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国家绝缘子避雷器质量监督检验中心

CHINA NATIONAL CENTRE FOR QUALITY SUPERVISION
AND TEST OF INSULATORS AND SURGE ARRESTERS

检验报告 TEST REPORT

Object **PQ-36-Y**
产 品 名 称 Pin Type Ceramic Insulator

Client
客 户 名 称 Bonle (Fuzhou) International co.,LTD.

Classification
检 验 类 别 Type test

中 国 西 安
XIAN P.R.CHINA

2008 年 07 月 25 日

25

Jul. 2008



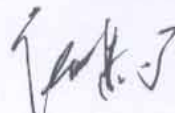
CHINA NATIONAL CENTRE QUALITY SUPERVISION AND TEST OF INSULATORS AND SURGE ARRESTERS

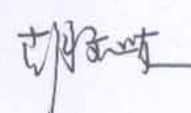
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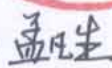
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Test object	Pin Type Ceramic Insulator
Type	PQ-36-Y
Trade mark	Bonle
Manufacturer	Bonle (Fuzhou) International co.,LTD.
Client	
Address	No.91 Taiyu Rd. Fuwan Pian. Jinshan industrial zone, Fuzhou, Fujian province, P.R. China (Post code: 350067)
Telephone	+86 591 88000101
Fax	+86 591 87527166
Test classification	Type test
Test items	All test items see Page 2 of this report
Reception date	03 Jul., 2008
Sample number	8
Series	No.1~No.8
Test date	03~04 Jul., 2008
Test basis	1 IEC 60383-1:1993 Insulators for overhead lines with a nominal voltage above 1,000V—Part 1: Ceramic or glass insulator units for a.c.systems—Definitions, test methods and acceptance criteria 2 IEC 60060-1: 1989 High voltage test techniques — Part 1: General definitions and test requirements 3 The drawing of sample
Test conclusion	The insulator passed all type test items and is deemed to meet the test basis satisfactory. Confirmed on 25 July, 2008
Remarks	/

Approved: 

Checked: 

Reported: 

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Test items		
1	Routine tests	Visual inspection
2		Routine electrical test
3	Type tests	Verification of the dimensions
4		Lightning impulse voltage tests
5		Wet power-frequency voltage tests
6		Mechanical failing load test

Specifications	243611.2	20549.7	243.5	24361.0
The results are the test results.				
4. Dry lightning impulse withstand test (Electrode on the top ground)				
Level 0 ($U_{10}=1.10U$, $P=0.5$ MPa, dielectric distance: 330mm)				
Voltage specified: 170kV, Correction coefficient: $K=0.966$, Corrected voltage value: 171.3kV				
Specimen No.	Voltage applied	Voltage applied 1V	Result	
1	Positive polarity 15 shots	172~174	No flashover	
	Negative polarity 15 shots	176~177	No flashover	
2	Positive polarity 15 shots	172~174	No flashover	
	Negative polarity 15 shots	172~174	No flashover	
3	Positive polarity 15 shots	172~174	No flashover	
	Negative polarity 15 shots	172~174	No flashover	
Specifications	15 shots each polarity	≥171.5	Flashover less than 2	

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Routine tests

1 Visual inspection

Specimens No.1 ~ No.8 had fair appearance, No defects exceeding standard permission were observed, met the test basis satisfactory.

2 Routine electrical test

All specimens specimens withstood power-frequency sparking voltage for 3min satisfactory.

The results of routine tests meet the test basis.

Type tests

3 Verification of the dimensions

Unit: mm

Specimen №	Spacing	The Max. diameter	Creepage distance	The Dia. of side groove
1	253.6	205.4	907	83.5
2	249.2	207.6	897	87.8
3	249.5	208.9	898	88.3
4	251.6	205.4	905	83.7
5	253.9	205.7	905	83.0
Specifications	243±11.2	205±9.7	≥825	85±4.9

The results met the test basis.

4 Dry lightning impulse withstand test (Electrode on the top groove)

$t_d=29.0^{\circ}\text{C}$, $t_w=24.0^{\circ}\text{C}$, $P=95.8\text{kPa}$, the arcing distance: 339mm.

Voltage specified: 170kV, Correction coefficient $K=0.966$, Corrected voltage value: 171.5kV.

Specimen №	Voltage applied	Voltage applied kV	Result
1	Positive polarity 15 shots	172~174	No flashover
	Negative polarity 15 shots	172~177	No flashover
2	Positive polarity 15 shots	172~174	No flashover
	Negative polarity 15 shots	172~174	No flashover
3	Positive polarity 15 shots	172~174	No flashover
	Negative polarity 15 shots	172~174	No flashover
Specifications	15 shots each polarity	≥171.5	flashover less than 2

The results met the test basis.

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$t_d=29.5^{\circ}\text{C}$, $t_w=24.5^{\circ}\text{C}$, $t_{\text{water}}=25.5^{\circ}\text{C}$, $P=95.6\text{kPa}$, the arc distance $L=339\text{mm}$

Resistivity of water $\rho_{25.5} = 100.7 \Omega \cdot \text{m}$, Corrected resistivity $\rho_{20} = 112.8 \Omega \cdot \text{m}$

Precipitation rate: horizontal component is 1.34mm/min, vertical component is 1.39mm/min

Specification: 90kV, Correction coefficient $K=0.953$, Corrected value: 85.8kV.

