



Safety Standard References

D2.3 TDL – Comment #332

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D2.3 Comment #332

“All equipment
subject to this
clause shall...”

<i>Cl</i> 145	<i>SC</i> 145.6.1	<i>P</i> 224	<i>L</i> 21	<i>#</i> 332
Yseboodt, Lennart		Philips		
<i>Comment Type</i>	<i>TR</i>	<i>Comment Status</i>	<i>A</i>	<i>Environmental</i>
"All equipment subject to this clause shall conform to IEC 60950-1. In particular, the PSE shall be classified as a Limited Power Source in accordance with IEC 60950-1."				
IEC 62368-1 is the successor to IEC 60950-1. We have put references to this IEC standard in other parts of the document, but here (in the requirement) it was omitted.				
<i>SuggestedRemedy</i>				
Replace by:				
"All equipment subject to this clause shall conform to IEC 60950-1 and IEC 62368-1. In particular, the PSE shall be classified as a Limited Power Source in accordance with IEC 60950-1 and shall be classified as Power Source Class 2 according to IEC 62368-1."				
IEC 62368 defines PS2 as "PS2 is a circuit where the power source, (see Figure 36) measured according to 6.2.2:"				
" - exceeds PS1 limits; and"				
" - does not exceed 100 W measured after 5 s."				
Right now IEC 62368-1 is out for vote and will reach 3.0 stage after April.				
This standard is specific to PoE and USB powering: "Safety of electronic equipment within the field of audio/video, information technology and communication technology"				
We will need to review it and possible include a shall statement for it as well.				

IEC 62368-1 Overview

- Title: “Audio/video, information and communication technology equipment – Part 1: Safety requirements”
 - Current Version: [Edition 2.0](#)⁽¹⁾
 - Publication Date: [Feb. 26, 2014](#)⁽¹⁾
 - Next Version: [Edition 3.0](#)⁽¹⁾
 - Forecasted Publication Date: [July 31, 2018](#)⁽¹⁾
 - Anticipated Implementation Date: [June 20, 2019](#)⁽²⁾⁽³⁾
 - ❖ [Best guess? For which countries? Complete cessation of IEC 60950-1?](#)

(1) IEC Webstore, IEC 62368-1:2014, Additional information, <https://webstore.iec.ch/publication/6932>

(2) TÜV Rheinland, What You Need to Know about IEC 62368-1, <http://apac.tuv.com/blog/what-you-need-to-know-about-iec62368-1>

(3) UL, IEC 62368-1 based Standards Updates, <http://industries.ul.com/blog/iec-62368-1-based-standards-updates>

IEC 62368-1 Transition

- IEC 60950-1 and IEC 62368-1 have some common requirements, but **they are not identical in every regard**

62368-1 © IEC:2014

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NOTE 2 IEC 62368-1 is based on the principles of hazard based safety engineering, which is a different way of developing and specifying safety considerations than that of the current practice. While **this standard is different from traditional IEC safety standards in its approach** and while it is believed that IEC 62368-1 provides a number of advantages, its introduction and evolution is not intended to result in significant changes to the existing safety philosophy that led to the development of the safety requirements contained in IEC 60065 and IEC 60950-1. The predominant reason behind the creation of IEC 62368-1 is to simplify the problems created by the merging of the technologies of ITE and CE. **The techniques used are novel so that a learning process is required and experience is needed in its application.** Consequently, the committee recommends that this edition of the standard be considered as an alternative to IEC 60065 or IEC 60950-1 at least over the recommended transition period.

IEC 62368-1 Transition (cont.)

62368-1 © IEC:2014

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4 General requirements

4.1 General

4.1.1 Application of requirements and acceptance of materials, components and subassemblies

Requirements are specified in the relevant clauses and, where referenced in those clauses, in the relevant annexes.

Where compliance of materials, components or subassemblies is demonstrated by inspection, such compliance may be by review of published data or previous test results.

Components and subassemblies that comply with IEC 60950-1 or IEC 60065 are acceptable as part of equipment covered by this standard without further evaluation other than to give consideration to the appropriate use of the component or subassembly in the end-product.

