

CTL DECISION SHEET

<u>Standard(s):</u> IEC 60065 : 1998 6 th edition IEC 60065 : 2001 7 th edition	<u>Sub clause(s):</u> 17.3	<u>Sheet n.</u> DSH 595
<u>Subject:</u> Requirement for the screws fixing internal parts	<u>Key words:</u> - Screws - Fixing internal parts	Decision approved during the 44th CTL meeting 2007
<p>Question: Should those screws, fixing internal parts, needed to be replaced for a service be captive or comply with the insulation distance stated in clause 13 when replaced by screws having the same nominal diameter with a length of 10 times their nominal diameter? In the latter case, what insulation is required between the replaced screws and hazardous live parts?</p> <p>- Situation</p> <ul style="list-style-type: none"> - There is an amplifier which has an internal SMPS board encased by a metal enclosure. - The screws fixing the internal box should be unscrewed to get serviced. - The screws are inserted from an exterior side or bottom of the amplifier but not fixing the cover of the amplifier. <p>- The screws are not captive but don't comply with the insulation distance stated in clause 13 when replaced by other screws having the same nominal diameter with a length of 10 times their nominal diameter.</p> <p>Decision</p> <p>It's not acceptable. In case of a PCB fixed by just screws without any enclosure, it's acceptable because the service personnel can make sure that the screws are the right screws during a service. However, in case of the above SMPS board encased by a metal enclosure, it's not acceptable because the service personnel can't know whether the screws are the right screws or not during a service due to the internal metal enclosure.</p> <p>In the above case reinforced insulation is required because after the screws are replaced the amplifier can be used without any malfunction.</p> <p>Explanatory Notes:</p> <p>a) If a barrier is relied on as Basic Insulation, the barrier should pass the Electric Strength Test while the long screw tip is torqued against the barrier. (Long screw to have same tip sharpness as original screw)</p> <p>b) If the barrier is Reinforced Insulation, there should be no penetration into the barrier, if 0.4mm thick. If the barrier is more than 0.4mm thick, the maximum penetration permitted should be (Thickness-0.4mm)</p>		

