INTERPLANT STANDARD - STEEL INDUSTRY		
IPSS	**SPECIFICATION FOR RESISTANCE TEMPERATURE DETECTORS**	**IPSS:** 2-07-043-13 *(Second Revision)*
		Formerly: IPSS:2-07-043-97 (*First Revision*)

0. FOREWORD

0.1 This Interplant Standard has been prepared by the Standards Committee on Computerization and Automation, IPSS 2:7 with the active participation of the representatives of the steel plants, reputed consultancy organizations and established manufacturers and was adopted on August, 2013..

0.2 Interplant Standards on design parameters primarily aim at achieving rationalization and unification of parts and assemblies of process and auxiliary equipment used in steel plants used in steel plants and these are intended to provide guidance to the steel plant engineers, consultants and manufacturers in their design activities.

0.3 This Interplant Standard was first published in 1988. This first revision has been carried out to update the standard after reviewing from implementation point of view.

1. SCOPE

1.1 This Interplant Standard covers the specific requirements for resistance temperature detectors.

2. REQUIREMENT

2.1 Type – The resistance element shall be of platinum conforming to Gr B of IS 2848:1986 (R2011)/ IEC 751:1995`Industrial platinum resistance thermometer sensors (first revision).

2.1.1 Accuracy – The resistance values at different temperatures and corresponding accuracy shall be as per ITS-90.

2.2 Wiring – The element shall be ungrounded with three/ Four wire configuration. depending upon application.

2.3 Values – The resistance values at different temperature and corresponding tolerances shall be as per latest ITS-90 RTD Table..

2.4 Base – The element shall be wound on ceramic former. External silver wires connecting the terminal head shall be welded with the element. The wire shall be Teflon/fibre glass insulated.

2.5 Response Time – Better than 40 seconds with well and 15 seconds without well.

2.6 Protection Tube

a) Material : SS 316/304 (as specified by the customer)

b) Filling : Magnesium Oxide (Purity above 99.4%) – optional

c) OD : As per application.

2.7 Elements – Simplex or Duplex (as specified by the customer).

2.8 Mounting – Prevention of rotation of the insert with respect to the head and resultant twisting of leads shall be ensured.

2.9 Terminal head

a) Material : Die cast aluminium, weather proof.

b) Type : NEMA-4 screwed type with sS chain & gasket/NEMA-4 hinge type with gasket & locking screw.

c) Terminal blocks: Brass screw type/silver plated on ceramic head.

d) Cable : With cable gland complete with neoprene/Teflon grommet to suit PVC cable. ¼ inch ET (F).

2.10 Insulation – The insulation resistance between terminal and the sheath shall not be less than 100 M ohms at 100 V dc at room temperature as per IS 2848:1986 (R2011).

2.11 Immersion Length and overall length – Fixed/adjustable length, as specified by the Customer.

2.12 Tests – Tests should be done as per IS 2848:1986(R2011)/ ITS-90.

2.13 Accessories

a) Extension nipples with thermowell connection (optional).
b) SS 304/316 thermowell as per ASME PTC-193 with process connection as required (optional), and
c) Flexible conduit (optional) – length to be specified by the customer.