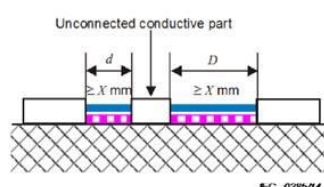


CTL Provisional DECISION SHEET (PDSH)

Standard(s) (incl. year)	Subclause(s)	Tracking No.	Publication date
IEC 62368-1:2014 ed.2.0 IEC 62368-1:2018 ed.3.0 IEC 60664-1:2020	ANNEX O	2214	2023
Category			
ITAV			
Subject	Keywords	Developed by	To be approved
Measurement of creepage distances and clearances	Creepage distance Clearance	ETF2	2023 or 2024 CTL Plenary Meeting

Question



Condition: Insulation distance with intervening, unconnected conductive part. Rule: Clearance is the distance $d + D$, creepage distance is also $d + D$. Where the value of d or D is smaller than X mm it shall be considered as zero.

Figure O.4 – Intervening unconnected conductive part

In IEC 62368-1:2014 ed.2.0 Annex O figure O.4, as above, there is an explanation indicates that:

Rule: Clearance is the distance $d + D$, creepage distance is also $d + D$. Where the value of d or D is smaller than X mm it shall be considered as zero.

In IEC 62368-1:2018 ed.3.0 Annex O, figure O.4 there is also same expression.

Although, In IEC 60664-1: 2007 and IEC 60664-1:2020, there is no expression in this version of IEC 60664-1:2007 about the situation when d or D smaller than X mm.

But, DSH 2160 clarifies the dilemma as below and you can see the decision sheet screen shot:

A PCB sample is tested according to sub-clause 6.2 of IEC 60664-1:2007. How to measure creepage distances when the path is split by floating conductive parts when $d < X$ and $D \geq X$?

NOTE: $d < X$, $D \geq X$, C is conductive floating part
 Figure test PCB sample

Different interpretations of total creepage distance are as follows:

Opinion 1: The creepage distance is measured as shown in IEC 60664-1:2007 example 11. Creepage distance is the distance = $d + D$.

Opinion 2: Since the d is less than X , the d is considered as zero. Creepage distance is the distance = D .

Which opinion is correct?

Decision
Opinion 1 is correct. Creepage distance is the distance = $d + D$.

Question is, how shall we evaluate clearance and creepage distance according to IEC 62368-1 for unconnected conductive parts (floating conductors)?

Decision
DSH 2160 is to be considered.
Explanatory notes
Figure O.4 is changed in the draft ed 4 of 62368-1, 108/800/FDIS and is in line with DSH 2160 for 60664-1. IEC TC108 HBSDT San Francisco Nov 2022: Agreement on the OSM EE document 22/5 with the same content.

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