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Indian Standard

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शेविंग क्रीम — विशिष्टि

(पहला पुनरीक्षण)

Shaving Cream — Specification

(First Revision)

ICS 71.100.70

भारतीय मानक ब्यूरो
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Price Group 4

Cosmetics Sectional Committee, PCD 19

FOREWORD

This Indian Standard (First Revision) was adopted by the Bureau of Indian Standards, after the draft finalized by the Cosmetics Sectional Committee had been approved by the Petroleum, Coal and Related Products Division Council.

This standard was originally published in 1981. The Committee decided to revise it in light of experience gained since its publication,incorporating the Amendments Nos.1 to 4, retaining method of test for determination of lathering (foaming) power of the original standard.

Shaving cream is applied prior to shaving to wet and soften the beard. The foam it produces helps to hold the hair erect for cutting. Brushless shaving cream provides lubrication of the beard and, by its consistency, holds the hair erect for shaving.

Shaving cream preparation of the lathering type is basically soap composed of sodium and potassium stearates, mixed with water and glycerol to give a creamy soft texture.

Brushless shaving cream is essentially oil-in-water emulsion. It usually consists of mineral oil emulsified in water with a stearates soap containing an excess of stearic acid. It is very similar in composition to vanishing cream but usually contains more oil and more emulsifying agent.

No stipulation has been made in this standard regarding the composition of shaving cream. However, it is necessary that the raw materials used are such that in the concentrations in which they would be present in the finished shaving cream, after interaction with other raw materials used in the formulation, they are free from any harmful effects. For safety evaluation of a new formulation or of a new raw material used in an old formulation, reference may be made to IS 4011 ‘Methods of test for safety evaluation of cosmetics’. It shall be the responsibility of the manufacturers of shaving cream to satisfy themselves of the safety of their formulation according to the standard before releasing the product for sale.

A scheme for labelling environment-friendly products known as ECO-Mark (optional) has been introduced at the instance of the Ministry of Environment and Forests (MEF), Government of India. The ECO-Mark is being administered by the *Bureau of Indian Standards Act*, 2016 as per the Resolution No. 71 dated 21 February 1991 and No. 768 dated 24 August 1992 published in the Gazette of the Government of India. For a product to be eligible for marking with ECO logo, it shall also carry the Standard Mark of BIS besides meeting additional environment friendly requirements. For this purpose, the Standard Mark of BIS would be a single mark being a combination of the BIS monogram ISI and the ECO logo. Requirements of ECO friendliness will be additional, manufacturing units will be free to opt for Standard Mark alone also.

In reporting the results of a test or analysis made in accordance with this standard, if the final value, observed or calculated, is to be rounded off, it shall be done in accordance with IS 2 : 1960 ‘Rules for rounding off numerical values (*revised*)’.

Indian Standard

SHAVING CREAM — SPECIFICATION

(First Revision)

1 SCOPE

1.1 This standard prescribes the requirements and methods of sampling and test for shaving cream covering both the lather and brushless type.

1.2 This standard does not cover all types of aerosols, foams, gels and shaving oilsused for shaving.

2 REFERENCES

The following standards are necessary adjuncts to this standard:

IS No.	*Title*
265 : 1993	Hydrochloric acid — Specification (*fourth revision*)
266 : 1993	Sulphuric acid — Specification (*third revision*)
323 : 2009	Rectified spirit for industrial use — Specification (*second revision*)
1070 : 1992	Reagent grade water — Specification (*third revision*)
2088 : 1983	Methods for determination of arsenic (*second revision*)
2362 : 1993	Determination of water by Karl Fischer method — Test method (*second revision*)
3958 : 1984	Methods of sampling cosmetics (*first revision*)
4011 : 1997	Methods of test for safety evaluation of cosmetics (*second revision*)
4707	Classification of cosmetics raw materials and adjuncts
(Part 1) : 2017	Dyes, colours and pigments (*second revision*)
(Part 2) : 2017	List of raw materials generally not recognized as safe for use in cosmetics (*third revision*)
14648 : 2011	Microbiological examination of cosmetics and cosmetic raw materials — Methods of test (*second revision*)

3 TYPES

The shaving cream shall be classified into following two types:

a) *Type 1* – Lather (to be used with brush), and
b) *Type 2* – Brushless.

