

**भारतीय मानक**  
**Indian Standard**

**IS 9255 : 2020**

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**दाढ़ी बनाने के बाद का लोशन — विशिष्टि**  
( दूसरा पुनरीक्षण )

**After-Shave Lotion — Specification**  
( Second Revision )

ICS 71.100.70

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भारतीय मानक ब्यूरो  
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Price Group 4

## FOREWORD

This Indian Standard (Second 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 first published in 1979 and first revised in 1995. In the first revision, two types of after-shave lotions, namely, alcoholic and non-alcoholic were incorporated. In addition, method of determination of alcohol content had been revised and an Annex for 'List of safe denaturants' was included for manufacturers' reference. Also, the requirements for stability of perfume and transparency above 5°C were specified.

In this revision, following major changes have been carried out:

- a) Requirement of compliance of denaturant with IS 4117 has been included.
- b) Limiting requirements of heavy metals, arsenic, mercury and their respective methods of tests have been included.
- c) Microbial count requirements for after-shave lotion containing alcohol less than 20 percent (v/v) have also been included.
- d) Note under Table 1 has been incorporated.
- e) GLC method for determination of alcohol content and absence of methanol in alcohol has been incorporated.
- f) Marking clause has been harmonized with Rule 148 of the *Drugs and Cosmetics Rules*, 1945.

Shaving lotions are generally of two types, namely, pre-shave and after-shave lotions. Pre-shave preparations are also subdivided in two categories, a) those intended primarily to soften the beard and having a wetting agent as the active ingredient in a base of alcohol, water and glycerine, perfumed and tinted, and b) those acting like strong astringents, which contract the skin, making the hair stand straight.

After-shave lotions are similar in composition to astringent lotions, with varying percentage of alcohol (0 to 70 percent) which serves to cool the skin. The alcohol when present also serves as mild antiseptic to aid against infection. Additional materials, like, humectant and menthol (for cooling and anesthetic action) are frequently added. After-shave lotions are also called as after-shave moisturizer. These are usually transparent solutions and are sometimes made translucent or opaque with clouding/ opacifying agents.

No stipulation has been made in this standard regarding the composition of after-shave lotions. However, it is necessary that the raw materials used are such that in the concentrations in which they would be present in the finished product, after interaction with other raw materials used in the formulation, they are free from any harmful effects. It shall be the responsibility of the manufacturers of after-shave lotions 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*, 1986 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

# AFTER-SHAVE LOTION — SPECIFICATION

( Second Revision )

## 1 SCOPE

This standard prescribes the requirements and methods of sampling and test for after-shave lotion.

## 2 REFERENCES

The following standards contain provisions, which through reference in this text, constitute provisions of this draft 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 the standards indicated below:

IS No.	Title
265 : 1993	Hydrochloric acid — Specification ( <i>fourth revision</i> )
323 : 2009	Rectified spirit for industrial use — Specification ( <i>second revision</i> )
1070 : 1992	Reagent grade water — Specification ( <i>third revision</i> )
2088 : 1983	Methods for determination of arsenic ( <i>second revision</i> )
3958 : 1984	Methods of sampling cosmetics ( <i>first revision</i> )
4011 : 1997	Methods of test for safety evaluation of cosmetics ( <i>second revision</i> )
4117 : 2008	Alcohol denaturants — Specification ( <i>second revision</i> )
4707	Classification of cosmetic raw materials and adjuncts
(Part 1) : 2017	Colourants ( <i>third revision</i> )
(Part 2) : 2017	List of raw materials generally not recognized as safe for use in cosmetics ( <i>fourth revision</i> )

## 3 TYPE

There shall be two types of after-shave lotions, namely:

- Type 1* — Alcoholic, containing 5 to 70 percent alcohol, and
- Type 2* — Non-alcoholic.

## 4 REQUIREMENTS

### 4.1 Description

#### 4.1.1 Type 1 After-Shave Lotion (Alcoholic)

It shall be a transparent/ translucent/ opaque aqueous ethanolic or emulsified solution containing perfume oil and shall be free from sediment.

NOTE — It may also contain emollients, antiseptic agents, denaturants, astringents, colourants etc.

#### 4.1.2 Type 2 After-Shave Lotion (Non -alcoholic)

It shall be a transparent/ translucent/ opaque aqueous or emulsified solution containing perfume oil and shall be free from sediment.

NOTE — It may also contain emollients, antiseptic agents, astringents, colourants etc.

### 4.2 Ingredients

4.2.1 Unless specified otherwise, all the raw materials used in the manufacture of after-shave lotion shall conform to the requirements prescribed in the relevant Indian Standards where such standards exist.

4.2.2 Alcohol used in after-shave lotion (Type 1) shall conform to IS 323 and it shall be free from methanol when tested as per the test method prescribed in Annex A.

4.2.3 The denaturant used in the manufacture of after-shave lotion shall comply with the provisions of IS 4117.

4.2.4 The colourants used in the manufacture of after-shave lotion shall comply with the provisions of IS 4707 (Part 1). Ingredients other than colourants shall conform to the provisions of IS 4707 (Part 2).

4.2.5 For safety evaluation of novel ingredients used in formulation of after-shave lotion, the after-shave lotion shall comply to IS 4011.

