The tensile load were applied between cap and pin in line with the axis of the specimen. The load was started at zero smoothly brought up to the failing point. Simultaneously, a power frequency voltage of 36kV was applied to the test specimen.

Specimen No.	Failing load kN	Failing at	Result
61	87.8	Punctured	$\bar{X}_t = 98.400 \text{ kN}$ $\sigma_t = 6.635 \text{ kN}$ $C_0 = 2$ $\text{SFL} = 70 \text{ kN}$ $\text{SFL} + C_0 \sigma_t = 83.270 \text{ kN}$ $\bar{X}_t > \text{SFL} + C_0 \sigma_t$
62	104.9	Pin	
63	99.7	Cap	
64	90.6	Ceramic	
65	109.9	Cap	
66	94.1	Punctured	
67	100.3	Cap	
68	94.9	Punctured	
69	100.8	Cap	
70	101.0	Cap	

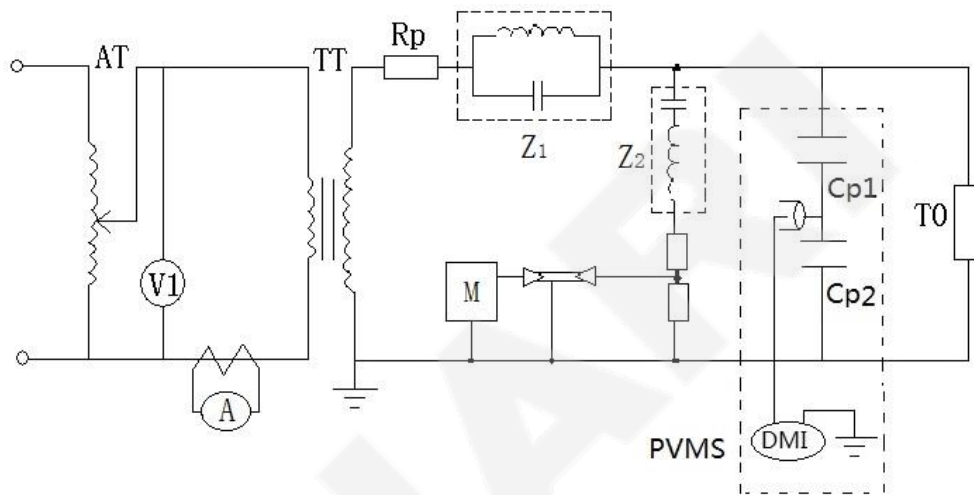
The result met test standard and the technical specifications.



Photograph 1

Radio Interference Voltage Test (Type test)

Diagram of radio interference voltage test circuit



AT: Regulators

TT: Testing transformer

V1: Voltmeter

C_{p1}/C_{p2} : H.V/ L.V arm capacitance

Z_1 : Blocking impedance

M: RIV measuring device

PVMS: Power frequency voltage measuring system

R_p : Protection resistance

TO: Test object

A: Ammeter

DMI: Digital measuring instrument

Z_2 : Coupling impedance

Main parameters of testing equipment

U/W (kV/ kVA)	f_{TT} (Hz)	C_{p1} (pF)	C_{p2} (μ F)
150/150	50	278.8	0.2785

Radio Interference Voltage Test (Type test)

Date of tests: 2023-02-24

 $t = 21.3^{\circ}\text{C}$, $\text{RH} = 55\%$, $P = 98.3\text{kPa}$

Test frequency: 1.0MHz. Specimen mounted: Vertical as in service. Background noise level: 26.25dB.

Radio interference $V = V_m + A + R$. $A + R = 22.11\text{dB}$, V_m is measuring decibels.

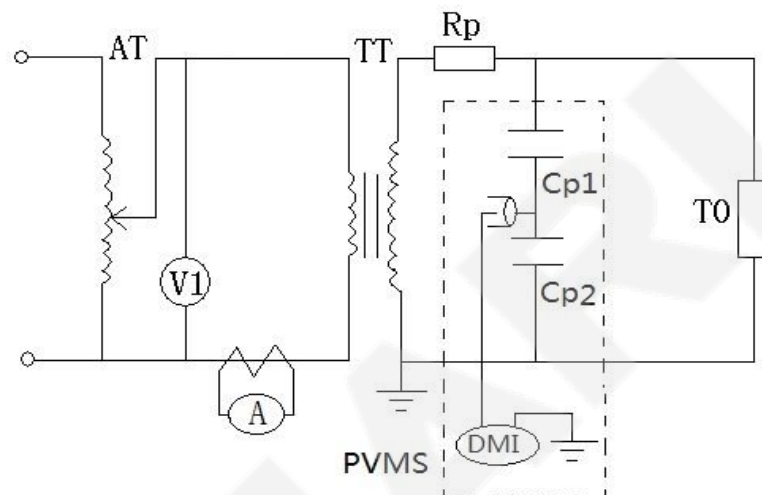
The test was carried out according to the "standard procedure", RIV obtained during the last decreasing run at the specified test voltage was as follows.

