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# INTERNATIONAL STANDARD



# 3205

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

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## Preferred test temperatures

*Températures préférentielles d'essai*

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**Descriptors** : tests, testing conditions, standard atmospheres, preferred test temperatures.

## FOREWORD

ISO (the International Organization for Standardization) is a worldwide federation of national standards institutes (ISO Member Bodies). The work of developing International Standards is carried out through ISO Technical Committees. Every Member Body interested in a subject for which a Technical Committee has been set up 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.

International Standard ISO 3205 was drawn up by Technical Committee ISO/TC 125, *Enclosures and conditions for testing*, and was circulated to the Member Bodies in June 1975.

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It has been approved by the Member Bodies of the following countries:

Australia	India	South Africa, Rep. of
Austria	Ireland	Spain
Belgium	Italy	Turkey
Finland	Mexico	United Kingdom
France	New Zealand	U.S.A.
Germany	Poland	U.S.S.R.
Hungary	Romania	

The Member Body of the following country expressed disapproval of the document on technical grounds:

Sweden

# Preferred test temperatures

## 1 SCOPE AND FIELD OF APPLICATION

This International Standard specifies preferred temperatures for use in testing.

The aim of this International Standard is to rationalize, harmonize and simplify the choice of temperatures in the future.

In drawing up test methods and specifications, the temperatures chosen should, as far as possible, be taken from these preferred temperatures. It is permissible nevertheless to use other temperatures when this is considered essential for technical reasons.

A list of additional temperatures taken from international technical documents is given in an annex. These temperatures either represent existing practice or are chosen to meet particular technical needs. It is hoped for the future that consideration will be given to using the temperatures given in the lists in clause 2 as far as technical considerations permit when revising international documents.

If no technically suitable temperature exists in the lists in clause 2, consideration should next be given to temperatures in related fields in the list in the annex.

## 2 PREFERRED TEMPERATURES

### 2.1 Temperatures of standard atmospheres for conditioning and/or testing (according to ISO 554, *Standard atmospheres for conditioning and/or testing – Specifications*)

23 °C  
27 °C  
20 °C

### 2.2 Preferred test temperatures (in addition to the temperatures of the standard atmospheres for conditioning and/or testing, see 2.1)

#### Degrees Celsius

– 269	} see note 1
– 196	
– 161	
– 70	
– 55	
– 40	} see note 2
– 25	
– 10	
0	
+ 5	
25	} see note 2
40	
55	
70	
85	
100	
105	
125	
150	
175	
200	
225	
250	
275	
300	
350	
400	
450	
500	
600	
700	
800	
900	
1 000	

#### NOTES

1 Below – 75 °C, the temperatures are fixed in terms of the boiling point of pure substances at ambient pressure (helium, nitrogen, methane).

2 The choice between 0 °C and + 5 °C, or between 100 °C and 105 °C, may depend on whether the change of state of water is important in the particular test concerned.

NOTE — The temperature of the standard atmosphere for conditioning and/or testing recommended in temperate countries is 23 °C; the temperature of 27 °C is chiefly used in tropical and subtropical countries and the temperature of 20 °C is used only in particular fields.

Further specifications are given in ISO 554.

**3 TOLERANCES**

In the absence of special provisions, particularly concerning closer tolerances, the following tolerances should be used :

Below  $-75^{\circ}\text{C}$ , the tolerances depend essentially on the equipment used.

From  $-75^{\circ}\text{C}$  to  $1\,000^{\circ}\text{C}$ , the tolerances are given in the adjacent table.

In general, these tolerances are sufficient. However, closer or, exceptionally, wider tolerances may be specified.

For the temperatures of standard atmospheres for conditioning and/or testing, ISO 554 specifies an ordinary tolerance of  $\pm 2^{\circ}\text{C}$  and a reduced tolerance of  $\pm 1^{\circ}\text{C}$ .

Temperatures $^{\circ}\text{C}$	Tolerances $^{\circ}\text{C}$
$-75 \leq \theta < 0$	$\pm 3$
$0 \leq \theta \leq 105$	$\pm 2$
$105 < \theta \leq 200$	$\pm 3$
$200 < \theta \leq 400$	$\pm 5$
$400 < \theta \leq 750$	$\pm 10$
$750 < \theta \leq 1\,000$	$\pm 15$

ANNEX

LIST OF TEMPERATURES USED IN PARTICULAR FIELDS

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Degrees Celsius  
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- 65
- 62
- 54
- 50
- 35
- 20
- 18
- + 2
- 10
- 15
- 30
- 37
- 38
- 45
- 50
- 60
- 80
- 90
- 120
- 130
- 140
- 155
- 160
- 180
- 190
- 220
- 230
- 315
- 320
- 630
- 750
- 950

These temperatures are taken from documents prepared by the following ISO Technical Committees : TC 6 – 17 – 20 – 35 – 38 – 45 – 61 – 71 – 77 – 106 – 122 and by the following Committees of the IEC : 15 – 50.