IEC 60358-1
(1st edition – 2012)

Coupling capacitors and capacitor dividers –
Part 1: General rules

CORRIGENDUM 1

4.4 System earthing

Replace the text of Subclause 4.4 by the following new text:

The considered system earthings are:

a) isolated neutral system (see 3.1.10);

b) resonant earthed system (see 3.1.13);

c) earthed neutral system (see 3.1.15):

   1) solidly earthed neutral system (see 3.1.11)

   2) impedance earthed (neutral) system (see 3.1.12).

8.2 Routine tests

Replace the text of Subclause 8.2 by the following new text:

The following tests are routine tests. For details, reference should be made to the relevant subclauses:

a) tightness of equipment (9.1);

b) capacitance and tanδ measurement at power-frequency (9.2.2);

c) power-frequency or d.c. withstand test (9.2.3);

d) measurement of partial discharges (9.2.4);

e) resistance measurement if resistance(s) is(are) mounted inside the equipment (9.2.6);

f) power-frequency withstand test on low voltage terminal if applicable (9.2.5).

The order or possible combination of the tests is not standardized except for the highlighted test in Figure 2.

Repeated power-frequency tests should be performed at 80 % of the specified test voltage.

8.3 Type tests

Replace the text of item e) with the following new text:

e) d.c.-withstand voltage wet test for outdoor type equipment for d.c. voltage (10.2.1);

Figure 2 – Flow charts test sequence to be applied when performing the type test (Figure 2a) and routine test (Figure 2b)

Replace the existing Figure 2 with the following new figure:

