

CTL DECISION SHEET

Standard(s)- (year and edition): IEC 60730-1 (ed. 3); Am.1	Sub clause(s): H27.1.2 and H27.1.3	Sheet n°: DSH 582
Subject: Supply protection characteristics during abnormal operation	Key words: Fuse rating	Decision approved during the CTL Plenary Meeting 2006

Question:

Sub-clause H27.1.2 item d) prescribes that for abnormal operation the electrical supply shall have a fuse rating such that the result of the test is not influenced by the operation of the fuse.

The evaluation of compliance given in sub-clause H27.1.3 item f) states that “A fuse in the supply, external to the control under test and as described in item d) of H27.1.2, shall not rupture unless an internal protective device also operates that is accessible only after the use of a tool”.

- 1) There is an apparently inconsistency between H27.1.2 and H27.1.3. On one hand the fuse shall have such characteristics (e.g. high rated current or rated short-circuit capacity) in order to not limit the effects of the test; in the other the operation of the fuse is considered as a test failure. Which criteria shall be followed during the selection of the fuse.
- 2) The use of fuse as protective device in the fixed wiring is not a common practice in several countries. Is it accepted the use of other protective devices such as circuit breakers?

Decision:

It was agreed that the intent of Clauses H.27.1.2 and H.27.1.3 is that the size of the supply fuse be large enough so that it allows the Equipment Under Test (EUT) to see the most onerous conditions (note that the “fuse in the supply” referenced in Clause H.27.1.3.f is the same fuse described in Clause H.27.1.2.d). That is, the EUT should be tested without the supply fuse opening. In this way, faults introduced to the EUT stress the EUT and its inherent protection (if any) without the EUT becoming protected by opening of the supply fuse

Explanatory notes:

The original proposal of IMQ was not approved by CTL/ETF4 members. Therefore IEC TC72/WG8 was asked for interpretation the standard. The decision above is corresponding to the IEC TC72/WG8 statement. It should be noted that the main problem is not solved by this decision because in each IECEE member country we have different national installation rules and therefore different protecting devices in use.