

OSM/IN DECISION

Standard:	EN 61810-1:2008 IEC 61810-1(ed. 3)	Sub clause:	7.1; Data N° 5i of Table 4	Sheet N°:	OSM/IN 280
Subject:	Maximum permissible steady-state temperature of the terminals	Key words:	Steady-state temperature of the terminals	Meeting N° Inquiry	25 (2015) OSM_IN(Inq)- 115_2015

Question:

The terminal temperatures of the contact pins of the relays (including PCB mounting) is limited by the insulation material surrounding the pins, e.g. PBT. If the heating test under clause 8, sub-clause 8.3.1 and 8.3.2 should yield temperatures of 165 °C for instance we can do the ball-pressure test described in Annex L (165 °C + 20 K = 185 °C) on the insulation material to verify its “resistance to heat” as described in sub-clause 8.1, 2nd dash.

On the other side this “resistance to heat” test does not cover the requirement to prove the “resistance of the insulation material to steady state temperatures” as required in 5i of table 4! For example under ageing conditions as described in IEC 60216-1 for 20 000 h storage and check the property change of the material after this thermal endurance test.

Proposal:

1. Either to check the suitability of the insulation material by doing the ball-pressure test only as described under sub-clause 8.1 of IEC/EN 61810-1 (and ignoring item 5i of table 4) ...or...

2. Insisting on item 5i of table 4 means to ask the relay manufacturer to provide evidence about the steady state temperatures properties for their insulation material used as the relays contact pins carrying (surrounding) material for example by providing the RTI value.
Disadvantage: Typical RTI values are 120 °C to 130 °C! Values such as 165 °C as described in the example above can´t be covered anymore, means in question of doubt the contact currents have to be limited in order to not exceeding the RTI values.