4 REQUIREMENTS

It should be easily applied and free from any objectionable odour.

4.1 Consistency

The shaving cream shall be in the form of thick emulsion with soft texture and steady consistency. It shall be white or pigmented and of uniform colour.

4.2 Homogeneity

The shaving cream shall be in the form of homogenous mass in the package at 27 ± 2°C.

4.3 Ingredients

4.3.1 Unless specified otherwise, all the raw materials used in the manufacture of shaving cream shall conform to the requirements prescribed in the relevant Indian Standards, wherever they exist.

4.3.2 The colourants used in the manufacture of shaving cream shall comply with the provisions of IS 4707 (Part 1). Ingredients other than colourants shall conform to the provisions of IS 4707 (Part 2).

4.4 Stability

The shaving cream shall not segregate or physically deteriorate during normal conditions of storage and use. For guidance, an accelerated test for stability is prescribed in Annex A.

4.5 Effect of Container

The shaving cream shall be packed in collapsible tubes or other appropriate package made up of material which shall not corrode or deteriorate during normal conditions of storage and use. The shaving cream shall be examined visually by extruding part of the contents. The internal surface of the tube shall be examined after slitting it open and removing the remaining contents.

4.6 The shaving cream shall also meet the requirements given in Table 1 when tested according to the methods given in col 5 and col 6 of Table 1.

4.7 Additional Requirements for ECO-Mark (Optional)

4.7.1 *General Requirements*

4.7.1.1 The product shall conform to the requirements

Table 1 Requirements for Shaving Cream
(*Clause* 4.6)

Sl No.	Characteristic	Requirement		Method of Test, Ref to	
		Type 1	Type 2	Annex	IS No.
(1)	(2)	(3)	(4)	(5)	(6)
i)	Total fatty substance, percent by mass, *Min*	30	20	B	—
ii)	Water content, percent by mass, *Max*	60	70	C	—
iii)	Lathering (foaming) power, ml, *Min*	100	—	D	—
iv)	Free caustic alkali	To pass the test	To pass the test	E	—
v)	Heavy metals as lead (Pb), parts per million, *Max*	20	20	F	—
vi)	Arsenic (as As_2O_3), parts per million, *Max*	2	2	G	—
vii)	Microbial count:				—
	a) Total viable count, cfu/gm, *Max*	1 000	1 000		IS 14648
	b) Gram negative, pathogens/g	Absent	Absent		IS 14648

for quality, safety and performance prescribed under **4.7.1** to **4.7.5**.

4.7.1.2 All the ingredients that go into formulation shall comply with the provisions of IS 4707 (Part 1) and IS 4707 (Part 2).The product shall also meet specific requirements as given in the standard.

4.7.2 The product package shall display a list of key ingredients in descending order of quantity present.

4.7.3 The products shall not be manufactured from any carcinogenic ingredients.

4.7.4 The manufacturer shall produce to BIS environmental consent clearance from the concerned State Pollution Control Board as per the provisions of the *Water (Prevention and Control of Pollution) Cess Act*, 1977 and the Air *(Prevention and Control of Pollution) Act,* 1981 along with the authorization, if required under the *Environment (Protection) Act,* 1986 and the Rules made thereunder, while applying for ECO-Mark. Additionally, provisions of the *Drugs and Cosmetics Act*, 1940 and the Rules thereunder shall also be complied with.

4.7.5 *Specific Requirement*

Product shall be dermatologically safe when tested as prescribed in IS 4011.

5 PACKING AND MARKING

5.1 The shaving cream shall be packed in suitablecontainers like plastic bottles, sachets or other suitable dispensing systems. When packed in containers, the containers shall be properly sealed and have a leak-proof cap or closure. The containers, if necessary, may further be packed in cartons or any other suitable packaging material.

5.1.1 The material for product packaging shall meet the parameters evolved under the scheme of labelling environment friendly packaging/packaging materials.

5.2 The shaving cream containers and the cartons shall be legibly marked with the following information:

a) Name and type of shaving cream;
b) Manufacturer's name and address and/or his recognized trade-mark, if any;
c) Net mass or volume of shaving cream in the container;
d) Batch or lot number in code or otherwise;
e) Shade name or shade number, if any;
f) Month and year of manufacture;
g) List of key ingredients (*see* Note 1);
h) 'Best use before .....' (month and year to be declared by manufacturer) (*see* Note 2);
j) Instructions for use; and
k) Any other information required by statutory authorities.