Specimen No.	Voltage applied kV	Decibel measurement V_m dB	Radio interference V dB	Radio interference voltage μV
31	10.0	6.65	28.76	28.2
32	10.0	6.39	28.50	28.2
33	10.0	7.22	29.33	28.2
34	10.0	6.69	28.80	28.2
35	10.0	7.54	29.65	31.6
Specifications	10	/	/	≤ 50

The result met test standard and the technical specifications.

Visual Corona Voltage Test (Type test)

Diagram of Visual corona voltage test circuit



AT: Regulators

R_p : Protection resistance

TT: Testing transformer

TO: Test object

V1: Voltmeter

A: Ammeter

C_{p1}/C_{p2} : H.V/L.V arm capacitance

DMI: Digital measuring instrument

PVMS: Power frequency voltage measuring system

Main parameters of testing equipment

U/W (kV/kVA)	f_{TT} (Hz)	C_{p1} (pF)	C_{p2} (μ F)
150/150	50	278.8	0.2785

Visual Corona Voltage Test (Type test)

Date of tests: 2023-02-24

1 Cap

t= 21.3℃, RH= 55%, P= 98.3kPa

Sample assembly: suspension. Altitude H = 396.9m. Correction coefficient $K_a = 1.05$

Specimen No.	Voltage applied kV			Average value kV	Corrected value kV
31	26	26	25	25.7	27.0
32	26	24	24	24.7	25.9
33	25	26	24	25.0	26.3
34	24	25	25	24.7	25.9
35	24	25	25	24.7	25.9
Specifications	/			/	≥ 22

The result met test standard and the technical specifications.

2 Pin

t= 21.3℃, RH= 55%, P= 98.3kPa

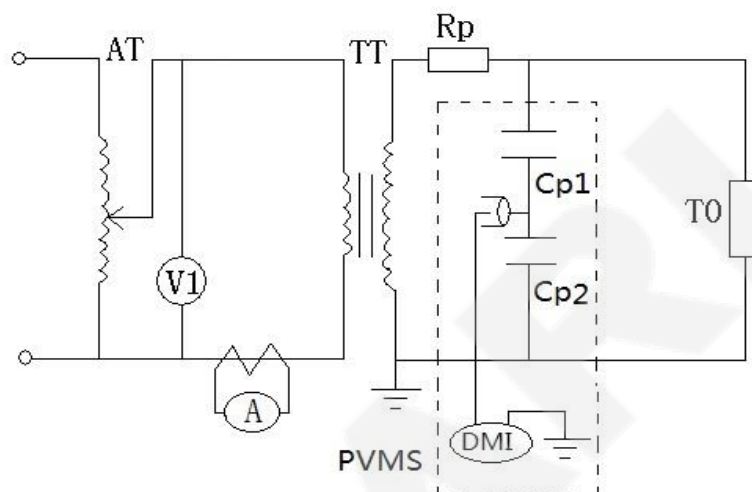
Sample assembly: suspension. Altitude H = 396.9m. Correction coefficient $K_a = 1.05$

Specimen No.	Voltage applied kV			Average value kV	Corrected value kV
31	21	22	22	21.7	22.8
32	21	21	21	21.0	22.1
33	21	22	21	21.3	22.4
34	21	22	21	21.3	22.4
35	22	22	21	21.7	22.8
Specifications	/			/	≥ 18

The result met test standard and the technical specifications.

Puncture Withstand Test (Type test)

Diagram of power frequency voltage circuit



AT: Regulators

R_p : Protection resistance

TT: Testing transformer

TO: Test object

V1: Voltmeter

A: Ammeter

C_{p1}/C_{p2} : H.V/L.V arm capacitance

DMI: Digital measuring instrument

PVMS: Power frequency voltage measuring system

Main parameters of testing equipment

U/W (kV/kVA)	f_{TT} (Hz)	C_{p1} (pF)	C_{p2} (μ F)
300/1200	50	1000	2.01

Puncture Withstand Test (Type test)

Date of tests: 2023-02-15~2023-02-24

t= 21.3℃, RH= 55%, P= 98.3kPa

Specimens No.71 ~ No.80 passed the temperature cycle test satisfactory, the temperature of hot water at 84℃ was 70K higher than that of the cold water, specimens withstood 3 cycles of hot and cold bathing for 15min each.

1 Puncture withstand test

Specimen No.	Voltage applied kV	Result
71	110.0	No punctured
72	110.0	No punctured
73	110.0	No punctured
74	110.0	No punctured
75	110.0	No punctured
76	110.0	No punctured
77	110.0	No punctured
78	110.0	No punctured
79	110.0	No punctured
80	110.0	No punctured
Specifications	110	No punctured

The result met test standard and the technical specifications.

