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