NOTES

1 This is exempted in case of pack sizes of 30 g/60 ml or less.

2 This is exempted in case of pack size of 10 g/25 ml or less and if the shelf life of the product is more than 24 months.

5.2.1 *BIS Certification Marking*

The container may also be marked with the Standard Mark.

5.2.1.1 The use of the Standard Mark is governed by the provisions of the *Bureau of Indian Standard Act*, 2016 and the Rules and Regulations made thereunder. The details of conditions under which the licence for the use of the Standard Mark may be granted to manufacturers or producers may be obtained from the Bureau of Indian Standards.

5.2.1.2 If the product is covered under ECO-Mark (optional), it shall be suitable marked with ECO-Mark logo besides Standard Mark. The label may clearly specify that ECO-Mark is applicable to the contents or

the package or both, as case may be. If the product package is not separately covered under ECO-Mark scheme, it shall be clearly mentioned on the product that ECO-Mark label is applicable to contents only.

6 SAMPLING

6.1 Representativesamples of the material shall be drawn as prescribed in IS 3958.

6.2 The lot shall be declared as conforming to requirements of the specification, if all the test results on each individual samples meet the requirements prescribed in **4.1** to **4.6**.

7 QUALITY OF REAGENTS

Unless specified otherwise, pure chemicals and distilled water (*see* IS 1070) shall be employed in tests.

NOTE — 'Pure chemicals' shall mean chemicals that do not contain impurities which affect the results of analysis.

ANNEX A

(*Clause* 4.4)

TEST FOR STABILITY

A-1 PROCEDURE

A-1.1 Keep the material in tube at 40 ± 1°C for 24h. Press the tube and take about 10 g of the cream. On visual examination, the cream shall not show any separation of water or oil phase.

A-1.2 Keep the material in the tube at 10 ± 1°C for 24h. After taking out, by pressing tube, the cream shall be found extrudable from the tube.

ANNEX B

[*Table*1, *Sl No.* (i)]

DETERMINATION OF TOTAL FATTY SUBSTANCE

B-1 OUTLINE OF THE METHOD

The shaving cream is dissolved in water and the fatty matter is liberated with mineral acid. The fatty matter is extracted with ether and weighed after removal of solvent.

B-2 REAGENTS

B-2.1.1 *Dilute Hydrochloric Acid* – 1:1 (*v/v*).

B-2.1.2 *Ethyl Ether*

B-2.1.3 *Methyl Orange Indicator Solution* — Dissolve 0.1 g of methyl orange in 100 ml of water.

B-2.1.4 *Sodium Sulphate* — Desiccated.

B-3 PROCEDURE

Weigh accurately about 2 g shaving cream into a clean beaker and add 25 ml of water, 25 ml of dilute hydrochloric acid, and a few drops of methyl orange indicator. The solution in beaker should have a red colour. Warm the contents till the fatty matter forms a clean layer on the top. Cool to room temperature and transfer to a separating funnel. Rinse the beaker three times with 25 ml of ethyl ether and transfer the rinsing to the separating funnel. Shake vigorously. Set the funnel aside for the two layers to separate out the aqueous and ether phases and extract the aqueous phase twice more with 25 ml each of ethyl ether. Combine all the ether extracts and wash well with water until free

off acid. Filter the ether extracts through a filter paper containing sodium sulphate into a conical flask which has been previously dried and weighed. Wash the sodium sulphate on the filter paper with ether and combine the washing and filtrate. Distil off the ether and dry the material remaining in the flask at a temperature of 60 ± 2°C to constant mass.

B-4 CALCULATION

Total fatty substance, percent by mass = $\frac{100M_1}{M_2}$

where

M_1 = mass of the residue, in g; and

M_2 = mass of the material taken for the test, in g.

ANNEXC

[*Table* 1, *Sl No.* (ii)]

DETERMINATION OF WATER

C-1 GENERAL

The toluene distillation method is described below. The use of Karl Fischer method (*see* IS 2362) is permitted as an alternative.