2 Puncture test

Specimen No.	Voltage applied kV	Result
71	131.3	Punctured at head
72	138.5	Punctured at neck
73	134.8	Punctured at neck
74	137.2	Punctured at neck
75	135.1	Punctured at neck
76	133.4	Punctured at head
77	131.7	Punctured at head
78	135.5	Punctured at neck
79	133.7	Punctured at head
80	131.5	Punctured at head

Provided the test datum only.

Appendix

1 Drawing

HY/U70B-003 (Date:2022.09.09)

2 Photograph

(/)

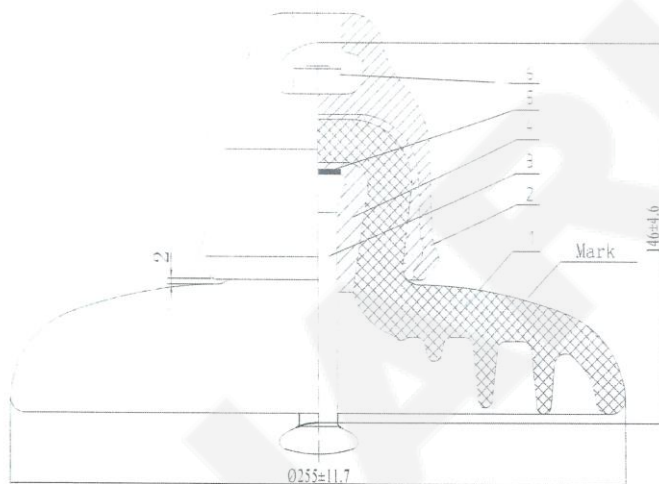
3 Measurement uncertainty

One sheet in total

Appendix

1 Drawing

HY U70B 146-001



Technical Data:

1. Disc Diameter(D):	255mm
a) Structure height (H):	146mm
b) Nominal creepage distance:	320mm
2. Coupling size	16 mm
3. Mechanical Values:	
a) Electromechanical failing load:	70kN
b) Mechanical impact strength/n.m:	6 N.m
4. Electrical:	
a) Power frequency puncture voltage:	110kV
b) Power frequency withstand voltage Wet	40kV(5 pieces of string≥180kV)
c) Dry lightning impulse withstand voltage	100kV(5 pieces of string≥450kV)
5. Radio-influence voltage data:	
Test voltage to ground	10kV
Maximum RIV at 1MHz	50μV
6. Colour of glaze:	Brown/White
7. Net weight:	4.5kg
8. Standard:	China Standard;
9. Visual corona voltage kV	GB/T1001.1-2021
10. Residual Mechanical Strength Test	Cap≥22, Pin≥18
	GB/T22709-2008

受控

2023.04.17

6	w Type Lockpin	0.025kg	JB/T 8181-1999	Suspension Porcelain Insulator (Normal Type) Jiangxi Huayang Insulator Manufacturing Co., Ltd.	U70B/146, 255, 320		
5	Cushion		GB326		Devise	Checked	Approval
4	Cement (525#)	0.24kg	JB/T 4307-2004		li jian zhong	QIYANG	Haibo
3	Spindle (QT35A)	0.23kg	JB/T 9677-1999				Zuo2hiyu
2	Cap (QT350-22)	0.77kg	JB/T 8178-1999				Date
1	Porcelain body	3.4kg	GB/T 772-2005				2023.01.10
	Name	Yan Wenjie	Remarks				

Appendix

3 Measurement uncertainty

No.	Equipment Name	Equipment No.	Measurement uncertainty (k=2)
1	600kN Horizontal tensile testing machine	2010003	$U_{rel}=1.2\%$
2	600kN Universal material testing machine	QH2007-001	$U_{rel}=1.2\%$
3	Durable tensile testing machine	562-2	$U_{rel}=1.2\%$
4	Coating thickness gauge	39769000003	$U=2.2\mu\text{m}$
5	Cold and hot test temperature system	/	$U=1.2^{\circ}\text{C}$
6	Pressure gauge	HC21550717276	$U_{rel}=2.7\%$
7	250kV Power frequency voltage measurement system	20131901	$U_{rel}=2.1\%$
8	300mm Vernier caliper	6175	$U=0.05\text{mm}$
9	500mm Vernier caliper	L14071368	$U=0.05\text{mm}$
10	150kV No corona AC and DC voltage measurement system	1607089	$U_{rel}=1.1\%$
11	300kV Power frequency voltage measurement system	110432	$U_{rel}=1.3\%$
12	1500kV Impulse voltage measurement system	0434-2	Voltage: $U_{rel}=1.4\%$ Time: $U_{rel}=2.8\%$
13	Hot resistance	03、04	$U=0.3^{\circ}\text{C}$
14	Conductivity meter	611800N0020020002	$U_{rel}=0.92\%$
15	Forcemeter	71213017	$U_{rel}=1.3\%$