

Table 1 – Values of maximum temperatures in normal use

Parts	Temperature °C
Windings, (bobbin and laminations in contact therewith), if the insulation system is:	
– of class A material ¹⁾	100
– of class E material	115
– of class B material	120
– of class F material	140
– of class H material	165
– of other material ²⁾	–
External enclosures ³⁾ (which can be touched with the standard test finger) of stationary transformers , if of:	
– metal	70
– other material	80
External enclosures ³⁾ (which cannot be touched with the standard test finger) of stationary transformers	85
External enclosures ³⁾ , handles and the like of portable transformers :	
– if, in normal use, these parts are continuously held (for example for hand held transformers):	
• of metal	55
• of other material	75
– if, in normal use, these parts are not continuously held:	
• of metal	60
• of other material	80
Terminals for external conductors and terminals of switches	70
Insulation of internal and external wiring ⁴⁾ :	
– of rubber	65
– of polyvinyl chloride	70
Parts the deterioration of which could affect safety ⁴⁾ :	
– of rubber (other than insulation of wiring)	75
– of phenolformaldehyde	105
– of ureaformaldehyde	85
– of impregnated paper and fabric	85
– of impregnated wood	85
– of polyvinyl chloride (other than insulation of wiring), polystyrene and similar thermo-plastic material	65
– of varnished cambric	75
Supports	85
Printed boards ⁴⁾ :	
– bonded with phenol-formaldehyde, melamine-formaldehyde, phenol-furfural or polyester	105
– bonded with epoxy	140
1) The material classification is in accordance with IEC 60085 and IEC 60216; however, the values have been adjusted to take into account the fact that, in these tests, the temperatures are mean and not hot-spot values.	
2) If other materials than those specified in IEC 60085 and IEC 60216 are used, they shall withstand the test of 14.3.	
3) If any component is part of the external surface of the transformer, the temperature of that component shall not exceed the value specified for the appropriate external enclosure .	
4) The grades of rubber and polyvinyl chloride insulation are those covered by IEC 60245 and IEC 60227, respectively.	
If other materials are used, they shall not be exposed to temperatures in excess of those which have been proved permissible for these materials.	