

## CTL DECISION SHEET

<b><u>Standard(s):</u></b> IEC 60065 Ed 7 (2001) + Am 1 (2005)	<b><u>Sub clause(s):</u></b> 7.2	<b>DSH:</b> 621
<b>Subject:</b> Softening temperature (Vicat) test to components	<b>Key words:</b> - Current carrying parts - Softening temperature - Heat resistance	<b>Approved by the</b> 45 <sup>th</sup> CTL Plenary meeting 2008
<p><b>Question &amp; Rationale:</b></p> <p>Clause 7.2 states that the parts to be subjected to the test of ISO 306 are the ones that can generate substantial heat due to imperfect contact. We are applying this test to connectors in printed circuit boards if they carry currents &gt; 0.2A and are conductively connected to the mains. There is a note with some examples of parts considered capable of generating substantial heat, all of them seem to be related with "setting" or manual action from the user or service personnel. Connectors are not included in this list. A doubt arises about this matter, because connectors in printed circuit boards are in general well attached and faulty contacts are not common. Shall this test be applied to connectors and similar parts?</p> <p><b><u>Decision</u></b></p> <p>In addition to consideration of the MAINS location of the part and the current carried by the part, whether the test shall be applied in this case depends upon the mechanical construction of the connector, connector insulating material ratings, and existing (if any) Certification(s) of the connector. If softening of the connector insulating material may lead to mechanical deformation of the connector and this mechanical deformation may result in a change in the impedance at the interface of the current carrying parts that can lead to substantial heat, the requirement for minimum softening temperature is applicable.</p> <p><b><u>Explanatory Notes:</u></b></p> <p>The requirement for minimum softening temperature of 150 degrees C is applicable to all insulating material supporting current carrying parts operating at a current level in excess of 0,2 A which are CONDUCTIVELY CONNECTED TO THE MAINS unless (1) the current carrying parts have additional mechanical support -- independent of the insulating material, or (2) review of the material data sheet demonstrates an ISO 306 Vicat Softening Temperature rating in excess of 150 degrees C, or (3) the part(s) have been previously evaluated in accordance with the relevant IEC Standard.</p>		