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BUREAU OF INDIAN STANDARD

DRAFT FOR COMMENTS ONLY

भारतीय मानक मसौदा

स्प्रे के लिए विशिष्टता, मैकिन्टोश पैटर्न

(IS 7885 का दूसरा पुनरीक्षण)

Draft Indian Standard

Specification for Spray, Macintosh's Pattern

(Second Revision of IS 7885)

ICS 11.040.10

Anaesthetic, Resuscitation and Allied Equipment Sectional Committee, MHD 11

Last date for comments: **4 October 2024**

FOREWORD

(Formal clauses will be added later)

This standard was originally published in 1975 and its first revision was published in 1985. The second revision of this standard has been brought out to align the cross references to the latest standards to incorporate the updated designation of steel and the currently used methods of performance and corrosion resistance.

For the purpose of deciding whether a particular requirement of this standard is complied with the final value, observed or calculated, expressing the result of a test or analysis shall be rounded off in accordance with IS 2: 2022 'Rules for rounding off numerical values *(second revision)*'. The number of significant places retained in the rounded off value should be same as that of the specified value in this standard.

1 SCOPE

This Indian standard specifies dimensional and other requirements for Macintosh's pattern spray for use in topical analgesia.

2 REFERENCES

The standards given below contain provisions which, through reference in this text, constitute provisions of this standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this standard are encouraged to investigate the possibility of applying the most recent editions of these standards.

IS No.	*Title*
IS 6603 : 2024	Stainless Steel Semi-Finished Products, Bars, Wire Rods and Bright Bars Specification (Second Revision)
IS 6911 : 2017	Stainless steel plate, sheet and strip - Specification (Second Revision)
IS 18219: 2023	Borosilicate Glass 3.3 - Properties
IS 14962 (Part 2) : 2001	ISO general purpose metric screw threads - Tolerances: Part 2 limits of sizes for general purpose external and internal screw threads - Medium quality
IS 4905 : 2015	Random sampling and randomization procedures (First Revision)

3 MATERIAL

3.1 Metal Parts

Stainless steel conforming to designation 04Cr18Ni10 or 07Cr18Ni9 of IS : 6603 or IS : 6911, as applicable.

3.2 Rubber Parts

Good quality natural rubber shall be used. It shall be capable of ageing in an air-oven for 168 hours at 70 ± 1°C without showing appreciable stiffening, softening, cracking or any other change in condition. The minimum tensile strength shall be 10.29 MN/m^2 (105 kgf/cm^2) and 9.31 MN/m^2 (95 kgf/cm^2) before and after ageing and minimum elongation at break shall be 400 and 300 percent, respectively.

3.3 Glass

3.3.1 Shall be clear, transparent glass of type I conforming to IS 18219, showing no evidence of corrosion, scumming, chipping or cracking when boiled in a closed vessel containing distilled water for six hours continuously.

3.4 Plastics

Suitable for the purpose intended and shall not crack, flake, peel or otherwise react with the solutions used and shall not disintegrate in normal use.

4 SHAPE AND DIMENSIONS

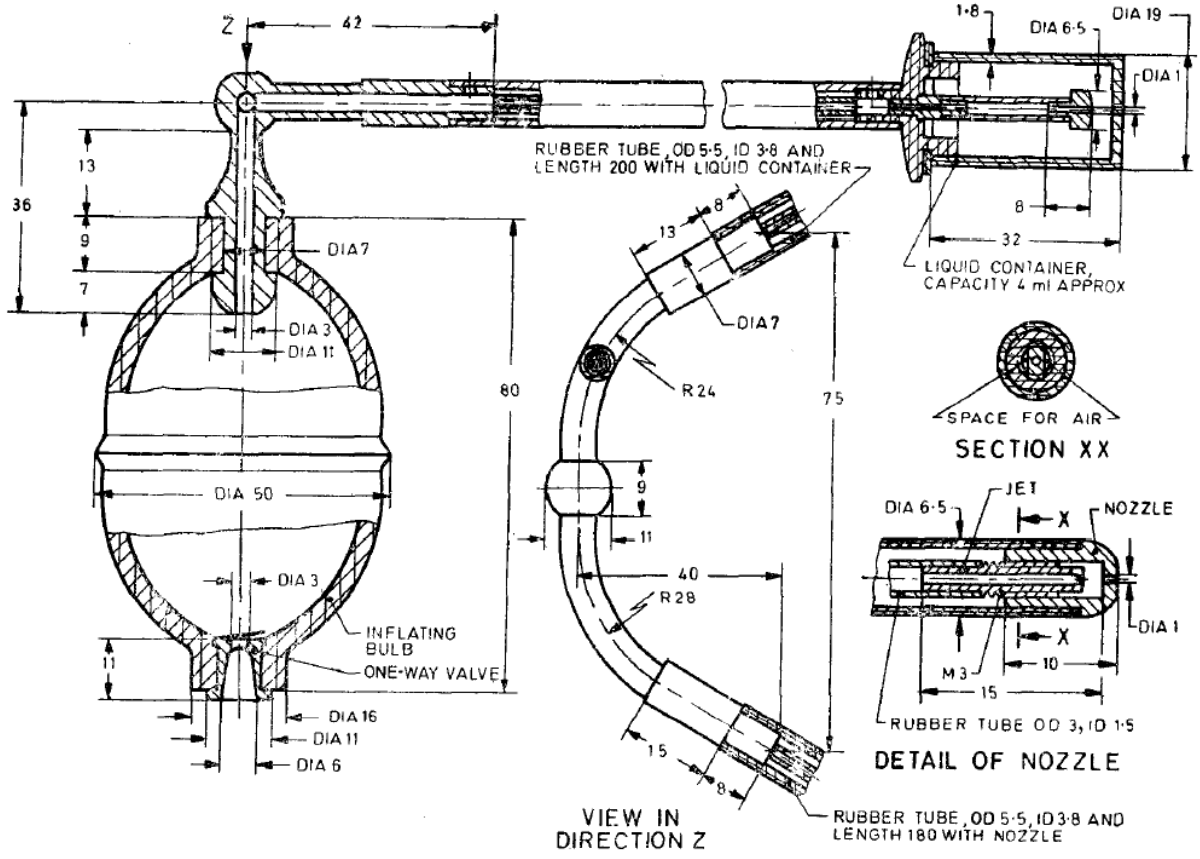
4.1 Macintosh's pattern, spray shall conform to shapes and dimensions as given in Fig. 1.

