International Standard 6009

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Hypodermic needles for single use — Colour coding for identification

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

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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.

International Standard ISO 6009 was developed by Technical Committee ISO/TC 84, *Syringes for medical use and needles for injections*, and was circulated to the member bodies in November 1979.

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

Australia	France	South Africa, Rep. of
Austria	Germany, F.R.	Spain
Canada	India	United Kingdom
Chile	Ireland	USSR
Czechoslovakia	Mexico	
Denmark	Netherlands	

The member body of the following country expressed disapproval of the document on technical grounds :

USA

Printed in Switzerland

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 the table below.

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

The date of application of this International Standard is 1 January, 1981.

1 Scope and field of application

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

This International Standard can also be used for a needle whose hub 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 the table.

2.2 Colour allocation

The following table gives the colour used for the nominal (external) diameter of the needle.

Table — Colour code

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

Table (*concluded*)

Nominal diameter (in millimetres)		Colour	Colour zone		
standard	recommended				
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		light 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 = 0,308 y = 0,328 x = 0,321 y = 0,332	x = 0,338 y = 0,407 x = 0,282 y = 0,373	$0{,}400 < \beta < 0{,}600$
	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 green-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	$0{,}100 < \beta < 0{,}200$
	2,0	light green-yellow	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 wave lengths method ($\triangle\ \lambda$ = 10 nm) and under the following conditions :

- lighting and examination condition : 0°/d (see CIE publication No. 15-1971), 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 sulphate 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.

Annex

List of samples

The following table gives, as examples only, the nearest colour samples to, or those included (where it is possible) in, the colour zones listed in the preceeding table of colour codes.

The samples are extracted from the following documents or standards :

- Munsell atlas;
- US standard Fed. Std. 595a;
- German standard RAL 840 HR;
- French standard NF X 08 — 002.

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