INTERNATIONAL STANDARD 1769

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

Laboratory glassware — Pipettes — Colour coding

Verrerie de laboratoire — Pipettes — Code de couleurs

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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.

Prior to 1972, the results of the work of the Technical Committees were published as ISO Recommendations; these documents are now in the process of being transformed into International Standards. As part of this process, Technical Committee ISO/TC 48 has reviewed ISO Recommendation R 1769 and found it technically suitable for transformation. International Standard ISO 1769 therefore replaces ISO Recommendation R 1769-1970 to which it is technically identical.

ISO Recommendation R 1769 was approved by the Member Bodies of the following countries :

Austria	India	Poland
Belgium	Iran	South Africa, Rep. of
Canada	Ireland	Spain
Colombia	Israel	Thailand
Czechoslovakia	Italy	Turkey
Egypt, Arab Rep. of	Korea, Dem.P. Rep. of	United Kingdom
France	Netherlands	U.S.A.
Germany	New Zealand	Yugoslavia
Greece	Peru	

No Member Body expressed disapproval of the Recommendation.

No Member Body disapproved the transformation of ISO/R 1769 into an International Standard.

Laboratory glassware — Pipettes — Colour coding

0 INTRODUCTION

In order to assist as rapidly as possible in harmonizing the coding systems already in existence and with a view to avoiding the appearance of other systems in the future, this International Standard is limited to the essential requirements. It is intended at a later date to consider the standardization of suitable requirements and test methods for the durability of the colours used for coding.

NOTE — The purpose of this International Standard is to ensure that if a colour code is used on pipettes, all manufacturers will use the same code; it is not intended as an encouragement of colour coding if this is not required.

1 SCOPE

This International Standard specifies a system of colour coding for one-mark pipettes for identification of nominal capacities, and for graduated pipettes for identification of nominal capacities and units of sub-division.

2 FIELD OF APPLICATION

This International Standard applies to one-mark and graduated pipettes of the nominal capacities listed in tables 1 and 2 respectively.

NOTE — Many pipettes not covered by International Standards are included in tables 1 and 2, in order, firstly, to ensure uniformity of colour coding as far as possible for non-standard as well as standard pipettes and, secondly, to reserve suitable codes for possible future International Standards for other types of pipette.

3 COLOUR CODE

The colour coding used on one-mark pipettes shall be in accordance with table 1, and on graduated pipettes shall be in accordance with table 2.

4 COLOURS

Variations in the enamels used and in the methods of application appropriate for pipettes made from different types of glass inevitably result in minor variations of colour, and it is therefore not appropriate to specify closely the seven colours mentioned in the tables.

5 METHOD OF MARKING

The colour code shall take the form of colour bands extending at least 150° around the circumference of the pipette and situated not more than 70 mm from the top of the pipette and not less than 20 mm above the nearest graduation line.

For a code consisting of a single band of colour, the band shall be 6 to 10 mm wide. For a code consisting of two bands of colour, each band shall be 3 to 5 mm wide and the two bands shall be separated by a space of 2 to 3 mm.

NOTE — If it is desired to differentiate between graduated pipettes calibrated to deliver to a graduation line (Type 1) and those calibrated to deliver to the jet (Type 2), this shall be done by adding above the main coding on the Type 1 pipettes an extra band 1 to 1,5 mm wide of the same colour.

6 DURABILITY

The colour band or bands shall be reasonably durable under normal conditions of use.

NOTE — Certain cleaning materials used with pipettes may alter or remove the colours to such an extent that the coding becomes ineffective; if circumstances necessitate the use of such cleaning materials, the portion of the pipette bearing the colour band or bands shall not be immersed in the cleaning material.

TABLE 1 — **Coding system for one-mark pipettes**

Nominal capacity ml	Colour code bands
0,001	1 blue
0,002	2 red
0,003	1 yellow
0,004	2 green
0,005	1 white
0,01	1 orange
0,015	2 blue
0,02	1 black
0,025	2 white
0,03	2 yellow
0,035	2 black
0,04	2 red
0,05	1 green
0,075	2 orange
0,1	1 blue
0,15	1 white
0,2	1 red
0,25	2 green
0,3	1 yellow
0,4	2 red
0,5	2 black
1	1 blue
2	1 orange
3	1 black
4	2 red
5	1 white
6	2 orange
7	2 green
8	1 blue
9	1 black
10	1 red
15	1 green
20	1 yellow
25	1 blue
30	1 black
40	1 white
50	1 red
75	1 green
100	1 yellow
150	2 black
200	1 blue

TABLE 2 — **Coding system for graduated pipettes**

Nominal capacity ml	Sub-division ml	Colour code bands
0,01	0,001	1 blue
0,05	0,001	1 yellow
0,1	0,001	2 green
	0,005	1 red
	0,01	1 white
	0,05	2 orange
0,125	0,0125	2 yellow
0,2	0,001	2 blue
	0,002	2 white
	0,01	1 black
	0,1	1 orange
0,5	0,005	1 green
	0,01	2 yellow
	0,02	2 red
	0,05	2 black
	0,25	2 green
1	0,01	1 yellow
	0,05	2 green
	0,1	1 red
1,5	0,01	2 red
2	0,01	2 white
	0,02	1 black
	0,05	2 orange
	0,1	1 green
3	0,01	2 blue
5	0,05	1 red
	0,1	1 blue
10	0,1	1 orange
15	0,1	2 green
20	0,1	2 yellow
25	0,1	1 white
	0,2	1 green
50	0,1	2 orange
	0,2	1 black
100	0,2	1 red