4.2 Tolerances on various dimensions shall be permitted as given below:

a) ± 0.1 mm on dimensions up to 5.0 mm,
b) ± 0.2 mm on dimensions above 5.0 mm and up to 10.0 mm,
c) ± 0.5 mm on dimensions above 10.0 mm and up to 20.0 mm,
d) ± 1.0 mm on dimensions above 20.0 mm and up to 50.0 mm,
e) ± 1.5 mm on dimensions above 50.0 mm and up to 100.0 mm, and
f) ± 2.0 mm on dimensions above 100.0 mm.

5 WORKMANSHIP AND FINISH

5.1 One end of the inflating bulb shall be securely fitted with an air inlet non-return valve. The other end shall be fitted with metallic tube as shown in Fig. 1.



All dimensions in millimetre.
FIG. 1 SPRAY, MACINTOSH'S PATTERNs

5.2 A small rubber tube of 3 mm outside diameter shall connect the liquid container with the nozzle. The screw threads in the liquid container shall conform to IS 14962 (Part 2). When the lid of the container is closed, it shall make an air and water tight.

5.3 The nozzle shall be firmly secured.

5.4 The metallic components shall be polished bright.

6 MARKING

6.1 Each component shall be marked with the manufacturer's name, initials or registered trade-mark.

6.2 BIS Certification Marking

The product(s) conforming to the requirements of this standard may be certified as per the conformity assessment schemes under the provisions of the Bureau of Indian Standards Act, 2016 and the Rules and Regulations framed there under, and the product(s) may be marked with the Standard Mark.

7 TESTS

7.1 Performance Test

7.1.1 The liquid container shall be filled with water at room temperature to half of its height and the inflating bulb pressed 20 times. The quantity of water in 20 operations shall vary from 1.5 to 3.0 g, when the spray is kept horizontal.

7.1.2 When tested as specified in **7.1.1** in a place free from draught of air, the spray shall be visible against a glass plate placed at a distance of 70 cm approximately from the spray tip of the nozzle.

7.1.3 When tested as specified in **7.1.1**, a wet patch 4 cm in diameter shall be produced on a filter paper placed at a distance of 10 cm approximately.

7.1.4 The inflating bulb shall be pressed fully and quickly 100 times. On completion of the test, the rubber shall show no sign of damage.

7.2 Autoclaving Test

After cooling the instruments to room temperature following the boiling test, place them unwrapped in a tray of the autoclave, then subject them to six separate cycles of 3 ± l/2 minutes at a minimum temperature and pressure of 134°C and 200 kN/m^2 (2.04 kgf/cm^2). After each cycle, open the autoclave, remove the instrument and tray and allow them to cool to room temperature.

Note – This test procedure prescribes a non-vacuum autoclaving method most commonly used in general surgical and dental practices. The test is not necessarily a valid criterion for performance under the most severe conditions produced in a vacuum autoclave.

8 PACKING

As agreed to between the purchaser and the supplier.

9 SCALE OF SAMPLING AND CRITERIA FOR CONFORMITY

9.1 Sampling and acceptance criteria for Macintosh's pattern sprays shall be as agreed to between the purchaser and the supplier. A recommended scheme for the same is given below.

9.2 Lot

In any consignment, all the sprays produced from the same material, under similar conditions shall constitute a lot.

9.3 Number of sprays to be selected from each lot shall depend upon the size of the lot and shall be in accordance with co1 1 and 2 of Table 1.

TABLE 1 SCALE OF SAMPLING

Lot Size	***Sample Size***
Up to 15	2
16 to 50	3
51 to 150	5
151 and above	8

9.3.1 These sprays shall be selected from the lot at random and in order to ensure the randomness of selection, procedures given in IS 4905 may be followed.

9.4 Number of tests and criteria for conformity of the sprays selected at random in accordance with co1 1 and 2 of Table 1 shall be tested for shape and dimensions, workmanship and finish, performance test and corrosion resistance test. The lot shall be considered as conforming to these requirements if none of the sprays in the sample is found to be defective in any of these tests.