C-2 APPARATUS

The apparatus shown in Fig. 1, consists of the following parts:

a) *Flask*,of 500 ml capacity, made of hard resistant glass.

b) *Trap* — The cylindrical portion of the receiving tube is 146 to 156 mm in length and is graduated to contain 10 ml and subdivided into 0.1 ml divisions, each 1 ml line being numbered from 10 ml at the top. The error in any indicated capacity should be greater than 0.05 ml.

c) *Condenser* — This is approximately 400 mm in length and the bore of the inner tube of the condenser is 16 to 17 mm. The condenser is connected to the trap as shown in the Fig. 1.

C-3 REAGENTS

C-3.1 Toluene — Treated with excess of water and distilled.

C-4 PROCEDURE

Weigh accurately about 10 g of the material and transfer it to the flask. Add about 200 ml of toluene and a few pieces of dry pumice stone. Connect the apparatus and fill the receiving end of the trap with toluene poured through the top of the condenser. Heat the flask gently for 15 min and when the toluene begins to boil reflux at a rate of 2 drops per second until most of the water has passed over. Then increase the rate to about 4 drops per second. When all the water has apparently distilled over, rinse the inside of the condenser tube with toluene while brushing down the tube brush attached to a copper wire and saturated with toluene. Continue the distillation for 5 min, then remove the source of heat, and allow the receiving tube to cool to room temperature. If any droplets of water are adhering to the wall of the receiving tube, scrub them down with a brush consisting of a rubber band wrapped around a copper wire and wetted with toluene. When the water and toluene have separated, read the volume of water.

C-5 CALCULATION

Water, percent by mass = $\frac{V \times d \times 100}{M}$

where

V = volume of water at room temperature collected in the receiving tube, in ml;

d = density of water at room temperature; and

M = mass of the material taken for the test, in g.

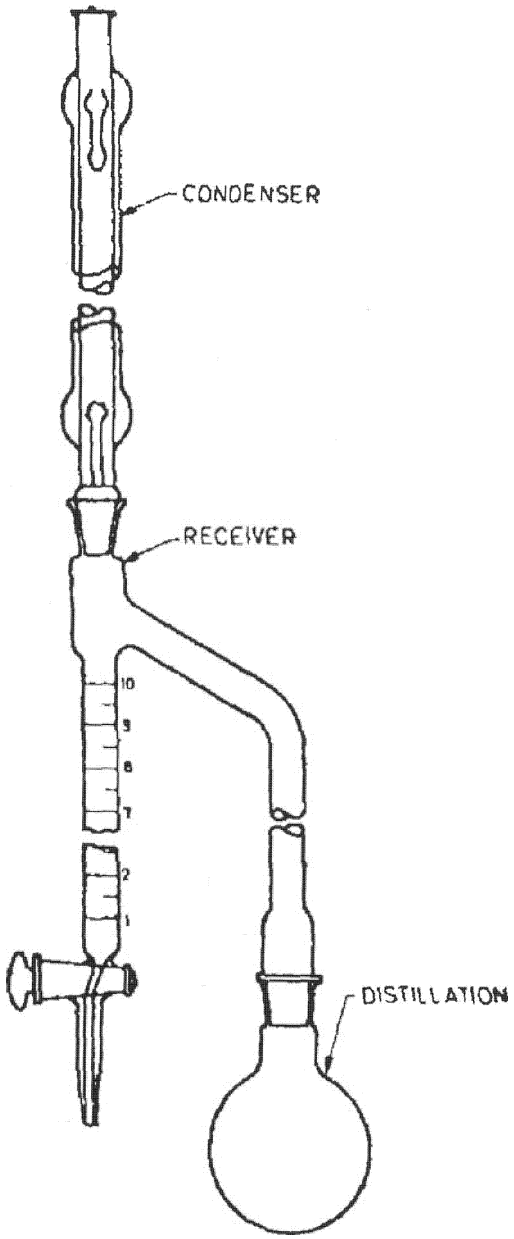

FIG. 1 APPARATUS FOR DETERMINATION OF WATER

ANNEX D

[*Table* 1, *Sl No.* (iii)]

DETERMINATION OF LATHERING (FOAMING) POWER

D-1 GENERAL

Strict attention shall be paid to all details of the procedure in order to ensure concordant results. Particular care shall be taken to shake the cylinder exactly as described.

