
International Standard



8333

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION • МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ • ORGANISATION INTERNATIONALE DE NORMALISATION

Liquid flow measurement in open channels by weirs and flumes — V-shaped broad-crested weirs

Mesure de débit des liquides dans les canaux découverts au moyen de déversoirs et de canaux jaugeurs — Déversoirs à seuil épais en V

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work.

Draft International Standards adopted by the technical committees are circulated to the member bodies for approval before their acceptance as International Standards by the ISO Council. They are approved in accordance with ISO procedures requiring at least 75 % approval by the member bodies voting.

International Standard ISO 8333 was prepared by Technical Committee ISO/TC 113, *Measurement of liquid flow in open channels*.

Users should note that all International Standards undergo revision from time to time and that any reference made herein to any other International Standard implies its latest edition, unless otherwise stated.

Liquid flow measurement in open channels by weirs and flumes — V-shaped broad-crested weirs

1 Scope and field of application

This International Standard specifies a method for the measurement of subcritical flow in small rivers and artificial channels using V-shaped broad-crested weirs.

The advantages of this type of weir are described in clause 8.

NOTE — A comparison of the different types of weirs and flumes will form the subject of a future International Standard.

2 References

ISO 772, *Liquid flow measurement in open channels — Vocabulary and symbols*.

ISO 4373, *Measurement of liquid flow in open channels — Water level measuring devices*.

ISO 4374, *Liquid flow measurement in open channels — Round-nose horizontal crest weirs*.

ISO 5168, *Measurement of fluid flow — Estimation of uncertainty of a flow-rate measurement*.

3 Definitions

For the purposes of this International Standard, the definitions given in ISO 772 apply.

4 Units of measurement

The units of measurement used in this International Standard are SI units.

5 Installation

5.1 Selection of site

A preliminary survey shall be made of the physical and hydraulic features of the proposed site to check that it conforms (or may be made to conform) to the requirements necessary for measurement using the weir.

Particular attention shall be paid to the following features in selecting the site of the weir :

- a) the availability of an adequate length of channel of regular cross-section;
- b) the existing velocity distribution;
- c) the avoidance of channels having gradients greater than 1 in 250;
- d) the consequential effects of any increased upstream water level due to the measuring structure;
- e) the consequential conditions downstream, including such influences as tides, confluences with other streams, sluice gates, mill dams and other controlling features which might cause drowning;
- f) the impermeability of the ground on which the structure is to be founded, and the necessity for piling, grouting or other sealing in river installations;
- g) the necessity for flood banks to confine the maximum discharge to the channel;