

CLASSIFICATION OF SERVICES IN THERMOMETRY

May 2010

METROLOGY AREA: THERMOMETRY

BRANCH: TEMPERATURE

1. **Temperature – Items used for defining ITS-90**
 - 1.1 **Primary fixed-point cells**
 - 1.1.1 Cells for contact thermometry
 - 1.1.2 Cells for radiation thermometry
 - 1.2 **Complete apparatus realizing fixed-points**
 - 1.2.1 Apparatus for contact thermometry
 - 1.2.2 Apparatus for radiation thermometry
 - 1.3 **Standard platinum resistance thermometers (SPRTs)**
 - 1.3.1 Capsule-type SPRTs
 - 1.3.2 Long-stem SPRTs including HTSPRTs
 - 1.4 **Standard radiation thermometers**
 - 1.4.1 Standard radiation thermometers

2. **Temperature – Items used for disseminating ITS-90 and PLTS 2000**
 - 2.1 **Secondary fixed-point cells and apparatus for contact thermometry**
 - 2.1.1 Secondary fixed-points and apparatus for contact thermometry
 - 2.2 **Resistance thermometers**
 - 2.2.1 Rhodium-iron resistance thermometers
 - 2.2.2 Industrial platinum resistance thermometers (IPRTs)
 - 2.2.3 Thermistors and other resistive thermometers
 - 2.3 **Thermocouples**
 - 2.3.1 Noble-metal thermocouples
 - 2.3.2 Base-metal thermocouples
 - 2.3.3 Pure-metal thermocouples
 - 2.4 **Liquid-in-glass thermometers**
 - 2.4.1 Liquid-in-glass thermometers
 - 2.5 **Radiation thermometry**
 - 2.5.1 Secondary fixed-point blackbody cells and complete instruments
 - 2.5.2 Variable temperature blackbody radiation sources
 - 2.5.3 Strip lamps
 - 2.5.4 Radiation thermometers and visual optical pyrometers
 - 2.6 **Other thermometers**
 - 2.6.1 Air temperature sensors
 - 2.6.2 Other thermometers
 - 2.7 **Temperature sensors with display unit**
 - 2.7.1 Temperature sensors with display unit
 - 2.8 **Other measurement services**
 - 2.8.1 Bridge linearity
 - 2.8.2 Compensation wires for cold junction
 - 2.8.3 Wires for melting-point measurements for thermocouples
 - 2.8.4 Temperature indicators
 - 2.8.5 Phase-transition temperature of reference materials
 - 2.8.6 Dry-well block calibrators

BRANCH: HUMIDITY

3. **Hygrometers**
 - 3.1 **Dew-point hygrometers**
 - 3.1.1 Dew-point hygrometers
 - 3.2 **Psychrometers**

- 3.2.1 Psychrometers
- 3.3 Relative humidity sensors**
 - 3.3.1 Relative humidity sensors
- 3.4 Other hygrometers**
 - 3.4.1 Other hygrometers

- 4. Dynamic generators**
 - 4.1 Dew-point generators**
 - 4.1.1 Dew-point generators
 - 4.2 Relative humidity generators**
 - 4.2.1 Relative humidity generators
 - 4.3 Flow mixing**
 - 4.3.1 Flow mixing
 - 4.4 Permeation tube, diffusion tube**
 - 4.4.1 Permeation tube, diffusion tube

- 5. Static generators**
 - 5.1 Salt solutions (saturated, unsaturated)**
 - 5.1.1 Salt solutions (saturated, unsaturated)
 - 5.2 Reference gases**
 - 5.2.1 Reference gases

BRANCH: THERMOPHYSICAL PROPERTIES

- 6. Thermophysical properties**
 - 6.1 Thermal transport property**
 - 6.1.1 Thermal conductivity
 - 6.1.2 Thermal diffusivity
 - 6.2 Caloric property**
 - 6.2.1 Specific heat capacity
 - 6.2.2 Heat of fusion
 - 6.2.3 Calorific value
 - 6.3 Radiative property**
 - 6.3.1 Spectral emissivity
 - 6.3.2 Total emissivity
 - 6.4 Thermo-mechanical property**
 - 6.4.1 Thermal expansion coefficient