NOTE This paragraph will be deleted in edition 3 of this standard. It is added here to provide a smooth transition from the latest editions of IEC 60950-1 and IEC 60065 to this standard.

Application
to the overall
piece of
equipment
more murky

July 31,
2018, this
allowance will
cease to exist



IEC 62368-1 Transition (cont.)

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60950-1 © IEC:2005+A1:2009
+A2:2013

1.5.1 General

Where safety is involved, components shall comply ~~either~~ with the requirements of this standard or, **where specified in a requirements clause**, with the safety aspects of the relevant IEC component standards.

~~NOTE 1~~ An IEC component standard is considered relevant only if the component in question clearly falls within its scope.

~~NOTE 2~~ ~~In Sweden, switches containing mercury are not permitted.~~

~~NOTE 3~~ ~~In Switzerland, switches containing mercury such as THERMOSTATS, relays and level controllers are not allowed.~~

Components and subassemblies that comply with IEC 62368-1 are acceptable as part of an equipment covered by this standard without further evaluation other than to give consideration to the appropriate use of the component or subassembly in the end-product.

D2.4 Proposed Remedy (Comment #239)

Cl 145	SC 145.6.1	P 238	L 19	# 239
Walker, Dylan		Cisco		
Comment Type	TR	Comment Status	X	Pres: Walker1
To be consistent with other references to safety standards in our standard, we should provide the option to conform to IEC 62368-1, but it's jumping the gun to require IEC 62368-1 compliance.				

Change:

“All equipment subject to this clause shall conform to IEC 60950-1. In particular, the PSE shall be classified as a Limited Power Source in accordance with IEC 60950-1.”

To:

“All equipment subject to this clause shall conform to IEC 60950-1 **or IEC 62368-1**. In particular, the PSE shall be classified as a Limited Power Source in accordance with IEC 60950-1 **or IEC 62368-1 Annex Q**.”

Additional D2.4 Comments

Seeking Consistency & Correctness

D2.4 Proposed Remedy (Comment #240)

Cl 145	SC 145.4.1	P 204	L 16	# 240
Walker, Dylan		Cisco		
Comment Type	TR	Comment Status	X	Pres: Walker1
Need to add the pertinent subclause for IEC 62368-1.				

Change:

“Accessible external conductors are specified in subclause 6.2.1 b) of IEC 60950-1 and IEC 62368-1.”

To:

“Accessible external conductors are specified in subclause 6.2.1 b) of IEC 60950-1 and **subclause 5.4.10.1 b) of** IEC 62368-1.”

D2.4 Proposed Remedy (Comment #241)

CI 145	SC 145.4.1	P 204	L 20	# 241
Walker, Dylan		Cisco		
Comment Type	TR	Comment Status	X	Pres: Walker1
It's jumping the gun to require IEC 62368-1 compliance. Also, need to add the pertinent subclause for IEC 62368-1.				

Change:

“This electrical isolation shall withstand at least one of the following electrical strength tests:

a) 1500 V rms at 50 Hz to 60 Hz for 60 s, applied as specified in subclause 5.2.2 of IEC 60950-1 and IEC 62368-1.”

To:

“This electrical isolation shall withstand at least one of the following electrical strength tests:

a) 1500 V rms at 50 Hz to 60 Hz for 60 s, applied as specified in subclause 5.2.2 of IEC 60950-1 or subclause 5.4.9 of IEC 62368-1.”

D2.4 Proposed Remedy (Comment #242)

CI 145	SC 145.4.1	P 204	L 22	# 242
Walker, Dylan		Cisco		
Comment Type	TR	Comment Status	X	Pres: Walker1
It's jumping the gun to require IEC 62368-1 compliance. Also, need to add the pertinent subclause for IEC 62368-1.				

Change:

“This electrical isolation shall withstand at least one of the following electrical strength tests:

b) 2250 V dc for 60 s, applied as specified in subclause 5.2.2 of IEC 60950-1 and IEC 62368-1.”