Specimen №	Withstand value kV	Duration s	Result
1	86	60	No flashover
4	86	60	No flashover
5	86	60	No flashover
Specifications	≥ 85.8	60	No flashover

The results met the test basis.

Specimen №	Bending load applied kN	Result
1	10	No damage
2	10	No damage
3	10	No damage
4	10	No damage
5	10	No damage
Specifications	10	No damage

The results met the test basis.

The result of type tests met the test basis.

Test Performed: MENG fan sheng LIU zhi qiang
 ZHONG yan dong ZHAO lei

Annex 1: Typical waveform of impulse voltage

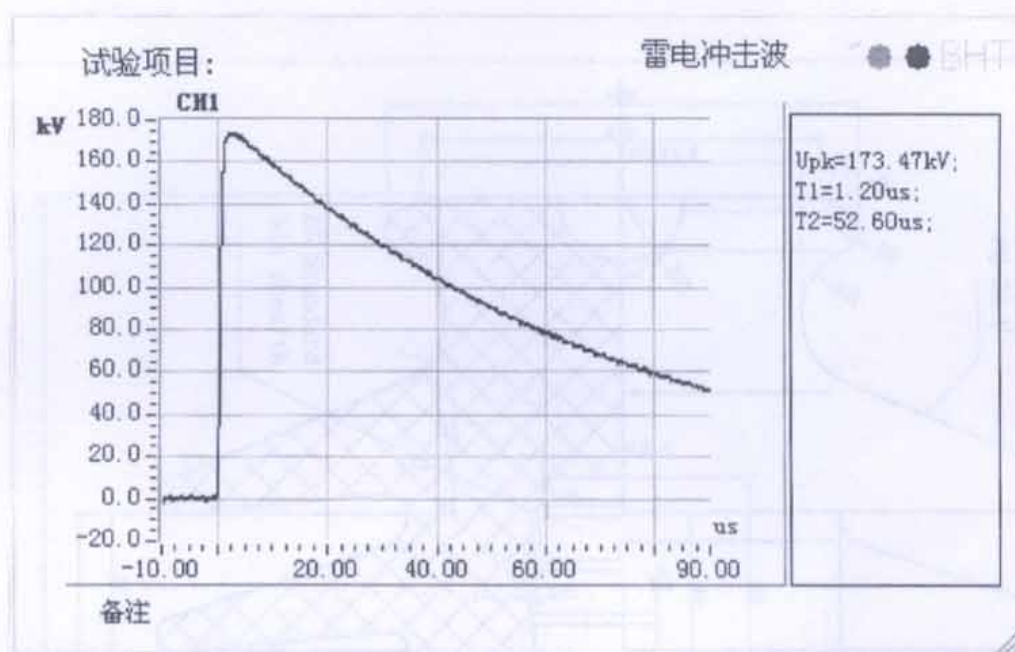


Fig 1: waveform of positive polarity lightning impulse voltage (withstand)

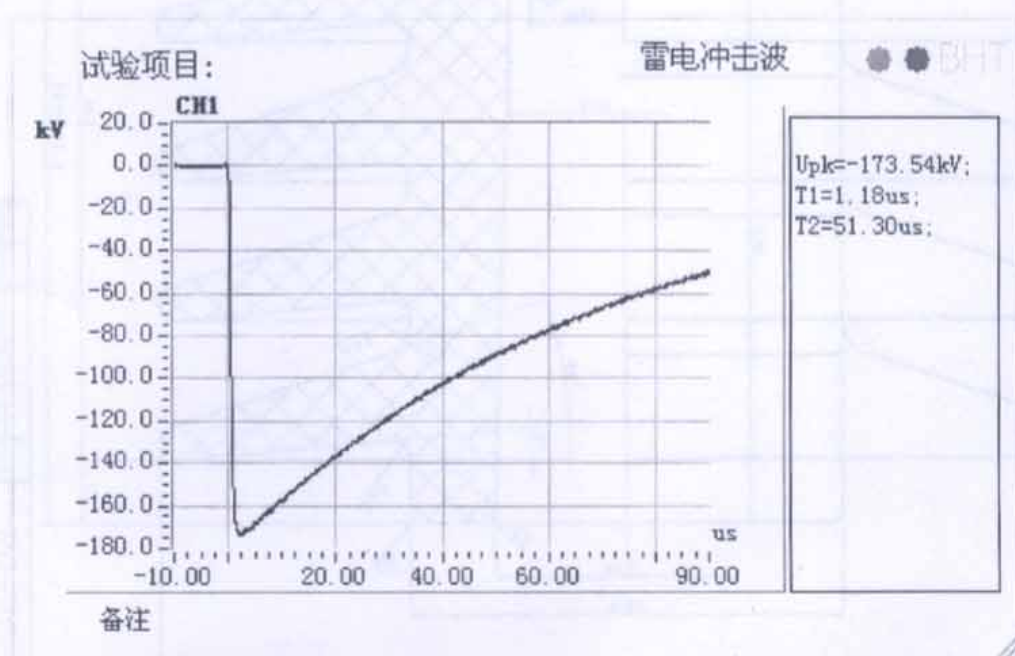


Fig 2: waveform of negative polarity lightning impulse voltage (withstand)

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Annex 2: The drawing of sample

