



CIRCULAR ED 210-12

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GUIDELINES FOR ALCOHOL DETERMINATION

PROTOCOL FOR EXCISE OFFICERS TO ENSURE THAT THE DETERMINATION OF ALCOHOLIC STRENGTHS BY USING A DIGITAL THERMOMETER IS ACCEPTABLE FOR EXCISE PURPOSES

INTRODUCTION

A digital thermometer (DT) is an instrument that provides a digital display of temperature sensed through the use of a transducer and electronic circuitry. The transducer is a device that provides a measurable output (for example, resistance, electro-motive force, etc.) as a function of temperature. The transducer must be enclosed in a sheathing. The probe of the DT is made up of the transducer and the sheathing.

The electronic circuitry converts the measurable output to a temperature reading, which is shown on the digital display of the DT.

The DT consists of:

- a probe which will be immersed in the liquid whose temperature is to be measured; and
- a case which will house the batteries or power supply, the electronics and the digital display window. The probe may be attached directly to the case of the thermometer (pocket thermometer) or via a cable (bench top thermometer).

In either case, the probe or any part, attachment or accessory of the DT that is removable, must have an identical serial number as the main part of the instrument or it must have a unique serial number.

Only an "approved" digital thermometer, as required under the *Departmental Alcohol Determination Regulations, 1997*, may be used for the determination of alcohol for excise purposes.

A DT which meets the requirements stated above may be used with hydrometers (maximum permissible error of $\pm 0.5^{\circ}\text{C}$). It may not be used with pycnometers or digital density meters unless it meets the requirements of accuracy for these instruments (i.e., for pycnometers the maximum permissible error is $\pm 0.05^{\circ}\text{C}$ and for digital density meters the maximum permissible error is $\pm 0.01^{\circ}\text{C}$).

THE INSTRUMENT

A DT is relatively easy to use. The operator usually turns the instrument "on", dips the probe into the measuring solution and takes the reading.

To ensure that the DT is an approved thermometer it must have the following:

1. a valid label indicating the year of examination;
2. a valid certificate of approval; and

3. serial numbers on the main part of the instrument and the probe which are identical to the numbers stated on the certificate of approval.

ACTION

If excise declarations have been made and you suspect that the DT is not accurate, you should consider:

1. requesting the licensee to redetermine the alcoholic strength of the spirits;
2. obtaining a sample of the spirits to be tested and forwarding it to the Laboratory and Scientific Services Directorate for official testing; or
3. having the DT forwarded to the Laboratory and Scientific Services Directorate for recertification.

Information or inquiries concerning a DT should be made to the Chief, Alcohol and Tobacco Section, Laboratory and Scientific Services Directorate at (613) 954-9944.