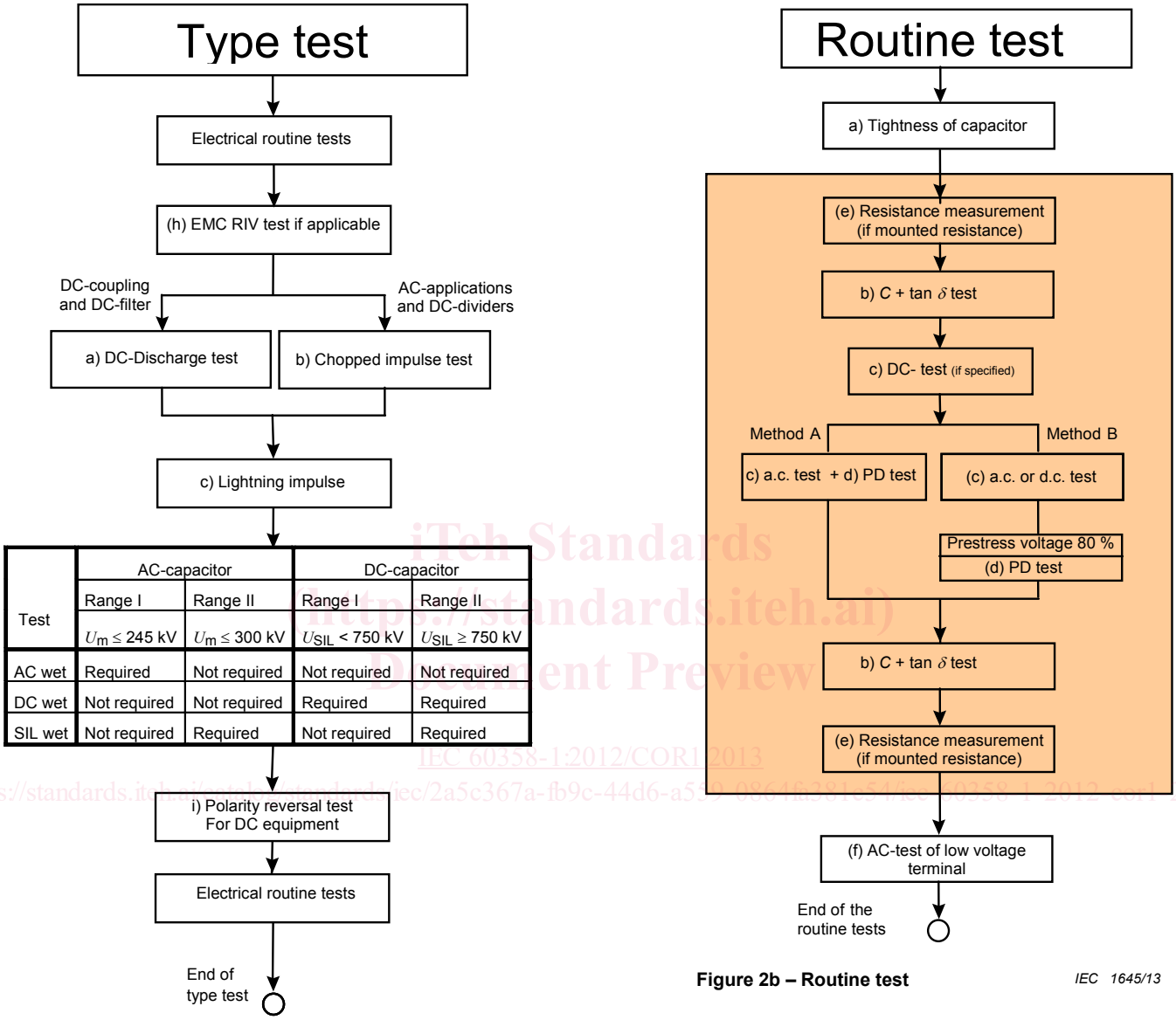

Figure 2a – Type test

IEC 1644/13

Figure 2b – Routine test

IEC 1645/13

Figure 2 – Flow charts test sequence to be applied when performing the type test (Figure 2a) and routine test (Figure 2b)

Note: specific supplementary tests (for example accuracy, ratio, etc.) are defined in the specific parts.

9.2.4.1 Test procedure for equipment (see Annex B)

Replace the fourth paragraph of 9.2.4.1 with the following new text:

Procedure B: The partial discharge test is performed after the a.c. or d.c. voltage withstand test. The applied voltage is raised to 80 % of the withstand voltage, maintained for not less than 60 s, then reduced without interruption to the specified partial discharge test voltage. For d.c. application, the pre-stress a.c. RMS-voltage is 1,3 × U_R udring at least 10 s.

10.1.2 Discharge test for d.c. coupling/filter capacitor

Replace the title and text of Subclause 10.1.2 with the following new title and text:

10.1.2 Discharge test and chopped impulse test

10.1.2.1 Discharge test for d.c. coupling/filter capacitor

The test may be carried out either on a capacitor stack or on a unit. A voltage shall be applied between the line and earth terminals of a stack or between the terminals of a unit in order to charge the capacitor to a voltage equal to the lightning impulse test voltage. The capacitor shall then be discharged through a rod gap so situated as to obtain the highest discharge frequency. The charging voltage can be positive or negative.

The test shall be made twice within 5 min.

NOTE 1 This test is intended to check the internal connections of the capacitor.

NOTE 2 The capacitor may be charged either by means of a d.c. generator or by an impulse generator, the choice being left to the manufacturer.

10.1.2.2 Chopped impulse test for a.c. equipment and d.c. dividers

The test shall be carried out on a complete equipment with negative polarity only and combined with the negative polarity lightning impulse test in the manner described below.

The voltage shall be a standard lightning impulse as defined in IEC 60060-1, chopped after the crest value has been reached between 2 µs and 8 µs. The chopping circuit shall be so arranged that the polarity reversal of the recorded impulse shall be limited to 30 % of the peak value. The lightning impulse shall be chopped with a suitable gap.

NOTE 1 If the front time is longer (see 10.1.3) the chopped time should be adjusted accordingly (after the crest value).

The chopped impulse test voltage shall be as mentioned at 6.2.4.

The sequence of impulse applications shall be as follows:

a) for equipment rated for U_m < 300 kV

- one full impulse;
- two chopped impulses;
- fourteen full impulses;

b) for equipment rated for $U_m \geq$ 300 kV

- one full impulse;
- two chopped impulses;
- two full impulses.

Differences in waveshape of full wave applications before and after the chopped impulses are an indication of an internal fault. Flashovers during chopped impulses across self-restoring external insulation shall be disregarded in the evaluation of the behaviour of the insulation.

10.2.1.2 d.c. wet test on d.c. equipment

Replace the text of Subclause 10.2.1.2 with the following new text:

For d.c. application the test is performed in positive polarity during 1 h at a voltage level of 1,5 × U_R.