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Hypodermic needles for single use — Colour coding for identification

Aiguilles hypodermiques non réutilisables — Code de couleurs pour l'identification

Reference number
ISO 6009 : 1988 (E)

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.

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 6009 was prepared by Technical Committee ISO/TC 84, *Syringes for medical use and needles for injections.*

This second edition cancels and replaces the first edition (ISO 6009 : 1981), of which it constitutes a minor revision [changes in terms in both English and French for colours and correction of the x and y coordinates (which had been transposed) for the ϕ 1,2 mm needle].

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.

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Hypodermic needles for single use — Colour coding for identification

0 Introduction

The range of colours outlined in this International Standard is applicable to two series of hypodermic needles, namely :

— **Standard diameters,** for which colour coding is mandatory and shall be in accordance with table 1.

— **Recommended diameters,** for which colour coding is not mandatory but if used shall be in accordance with table 1.

1 Scope and field of application

This International Standard establishes a colour code for the identification of hypodermic needles for single use, the hubs of which are made of plastics material.

This International Standard can also be used for a needle the hub of which is made of other materials.

The colour coding is equally applicable to thin-walled needles.

In all cases the colour indicates the external diameter.

2 Colour coding

2.1 General specification

The colour of the material used shall comply with the colours given in table 1.

2.2 Colour allocation

Table 1 gives the colour used for the nominal (external) diameter of the needle.

Table 1 — Colour code

Nominal diameter mm		Colour	Colour zone		
standard	recommended				
	0,4	medium grey	$x = 0{,}302$ $y = 0{,}314$	$x = 0{,}323$ $y = 0{,}315$	$0{,}200 < \beta < 0{,}650$
			$x = 0{,}313$ $y = 0{,}324$	$x = 0{,}303$ $y = 0{,}302$	
0,45		brown	$x = 0{,}360$ $y = 0{,}332$	$x = 0{,}452$ $y = 0{,}338$	$0{,}040 < \beta < 0{,}150$
			$x = 0{,}440$ $y = 0{,}356$	$x = 0{,}367$ $y = 0{,}325$	
0,5		orange	$x = 0{,}482$ $y = 0{,}394$	$x = 0{,}561$ $y = 0{,}394$	$0{,}220 < \beta < 0{,}400$
			$x = 0{,}542$ $y = 0{,}421$	$x = 0{,}498$ $y = 0{,}375$	
	0,55	medium purple	$x = 0{,}258$ $y = 0{,}193$	$x = 0{,}294$ $y = 0{,}243$	$0{,}070 < \beta < 0{,}200$
			$x = 0{,}274$ $y = 0{,}237$	$x = 0{,}285$ $y = 0{,}201$	
0,6		deep blue	$x = 0{,}151$ $y = 0{,}178$	$x = 0{,}203$ $y = 0{,}182$	$0{,}050 < \beta < 0{,}100$
			$x = 0{,}197$ $y = 0{,}218$	$x = 0{,}164$ $y = 0{,}132$	

Table 1 *(concluded)*

Nominal diameter mm standard	Nominal diameter mm recommended	Colour	Colour zone		
0,7		black	x = 0,296 y = 0,313 x = 0,315 y = 0,338	x = 0,350 y = 0,319 x = 0,290 y = 0,273	$\beta < 0{,}050$
0,8		deep green	x = 0,013 y = 0,745 x = 0,310 y = 0,685	x = 0,310 y = 0,441 x = 0,254 y = 0,397	$0{,}090 < \beta < 0{,}200$
0,9		yellow	x = 0,448 y = 0,468 x = 0,488 y = 0,511	x = 0,507 y = 0,492 x = 0,468 y = 0,456	$\beta > 0{,}400$
1,1		cream	x = 0,331 y = 0,341 x = 0,356 y = 0,372	x = 0,377 y = 0,364 x = 0,341 y = 0,337	$0{,}650 < \beta < 0{,}800$
	1,2	pink	x = 0,328 y = 0,308 x = 0,332 y = 0,321	x = 0,407 y = 0,338 x = 0,373 y = 0,282	$0{,}400 < \beta < 0{,}600$
	1,6	white	x = 0,297 y = 0,308 x = 0,310 y = 0,326	x = 0,330 y = 0,318 x = 0,303 y = 0,295	$\beta > 0{,}800$
	1,8	blue-grey	x = 0,250 y = 0,267 x = 0,262 y = 0,309	x = 0,295 y = 0,314 x = 0,290 y = 0,299	$0{,}100 < \beta < 0{,}200$
	2	pale green	x = 0,302 y = 0,367 x = 0,337 y = 0,376	x = 0,320 y = 0,339 x = 0,307 y = 0,336	$0{,}450 < \beta < 0{,}650$
	2,75	pale blue	x = 0,197 y = 0,197 x = 0,200 y = 0,260	x = 0,291 y = 0,306 x = 0,289 y = 0,294	$0{,}200 < \beta < 0{,}650$

NOTES

1 Chromaticity (x, y) and luminance index Y ($\beta = 10^{-2}\,Y$) are determined with a spectrophotometer by the equidistant wavelengths method ($\Delta\lambda$ = 10 nm) and under the following conditions :

- lighting and examination condition : 0/d (see CIE Publication No. 15[1]), specular brilliant excluded;
- reference colorimetric observer : 2° (see CIE Publication No. 15);
- illuminant : C source (see CIE Publication No. 15);
- reference white : perfect reflecting diffuser, approximated by a barium sulfate plate.

2 Samples of colours are given in the annex as an example.

3 Location of colour code

The colour code shall be indelible and clearly visible on the hub, the needle sheath or the unit container. It shall be repeated on the different storage packages or be visible through them.

1) CIE Publication No. 15, (E-1.3.1) *Colorimetry — Official Recommendations of the International Commission on Illumination,* Paris, 1971.

Annex

List of samples

(This annex does not form an integral part of the Standard.)

Table 2 gives, as examples only, the nearest colour samples to, or those included (where possible) in, the colour zones listed in table 1.

The samples are extracted from the following documents or standards :

- Munsell atlas;
- Fed. Std. 595a, USA;
- RAL 840 HR, Germany, F.R.;
- NF X 08-002, France.

Table 2 — Samples

Diameter	Samples			
	Munsell atlas	Fed. Std. 595a	RAL 840 HR	NF X 08-002
0,4	N 7	26 231	7035	3630
0,45	10 R 4/4	10 075	8017	2020
0,5	3,75 YR 6/12	12 473	2003	1130
0,55	2,5 P 4/8	27 144	4005	2710
0,6	2,5 PB 3/8	15 090	5010	1540
0,7	N 2,0	27 038	9005	2603
0,8	2,5 G 4/8	14 090	6001	2455
0,9	3,75 Y 8/14	23 655	1021	1330
1,1	10 YR 9/2	27 769	1015	2225
1,2	2,5 R 7/6	11 630	3015	2870
1,6	N 9,5	27 875	9010	2665
1,8	5,0 B 4/2	35 189	7031	3520
2	10 GY 8/2	24 504	6019	3470
2,75	2,5 PB 7/8	35 190	5012	2590

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Descriptors : medical equipment, hypodermic needles, colour marking, colour codes.

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