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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 19519-2014

Replacing GB/T 19519-2004

**Insulators for overhead lines - Composite suspension and tension
insulators for a.c. systems with a nominal voltage greater than 1 000V -
Definitions, test methods and acceptance criteria**

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Foreword

This standard was drafted in accordance with GB/T 1.1-2009 given rules.

This standard replaces GB/T 19519-2004.

This standard compared with GB/T 19519-2004, the main technical changes are as follows.

--- According to IEC 61109.2008 statements, the standard name was changed to "Insulators for overhead lines with a nominal voltage 1000V

AC systems Suspension and tension composite insulators definitions, test methods and acceptance criteria ";

--- To reflect umbrella cover material composite insulators of power lines used in almost all the current situation of high temperature vulcanized silicone rubber, in the first

Zhang added, "Note. China's electric power system is recommended as a high-temperature vulcanized silicone rubber umbrella cover material";

--- By GB/T 2900.8-2009 and GB/T 22079-2008 published in Chapter 3 of the standard terms and their definitions are listed modifications

as follows.

- Remove the "mandrel diameter" "tracking" "dendritic channel", "erosion", "chalking (ash)" "crack" "crack" "hydrolysis phenomenon", etc.

8 terms and definitions;

- Added "hydrophobic" "hydrophobic Migration", "weakening of hydrophobic" polymer insulator ", " insulator body, "" undermining load "

And Recovery ", " hydrophobic migration time "" Insulator Core damage under mechanical load limit "and other eight terms and their definitions;

- Modify the "composite insulators" "composite insulators mandrel" "Interface", "end fitting" "Connection Area", "connection" and 6 patients

Language or definitions;

- The "composite insulators umbrella cover umbrella skirt and" split "umbrella cover" and "insulator umbrella" terms and definitions, respectively.

--- Added "4 flag" "5 Ambient conditions" "6 Transport, storage and installation" "Mixed insulator 7" "8 tolerance" in Chapter 5;

--- According to our measurement practices, provision creepage distance measurement in Chapter 8 does not allow extrapolation on the basis of a short section of the measurement; at the same time

Add "NOTE. For system voltage 330kV and above voltage level-element insulator creepage distances specified in this standard

The maximum tolerance difficult to achieve. In this case, by agreement between the creepage distance tolerances can be not less than its nominal size

+/- 1% ";

--- Chapter 9 presents the conceptual design that tested insulators, refinement clear need to re-test after the implementation of design changes, and Senate

According to GB/T 1001.1-2003 put forward the concept of "setting test";

--- Possible, "10 is designed to test" as described in references GB/T 22079-2008;

--- "9.2 interface and end fitting connection test", the Dry frequency voltage test room after the test by the umbrella sheath temperature rise should not exceed

20K revised to 10K;

--- "10 Design Experiment", increasing the umbrella cover material "10.3.1 hardness test" "10.3.2 1000h UV test" "10.3.6

Hydrophobic test ", and mandrel" 10.4.2 Stress Corrosion Test "and test procedures and

acceptance criteria;

--- "10.2.2.3 prestressed heat engine", the total time allowed due to equipment maintenance interrupt capped by 4h modified to 2h, and any time

After the interruption, the test should be the starting point from which interrupt the cycle restarts;

--- According to our survey practice, modify the "10.3.5 umbrella cover material electrical resistance to tracking and erosion test" in the provisions relating to sample preparation, Ming

Indeed put on test samples directly from the insulator umbrella;

--- In the "10.4.1 dye penetration test and water diffusion test" shall be used as specified in the test specimen umbrella sets, according to permeate dye

GB/T 22079-2008 modify methine dyes, water provision during the current diffusion test from "should not exceed 1mA (rms)"

Was changed to "shall not exceed 100 μ A (rms)";

--- According to GB/T 22079-2008, flammability test method referenced by the GB/T 11020-2005 Unified modify references

GB/T 5169.16-2008;

--- "11 type test" in the "mechanical load - time trial" to "limit damage verification test";

--- Given the focus on insulator sheath thickness and deviation, "12.2 dimension check (E1 E2)" test sample clearly jacket

Thickness requirements and methods of inspection;

--- Sampling test "Front 12.6 steep wave impulse withstand voltage test" sample modified to E2 in one, and the specified test by the water

After dipping prestressed. At the same time, to reduce the workload of the test, a predetermined "over the insulating distance of 2.5m and length of insulation

Can the impulse voltage test before the child, steep waves in the insulator, the lower part depicting the short distance of about 300mm ~ 500mm of insulation

Test section, and the end fitting on one of the lower electrode test ", respectively, as;

--- To distinguish process marks, logos and cosmetic defects, "13.2 visual inspection," added "insulator surface and the presence of traces of process

Flag does not belong to manufacturing defects, but the area should be included in the total area of \u200b\u200b surface defects. The total area of \u200b\u200b the insulator surface defects must not exceed

0.2% of the total surface area of the sub edge. "The statement;

--- According to IEC 61109.2008 revised Appendix A, to correct the mechanical insulator failure mechanism understanding bias. To this end, the set

Meter test mechanical load test "insulator strength - time curve slope inspection" to "96h check load tolerance", and

Of the actual product, the IEC 61109.2008 Figure A.2 split into two figures, only example shows the mechanical properties

And the relationship between the running load, and the relationship between damage limit and its status, without explanation correspondence relationship between the two;

--- Because IEC 62217.2012 in multi-stress test is not used as a standard test, remove the GB/T 19519-2004 Annex C (funded

Material appendix);

--- And for the IEC 61109.2008 unified deleted GB/T 19519-2004 Annex D (informative) Appendix E (Data

Appendix) Appendix F (informative), an increase of Annex B (informative). Suspension and tension composite insulators nonstandard machine

Mechanical stresses and mechanical dynamic load.

This standard uses redrafted law revision adopted IEC 61109.2008 "Insulators for overhead lines with a nominal voltage 1000V AC

Suspension systems and tension composite insulators definitions, test methods and acceptance criteria. "

This standard and IEC 61109.2008 as compared to some technical differences in terms of these differences has been involved through its outer margin

AC power frequency arc tests of details.

Suspension and tension composite insulators are usually not subjected to twisting or other non-tensile load, Appendix B gives a nonstandard load guidelines.

Insulators for overhead lines with a nominal voltage 1000V

AC systems Suspension and tension composite insulators

Definitions, test methods and acceptance criteria

1 Scope

This standard specifies the definitions, test methods and acceptance criteria for ac overhead lines Composite Insulators (hereinafter referred to as insulator) of.