

Hydrometric determinations — Cableway systems for stream gauging

The European Standard EN ISO 4375:2004 has the status of a British Standard

ICS 17.120.20

National foreword

This British Standard is the official English language version of EN ISO 4375:2004. It is identical with ISO 4375:2000. It supersedes BS 3680-8D:1980 which is withdrawn.

The UK participation in its preparation was entrusted by Technical Committee CPI/113, Hydrometry, to Subcommittee CPI/113/5, Instruments and equipment, which has the responsibility to:

- aid enquirers to understand the text;
- present to the responsible international/European committee any enquiries on the interpretation, or proposals for change, and keep the UK interests informed;
- monitor related international and European developments and promulgate them in the UK.

A list of organizations represented on this subcommittee can be obtained on request to its secretary.

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Summary of pages

This document comprises a front cover, an inside front cover, the EN ISO title page, the EN ISO foreword page, the ISO title page, pages ii to iv, pages 1 to 26, the Annex ZA page and a back cover.

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English version

Hydrometric determinations - Cableway systems for stream gauging (ISO 4375:2000)

Mesure de débit des liquides dans les canaux découverts -
Systèmes de suspension par câbles aériens pour le
jaugeage en rivière

Hydrometrische Bestimmungen - Seilbahnsysteme für
Messungen in Fließgewässern (ISO 4375:2000)

This European Standard was approved by CEN on 27 February 2004.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Central Secretariat has the same status as the official versions.

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Foreword

The text of ISO 4375:2000 has been prepared by Technical Committee ISO/TC 113 "Hydrometric determinations" of the International Organization for Standardization (ISO) and has been taken over as EN ISO 4375:2004 by Technical Committee CEN/TC 318 "Hydrometry", the secretariat of which is held by BSI.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by October 2004, and conflicting national standards shall be withdrawn at the latest by October 2004.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

Endorsement notice

The text of ISO 4375:2000 has been approved by CEN as EN ISO 4375:2004 without any modifications.

NOTE Normative references to International Standards are listed in annex ZA (normative).

INTERNATIONAL STANDARD

ISO
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2000-10-15

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2003-03-01

Hydrometric determinations — Cableway systems for stream gauging

*Déterminations hydrométriques — Systèmes de suspension par câbles
aériens pour le jaugeage en rivière*



Reference number
ISO 4375:2000(E)

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Contents

Page

Foreword	iv
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 General description of a cableway system	2
4.1 Elements of a cableway system	2
4.2 Cableway supports	4
4.3 Main track or main cable	4
4.4 Anchorage	4
4.5 Tow cable for a bankside system	4
4.6 Suspension cable	4
4.7 Instrument carriage for a bankside system	4
4.8 Personnel carriage	4
4.9 Winch arrangements for a bankside system	4
4.10 Winch arrangements for a personnel carriage	4
4.11 Lightning protection	5
5 Functional requirements of cableway components	5
5.1 Safety factors	5
5.2 Cableway supports	6
5.3 Selection of main cable or track	6
5.4 Anchorage	6
5.5 Backstays	6
5.6 Tow cable	7
5.7 Carriages	7
5.8 Winches	8
6 Maintenance, examination and testing	9
6.1 General examination	9
6.2 Routine inspection	9
6.3 Static testing	10
6.4 Lubrication	10
6.5 Checking the sag	10
Annex A (informative) Cableway characteristics	11
Bibliography	26

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. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 3.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this International Standard may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

International Standard ISO 4375 was prepared by Technical Committee ISO/TC 113, *Hydrometric determinations*, Subcommittee SC 5, *Instruments, equipment and data management*.

This second edition cancels and replaces the first edition (ISO 4375:1979), which has been technically revised.

This corrected version of ISO 4375:2000 incorporates the following corrections.

In Annex A, clause A.1, the equations used for calculating F_{ht} and F_{at} have been corrected.

Hydrometric determinations — Cableway systems for stream gauging

1 Scope

This International Standard defines the requirements for equipment, anchorage, supports and accessories for cableway systems for use in stream gauging. Systems which are operated either entirely from the river bank or from a suspended personnel carriage (also called a “cable car”) are discussed. This International Standard does not concern methods for making a discharge measurement which are described in ISO 748.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this International Standard. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

ISO 31-3:1992, *Quantities and units — Part 3: Mechanics*.

ISO 748:1997, *Measurement of liquid flow in open channels — Velocity-area methods*.

