IEC 60099-4

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INTERNATIONAL STANDARD

NORME INTERNATIONALE

AMENDMENT 2
AMENDEMENT 2

Surge arresters –
Part 4: Metal-oxide surge arresters without gaps for a.c. systems

Parafoudres –
Partie 4: Parafoudres à oxyde métallique sans éclateurs pour réseaux à courant alternatif

IEC 60099-4:2004/A2:2009

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FOREWORD

This amendment has been prepared by IEC technical committee 37: Surge arresters.

The text of this amendment is based on the following documents:

FDIS	Report on voting
37/354/FDIS	37/357/RVD

Full information on the voting for the approval of this amendment can be found in the report on voting indicated in the above table.

The committee has decided that the contents of this amendment and the base publication will remain unchanged until the maintenance result date indicated on the IEC web site under "http://webstore.iec.ch" in the data related to the specific publication. At this date, the publication will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.

Replace definitions 3.66, 3.67 and 3.68 with the following new definitions:

3.66
specified long-term load
SLL
force perpendicular to the longitudinal axis of an arrester, allowed to be continuously applied during service without causing any mechanical damage to the arrester

3.67
specified short-term load
SSL
greatest force perpendicular to the longitudinal axis of an arrester, allowed to be applied during service for short periods and for relatively rare events (for example, short-circuit current loads and extreme wind gusts) without causing any mechanical damage to the arrester

NOTE SSL does not relate to mechanical strength requirements for seismic loads. See M.2.

3.68
mean breaking load
MBL
the average breaking load for porcelain or cast resin-housed arresters determined from tests

6.14.1 Bending moment

Change NOTE 1 of Subclause 6.14.1 as follows:

NOTE 1 When determining the mechanical load applied to a surge arrester, the user should consider, for example, wind, ice and electromagnetic forces likely to affect the installation.

Add the following subclause to 6.14:

6.14.4 Mean value of breaking load (MBL)

The MBL shall be ≥ 1,2 times the specified short-term load (SSL) (see 8.9.4).

Replace the existing Subclause 8.9 by the following new Subclause 8.9:

8.9 Test of the bending moment

This test applies to porcelain and cast-resin housed arresters for U_m > 52 kV. It also applies to porcelain and cast-resin housed arresters for U_m ≤ 52 kV for which the manufacturer claims cantilever strength.

The complete test procedure is shown by the flow chart in Annex M.

8.9.1 General

This test demonstrates the ability of the arrester to withstand the manufacturer's declared values for bending loads. Normally, an arrester is not designed for torsional loading. If an arrester is subjected to torsional loads, a specific test may be necessary by agreement between manufacturer and user.

The test shall be performed on complete arrester units without internal overpressure. For single-unit arrester designs, the test shall be performed on the longest unit of the design. Where an arrester contains more than one unit or where the arrester has different specified bending moments in both ends, the test shall be performed on the longest unit of each different specified bending moment, with loads determined according to M.1.

The test shall be performed in two parts that may be done in any order:

– a bending moment test to determine the mean value of breaking load (MBL);
– a static bending moment test with the test load equal to the specified short-term load (SSL), i.e. the 100 % value of M.3.

8.9.2 Sample preparation

One end of the sample shall be firmly fixed to a rigid mounting surface of the test equipment, and a load shall be applied to the other (free) end of the sample to produce the required bending moment at the fixed end. The direction of the load shall pass through and be perpendicular to the longitudinal axis of the arrester. If the arrester is not axi-symmetrical with respect to its bending strength, the manufacturer shall provide information regarding this non-symmetric strength, and the load shall be applied in an angular direction that subjects the weakest part of the arrester to the maximum bending moment.