



STANDARD SPECIFICATIONS
FOR
A.S.T.M. PARTIAL-IMMERSION THERMOMETER FOR
GENERAL USE,
-20 TO +150° C., 0 TO +300° F.¹

Serial Designation: D 182 - 25

These specifications are issued under the fixed designation D 182; the final number indicates the year of original adoption as standard or, in the case of revision, the year of last revision.

ISSUED AS TENTATIVE, 1923; ADOPTED IN AMENDED FORM, 1925.

1. These specifications cover a partial-immersion thermometer graduated in either Centigrade or Fahrenheit degrees as specified, the ranges being -20 to +150° C. or 0 to +300° F., respectively.

2. The purpose of these specifications is to provide a thermometer of sufficient accuracy for general use in determining temperatures as required in tests where no standard thermometer is specified and for adoption as a standard where its design is applicable.

3. The thermometer shall conform to the following requirements:

TYPE: Etched stem, glass.

LIQUID: Mercury.

RANGE AND SUBDIVISION: -20 to +150° C. in 1° C. or 0 to +300° F. in 2° F.

TOTAL LENGTH: 303 to 307 mm. (11.94 to 12.11 in.).

STEM: Plain front, enamel back, suitable thermometer tubing. Diameter, 6 to 7 mm. (0.236 to 0.275 in.).

BULB: Corning normal or equally suitable thermometric glass.

Length, 19 to 25 mm. (0.75 to 1 in.).

Diameter, 5 to 6 mm. (0.196 to 0.236 in.).

DISTANCE TO -18° C. OR 0° F. LINE FROM BOTTOM OF BULB: 90 to 100 mm. (3.55 to 3.94 in.).

DISTANCE TO 150° C. OR 300° F. LINE FROM TOP OF STEM: 20 to 35 mm. (0.8 to 1.4 in.).

FILLING ABOVE MERCURY: Nitrogen gas.

TOP FINISH: Glass ring.

GRADUATION: All lines, figures and letters clear cut and distinct. The first and each succeeding 5° C. or 10° F. line to be longer than the remaining lines. Graduations to be numbered at each multiple of 10° C. or 20° F.

IMMERSION: The words "76-mm. immersion" on Centigrade thermometers, or "3-in. immersion" on Fahrenheit thermometers and a line around the stem, 75 to 77 mm. (2.96 to 3.04 in.) above the bottom of the bulb, shall be etched on the thermometer.

¹ Under the standardization procedure of the Society, these specifications are under the jurisdiction of the A.S.T.M. Committee D-15 on Thermometers.