International Standard 6426/1

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

Horological vocabulary — Part 1 : Technical and scientific definitions

Vocabulaire horloger — Partie 1 : Définitions technico-scientifiques

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Foreword

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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.

Intrnational Standard ISO 6426/1 was developed by Technical Committee ISO/TC 114, *Horology*, and was circulated to the member bodies in May 1980.

It has been approved by the member bodies of the following countries :

Australia	Japan
Czechoslovakia	Romania
Egypt, Arab Rep. of	Spain
France	Switzerland
India	USSR

The member bodies of the following countries expressed disapproval of the document on technical grounds :

Germany, F.R.
United Kingdom

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Horological vocabulary — Part 1 — Technical and scientific definitions

1 Scope and field of application

This part of ISO 6426 defines the principal technical and scientific terms used in the horological industry. These definitions apply to time-measuring instruments or to related devices.

A table summarizing the values and units of measurement associated with the definitions is given at the end of this part of ISO 6426.

NOTE — The definitions of technical and commercial terms will form the subject of a future International Standard.

2 Reference

ISO 31/1, *Values and units of space and time.*

3 Definitions

The order in which the terms are given is a logical order, without any intention of classification and the numbering of the definitions does not indicate any scale of importance.

1 time : Undefined medium in which existing objects appear to develop irreversibly in the changes which they undergo, and in which events and phenomena appear to occur in their succession.

To this medium corresponds a quantity t allowing, over a time scale, the chronological order of events.

2 date (h or H) : In the physical sense, the *date of an event*, related to the time scale associated with a time-keeping instrument, is the *mark* of the precise instant (h_i) where it appears in the completely ordered chronological sequence of the successive indications displayed by this instrument.

In a uniform time scale, of which the origin has been suitably chosen, the succession of dates h as a function of the continually increasing parameter t may be described by the relation :

$$h = \lambda t - h_0 \qquad \ldots (1)$$

NOTE — λ represents a factor which relates to the choosen unit.

3 duration (t, τ) : The *duration* τ of an *interval of time* (h_j, h_i), defined *in a given time scale*, is the difference

$$\tau = h_j - h_i \qquad \ldots (2)$$

in the dates, taken in this order, of the end of the interval (h_j) and the beginning of it (h_i).

NOTE — In a uniform time scale, by applying formula (1), the expression of the duration is given by the relation :

$$\tau = \lambda (t_j - t_i) \qquad \ldots (3)$$

or even more simply, if $\lambda = 1$, that is if the uniform time scale serves as a *reference* :

$$\tau = t_j - t_i \qquad \ldots (4)$$

In this case, there is a pure and simple identity between h and t when the indices agree and the unit of duration is the second as defined in the international system (SI). If, in addition, the indices are themselves chosen from a completely ordered whole and if $j > i$, then $t_j > t_i$ and $\tau > 0$. The date (h_i) is prior to (h_j).

4 state (E) **of an instrument at the instant** t_i : The difference at a precise marked instant t_i, between the date h_i which it indicates and the reference date H_i

$$E_i = h_i - H_i \qquad \ldots (5)$$

The unit of the state is the second.

NOTE — If there is direct access to a reference scale of time maintained by a standard clock for the purpose of marking a date H, the checking of a time-keeping instrument maintaining its own scale of time h by comparison with the standard consists of dating, that is by simultaneously marking the same event in two scales of time.

When a difference in dates is established ($h - H)_i$:

— the instrument to be checked has gained in relation to the standard clock if $E_i > 0$;

— the instrument to be checked has lost in relation to the standard clock if $E_i < 0$.

5 instrumental correction (C) : The correction of the date which should be made algebraically to the hour read as h_i to obtain the reference hour H_i at the instant t_i.

$$C_i = -E_i = H_i - h_i \qquad \ldots (6)$$

This correction is negative if the instrument gains and positive if it loses in relation to the standard clock.

The unit of instrumental correction is the second.