To:

“This electrical isolation shall withstand at least one of the following electrical strength tests:

b) 2250 V dc for 60 s, applied as specified in subclause 5.2.2 of IEC 60950-1 **or subclause 5.4.9 of IEC 62368-1.**”

D2.4 Proposed Remedy (Comment #243)

CI 145	SC 145.4.1	P 204	L 23	# 243
Walker, Dylan		Cisco		
Comment Type	TR	Comment Status	X	Pres: Walker1
It's jumping the gun to require IEC 62368-1 compliance. Also, need to add the pertinent subclause for IEC 62368-1.				

Change:

“This electrical isolation shall withstand at least one of the following electrical strength tests:

c) An impulse test consisting of a 1500 V, 10/700 μ s waveform, applied 10 times, with a 60 s interval between pulses. The shape of the impulses shall be 10/700 μ s (10 μ s virtual front time, 700 μ s virtual time of half value), as defined in IEC 60950-1 and IEC 62368-1 Annex N.”

To:

“This electrical isolation shall withstand at least one of the following electrical strength tests:

c) An impulse test consisting of a 1500 V, 10/700 μ s waveform, applied 10 times, with a 60 s interval between pulses. The shape of the impulses shall be 10/700 μ s (10 μ s virtual front time, 700 μ s virtual time of half value), as defined in IEC 60950-1 **Annex N or subclause 5.4.10 of IEC 62368-1.**”

D2.4 Proposed Remedy (Comment #244)

CI 145	SC 145.4.1	P 204	L 27	# 244
Walker, Dylan		Cisco		
Comment Type	TR	Comment Status	X	Pres: Walker1
It's jumping the gun to require IEC 62368-1 compliance. Also, need to add the pertinent subclause for IEC 62368-1.				

Change:

“There shall be no insulation breakdown, as defined in subclause 5.2.2 of IEC 60950-1 and IEC 62368-1, during the test.”

To:

“There shall be no insulation breakdown, as defined in subclause 5.2.2 of IEC 60950-1 **or subclause 5.4.9 of** IEC 62368-1, during the test.”

D2.4 Proposed Remedy (Comment #245)

CI 145	SC 145.4.1.1.2	P 205	L 19	# 245
Walker, Dylan		Cisco		
Comment Type	ER	Comment Status	X	Pres: Walker1
"Guidance on these requirements may be found in Section 6 of IEC 60950-1 and IEC 62368-1, as well as any local and national codes related to safety."				
Sentence can be slightly modified to clarify that the reference to "Section 6" only applies to IEC 60950-1.				

Change:

"Guidance on these requirements may be found in Section 6 of IEC 60950-1 and IEC 62368-1, as well as any local and national codes related to safety."

To:

"Guidance on these requirements may be found in **Clause** 6 of IEC 60950-1 and **throughout** IEC 62368-1, as well as any local and national codes related to safety."

D2.4 Proposed Remedy (Comment #246)

CI 145 SC 145.7.3.8 P 262 L 19 # 246
Walker, Dylan Cisco
Comment Type TR Comment Status X Pres: Walker1
PICS ES1 needs to be updated to include the option for IEC 62368-1 conformance.

Item	Feature	Subclause	Value/Comment	Status	Support
ES1	Safety	145.6.1	Conforms to IEC 60950-1	M	Yes []

Change:

“Conforms to IEC 60950-1”

To:

“Conforms to IEC 60950-1 or IEC 62368-1”

D2.4 Proposed Remedy (Comment #247)

CI 145 SC 145.7.3.8 P 262 L 38 # 247
Walker, Dylan Cisco
Comment Type TR Comment Status X Pres: Walker1
PICS PSEES1 needs to be updated to include the option for Power Source Class 2 in accordance with IEC 62368-1.

Item	Feature	Subclause	Value/Comment	Status	Support
PSEES1	Safety	145.6.1	Limited Power Source in accordance with IEC 60950-1	M	Yes []

Change:

“Limited Power Source in accordance with IEC 60950-1”

To:

“Limited Power Source in accordance with IEC 60950-1 or IEC 62368-1 Annex Q”

Future (~Q3CY19) Maintenance Request

- Once IEC 62368-1 supersedes IEC 60950-1, remove all references to IEC 60950-1 within Clause 145