D-2 OUTLINE OF THE METHOD

A suspension of the material in water is taken in a graduated cylinder and given 12 shakes under prescribed conditions. The volume of the lather (foam) formed is observed after keeping the cylinder for 5 min.

D-3 APPARATUS

D-3.1Graduated Cylinder — Glass stopped with graduations form 0 to 250 ml, with 2 ml divisions; overall height about 35 cm and the height of the graduated portion about 20 cm.

D-3.2 Graduated Cylinder, with graduations from 0 to 100 ml, with 1 ml divisions.

D-3.3 Thermometer, of range 0 to 110 °C.

D-4 PROCEDURE

D-4.1 Weigh about 5 g of the shaving cream accurately in a 100 ml glass beaker, add 10 ml of water, cover the beaker with a watch-glass and allow to stand for 30 min. This operation is carried out to disperse the shaving cream.

NOTE — Ensure that the material is completely dispersed. Warm the cylinder in hot water (about 60 °C), if necessary.

D-4.2 Stir the contents of the beaker with a glass rod and transfer the slurry to the 250 ml graduated cylinder, ensuring that no lather (more than 2 ml) is produced and no lumpy paste goes into the cylinder. Repeat the transfer of the residue left in the beaker with further portions of 5 to 6 ml of water ensuring that all the matter in the beaker is transferred to the cylinder.

D-4.3 As soon as the temperature of the contents of the cylinder reaches 30 °C, stopper the cylinder and give it 12 complete shakes, each shake comprising movements shown in Fig. 2 in a vertical plane, upside down and *vice-versa*. After the 12 shakes have been given, allow the cylinder to stand still for 5 min, and read the volumes of : (a) lather (foam) plus water (V_1 ml), and (b) water only (V_2 ml) as shown in Fig. 3.

D-5 CALCULATION

Lathering (foaming) power, ml = $V_1 - V_2$

where

V_1 = volume of lather (foam) plus water, in ml; and

V_2 = volume of water only, in ml;.

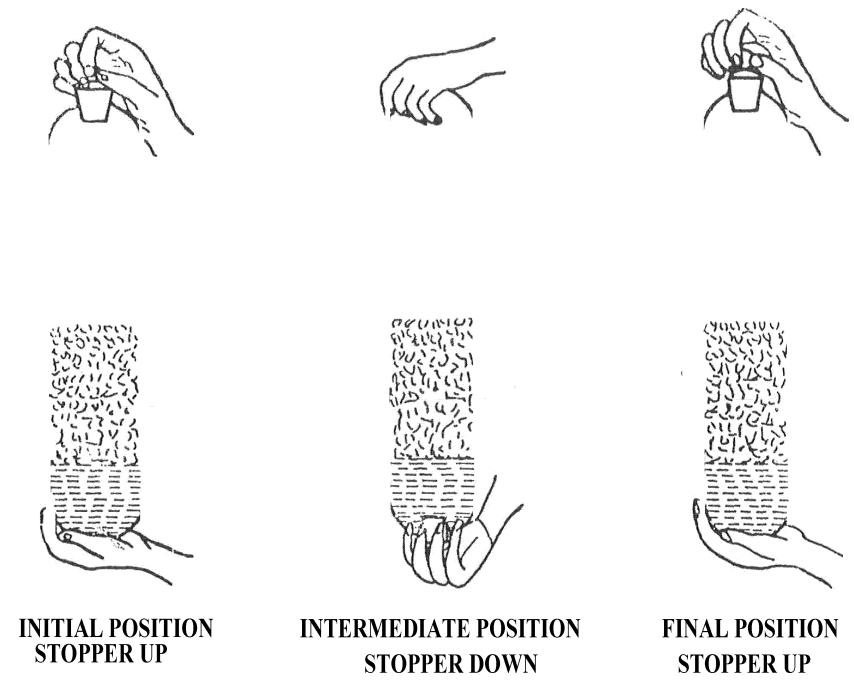

FIG. 2 ONE COMPLETE SHAKE OF CYLINDER

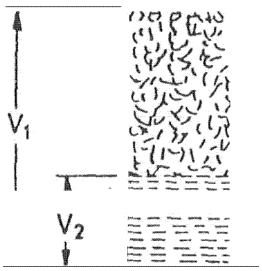

FIG. 3 MEASUREMENT OF FOAM

ANNEX E

[*Table* 1, *Sl No.* (iv)]

TEST FOR FREE CAUSTIC ALKALI

E-1 REAGENTS

E-1.1 Rectified Spirit, *see* IS 323.