ISO 772:1996, *Hydrometric determinations — Vocabulary and symbols*.

ISO 772:1996 Amd 1¹⁾, *Hydrometric determinations — Vocabulary and symbols*.

3 Terms and definitions

For the purposes of this International Standard, the terms and definitions given in ISO 772, its amendment 1 and ISO 31-3 as well as the following apply.

3.1

cable

wire rope of simple or complex structure or wire cord, fixed or moving in a cableway system

1) To be published.

4 General description of a cableway system

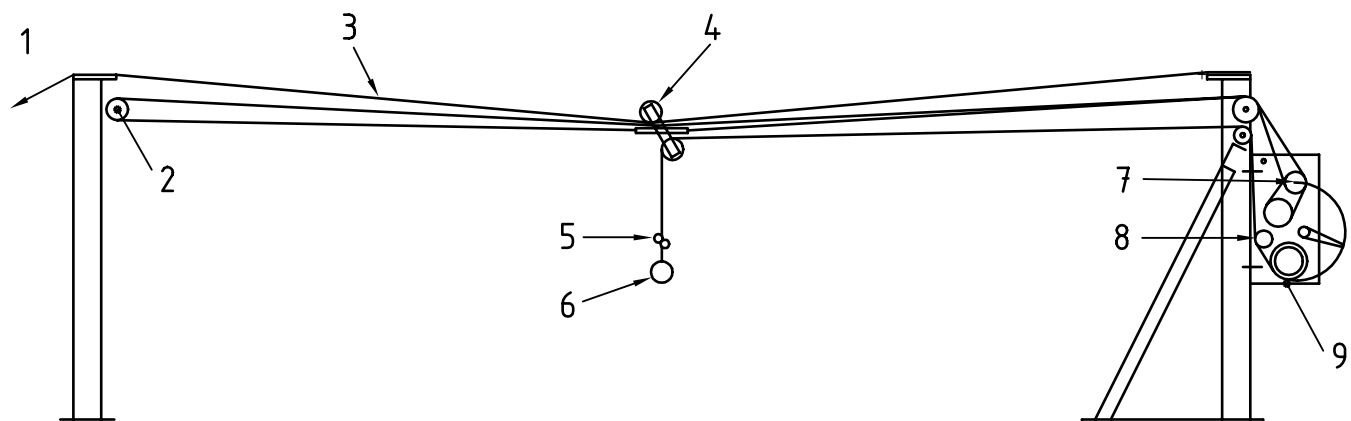
4.1 Elements of a cableway system

A cableway system can be designed to be operated from the river bank (see Figures 1 and 2) or be designed to be operated from a suspended personnel carriage (Figure 3). The general arrangement of the following elements are common to both systems:

- a) towers or cableway supports;
- b) track or main cable;
- c) anchorage;
- d) backstays;
- e) suspension cable.

The main differences are:

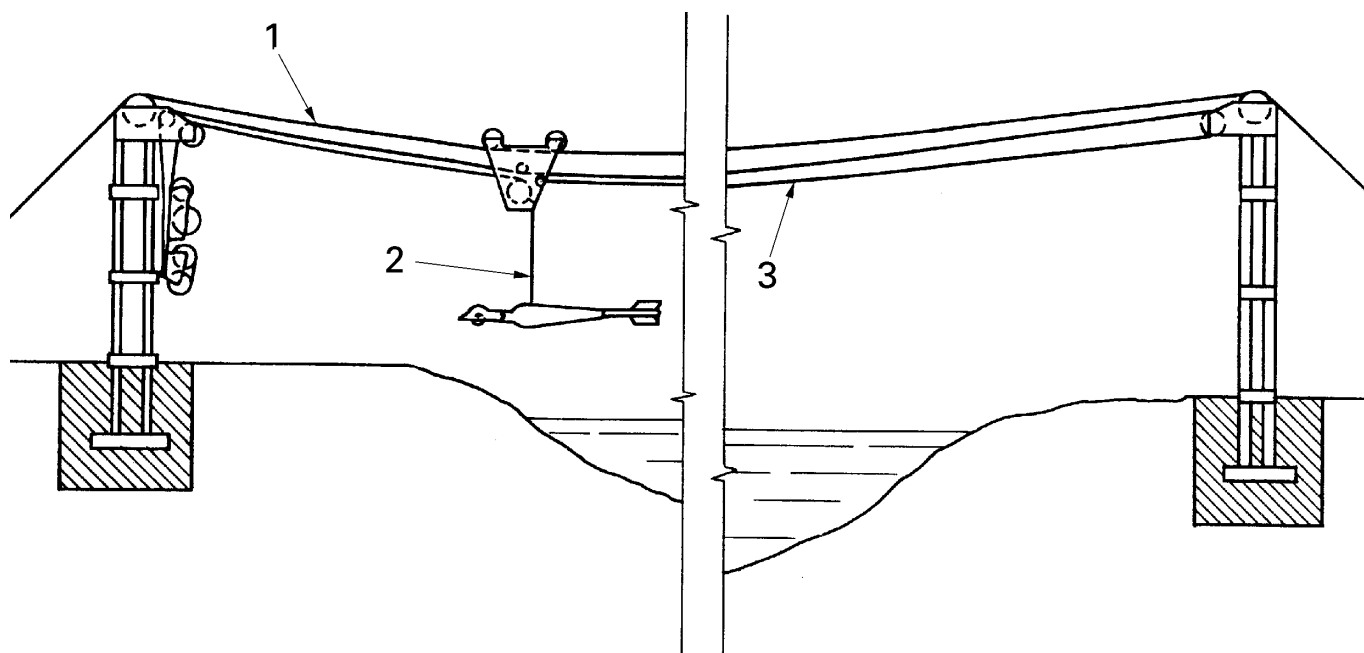
- the carriage of a bankside system requires a tow cable;
- a bankside system requires a more complicated winch arrangement;
- the personnel carriage has to provide a safe platform for the operator;
- more stringent design requirements may apply to a system which employs a personnel carriage.



Key

- | | |
|--|-----------------------------|
| 1 Backstay | 6 Sinker or sounding weight |
| 2 Traversing cable return pulley | 7 Distance measurement |
| 3 Track or main cable | 8 Depth measurement |
| 4 Traveller and/or instrument carriage | 9 Cable drum |
| 5 Current meter | |

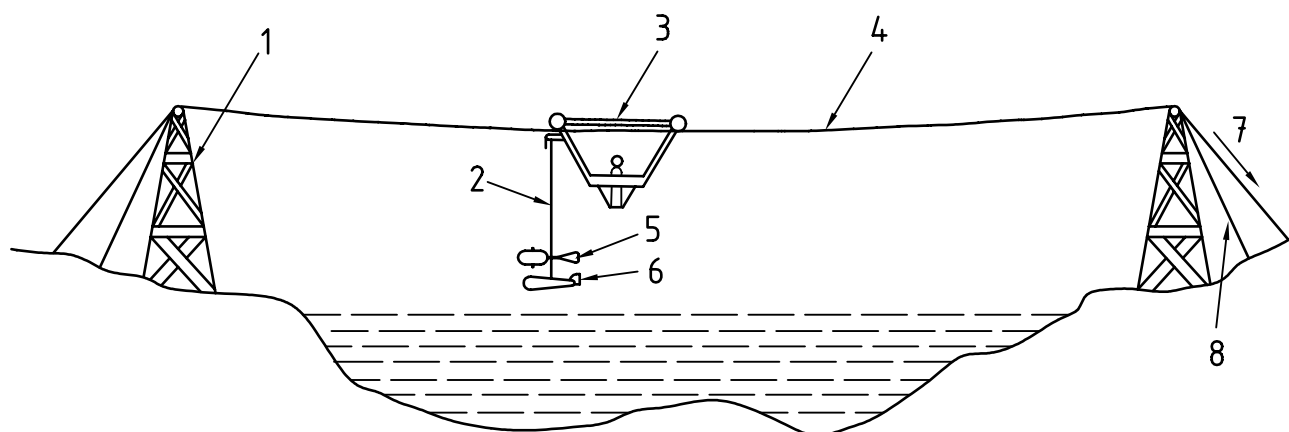
Figure 1 — Cableway system — Bankside operation, with loop-traversing cable and spooled sounding cable



Key

- 1 Track or main cable
- 2 Suspension cable
- 3 Tow cable

Figure 2 — Cableway system — Bankside operation, with spooled tow cable and spooled sounding cable



Key

- | | |
|-----------------------|-------------------|
| 1 Tower | 5 Current meter |
| 2 Suspension cable | 6 Sounding weight |
| 3 Personnel carriage | 7 To anchorage |
| 4 Track or main cable | 8 Stayline |

Figure 3 — Cableway system — Suspended personnel carriage