

CLASSIFICATION OF SERVICES IN THERMOMETRY

February 2022

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 Platinum resistance thermometers (PRTs)
 - 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

7. Temperature – Items used for disseminating thermodynamic temperature**7.1 Radiation thermometry**

- 7.1.1 Fixed-point blackbody cells and apparatus
- 7.1.2 Radiation thermometers
- 7.1.3 Variable temperature blackbody radiation sources

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 QUANTITIES**6. Thermophysical quantities****6.1 Thermal transport**

- 6.1.1 Thermal conductivity
- 6.1.2 Thermal diffusivity

6.2 Caloric quantification

- 6.2.1 Specific heat capacity
- 6.2.2 Heat of fusion
- 6.2.3 Calorific value

6.3 Radiative quantification

- 6.3.1 Spectral emissivity
- 6.3.2 Total emissivity

6.4 Thermo-mechanical quantification

- 6.4.1 Thermal expansion coefficient