E-1.2 Phenolphthalein Indicator Solution

Dissolve 1 g of phenolphthalein in 100 ml of rectified spirit.

E-2 PROCEDURE

Dissolve 1 g of shaving cream in 100 ml of rectified spirit by warming, if necessary. Cool and add a few drops of phenolphthalein indicator and observe the colour of solution. The material shall be taken to have passed the test, if no pink colouration is developed.

ANNEX F

[*Table* 1, *Sl No.* (v)]

TEST FOR HEAVY METALS

F-1 OUTLINE OF THE METHOD

The colour produced with hydrogen sulphide solution is matched against that obtained with standard lead solution.

F-2 APPARATUS

F-2.1 Nessler's Cylinder — 50 ml capacity.

F-3 REAGENTS

F-3.1 Dilute Hydrochloric Acid — Approximately 5 N.

F-3.2 Dilute Acetic Acid —Approximately 1 N.

F-3.3 Dilute Ammonium Hydroxide — Approximately 5 N.

F-3.4 Hydrogen Sulphide Solution — Standard.

F-3.5 Standard Lead Solution — Dissolve 1.600 g of lead nitrate in water and make up the solution to 1 000 ml. Pipette out 10 ml of the solution and dilute again to 1 000 ml with water. One millilitre of this solution contains 0.01 mg of lead (as Pb).

F-4 PROCEDURE

Take approximate 2 g of material in a crucible, weighed accurately up to third decimal and heat on a hot plate and then in a muffle furnace to ignite it at 600°C to constant mass. Add 3 ml of dilute hydrochloric acid, warm (wait till no more dissolution occurs) and make up the volume to 100 ml. Filter the solution. Transfer 25 ml of the filtrate into a Nessler's cylinder. In the second Nessler's cylinder, add 2 ml of dilute acetic acid, 1.0 ml of standard lead solution and make up the volume with water to 25 ml.

Add 10 ml of hydrogen sulphide solution to each Nessler cylinder and make up the volume with water to 50 ml. Mix and allow tostand for 10 min. Compare the colour produced in the two Nessler's cylinders. Blankdetermination without samples are recommended to avoid errors arising out of reagents.

F-5 RESULT

The sample may be taken to have passed the test, if the colour developed in the sample solution is less than that of standard solution.

ANNEX G

[*Table*1, *Sl No.* (vi)]

DETERMINATION OF ARSENIC

G-1 OUTLINE OF THE METHOD

Arsenic present in a solution of the material is reduced to arsine, which is made to react with mercuric bromide paper. The stain produced is compared with a standard stain.

G-2 REAGENTS

G-2.1 Mixed Acid — Dilute one volume of concentrated sulphuric acid (*see* IS 266) with four volumes of water. Add 10 g of sodium chloride for each 100 ml of the solution.

G-2.2 Ferric Ammonium Sulphate Solution — Dissolve 64 g of ferric ammonium sulphate in water containing 10 ml of mixed acid and make up to 1 litre.

G-2.3 Concentrated Hydrochloric Acid — *See* IS 265.

G-2.4 Stannous Chloride Solution — Dissolve 80 g of stannous chloride ($SnCl_2.2H_2O$) in 100 ml of water containing 5 ml of concentrated hydrochloric acid.

G-3 PROCEDURE

Carry out the test as prescribed in IS 2088, adding into the Gutzeit bottle, 2 ml of ferric ammonium sulphate solution, 0.5 ml of stannous chloride solution and 25 ml sample solution as prepared in **F-4**.

For comparison, prepare a stain using 0.001 mg of arsenic trioxide.

Bureau of Indian Standards

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Review of Indian Standards

Amendments are issued to standards as the need arises on the basis of comments. Standards are also reviewed periodically; a standard along with amendments is reaffirmed when such review indicates that no changes are needed; if the review indicates that changes are needed, it is taken up for revision. Users of Indian Standards should ascertain that they are in possession of the latest amendments or edition by referring to the latest issue of 'BIS Catalogue' and 'Standards : Monthly Additions'.

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Amendments Issued Since Publication

Amend No.	Date of Issue	Text Affected

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