### 4.3 Stability of Smell

4.3.1 When tested in accordance with the test method as specified in 4.3.2, after 8 h the smell of after-shave lotion shall be clearly picked up.

4.3.2 Put some pieces of bleached gauze of dimensions 5 × 10 cm, which has been pre-washed in hot water

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without soap and dried, into a porcelain cup and pour 1.5 ml of after-shave lotion into this cup. After the gauze gets soaked take it out with the help of pincers and without squeezing it, dry it in a premise having temperature of  $27 \pm 2^\circ\text{C}$  and humidity of  $65 \pm 5$  percent. After 8 h, if the smell of after-shave lotion can be clearly picked up, the product shall be taken to have passed the test.

### 4.4 Cloud Temperature (For Transparent After-Shave Lotion Only)

**4.4.1** When tested in accordance with the test method as specified in **4.4.2**, at a temperature of  $5^\circ\text{C}$  the after-shave lotion shall be transparent.

**4.4.2** Pour 20 ml after-shave lotion into a wide cylinder and close it with a plug, into which insert a thermometer having scale up to  $-20^\circ\text{C}$ . Immerse the thermometer into the liquid in such a manner that its bulb is situated at the same distance from the bottom and walls. Immerse the cylinder containing liquid in a cooling mixture containing ice and salt. After cooling the sample to  $+5^\circ\text{C}$ , takeout the cylinder, shake it and scan it in transmitted daylight or in the light of a 40 W electric lamp. At a temperature of  $+5^\circ\text{C}$  the product shall be taken to have passed the test if no turbidity appears.

**4.5** The after-shave lotion shall also meet the requirements given in Table 1, when tested according to the methods given in col 5 of Table 1.

## 4.6 Additional Requirement for ECO-Mark

### 4.6.1 General Requirements

**4.6.1.1** The product shall conform to the requirements for quality, safety and performance prescribed under **4.1** to **4.5**.

**4.6.1.2** All the ingredients that go into formulation of cosmetics 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.

**4.6.1.3** The product package shall display a list of ingredients in descending order of quantity present.

**4.6.1.4** The product shall not be manufactured from any carcinogenic ingredients.

**4.6.1.5** The manufacturer shall produce to Bureau of Indian Standards the 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.

**Table 1 Requirements for After-Shave Lotion**

( Clause 4.3 )

SI No.		Characteristic	Requirement		Method of Test, Ref to Annex/IS
(1)	(2)		Type 1	Type 2	
			(3)	(4)	(5)
i)	Alcohol content, percent by volume		5 - 70	—	A
ii)	Heavy metals as lead (Pb), parts per million, <i>Max</i>		20	20	B
iii)	Arsenic as arsenic trioxide ( $\text{As}_2\text{O}_3$ ), parts per million, <i>Max</i>		2	2	C
iv)	Mercury (Hg), parts per million, <i>Max</i>		1	1	IS 16913
v)	pH		—	4 - 9	D
vi)	Microbial Requirement:				
	a) Total microbial count, CFU/g, <i>Max</i>		1 000	1 000	IS 14648
	b) Yeast and mould count, CFU/g, <i>Max</i>		100	100	IS 14648
	c) Escherichia coli, per g		Absent	Absent	IS 14648
	d) Pseudomonas aeruginosa, per g		Absent	Absent	IS 14648
	e) Staphylococcus aureus, per g		Absent	Absent	IS 14648
	f) Candida albicans, per g		Absent	Absent	IS 14648

<sup>1)</sup> The requirement of microbial count is applicable only for after-shave lotion containing alcohol less than 20 percent (v/v).

#### 4.6.2 Specific Requirements

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

### 5 PACKING AND MARKING

#### 5.1 Packing

**5.1.1** The after-shave lotion shall be packed in suitable well-closed containers. 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.

**5.1.2** The material for product packaging shall meet the parameters involved under the scheme of labelling environmental friendly packaging/packaging materials.

#### 5.2 Marking

**5.2.1** Each container and the carton containing the material shall be legibly marked with the following information:

- a) Name of the material;
- b) Name and address of the manufacturer;
- c) Net content;
- d) Month and year of manufacture (MM/YY);
- e) Use before..... (Month and year MM/YY, or months/years from the date of manufacture) to be declared by the manufacturer;
- f) Batch number;
- g) List the ingredients (at the time of manufacture) under the title 'Ingredients' as follows:
  - 1) For ingredients more than 1 percent (by mass or volume), — list the ingredients in decreasing order of percentage.
  - 2) For ingredients less than 1 percent (by mass or volume) — List the ingredients in any order.

NOTE — This is exempted in case of pack sizes less than 30 g of solid/semi-solid and 60 ml of liquid.

- h) Declaration for Type 2 after shave lotion: 'NON ALCOHOLIC';
- j) Name and content of denaturant, if added;
- k) Caution --- for After shave lotion: 'HARMFUL IF TAKEN INTERNALLY'; and
- m) Any other information required by statutory authorities.

#### 5.2.2 BIS Certification Marking

The container may also be marked with the Standard Mark.

**5.2.2.1** 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 thereunder, and the products may be marked with the Standard Mark.

**5.2.2.2** 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** Representative samples of the material shall be drawn as prescribed in IS 3958.

**6.2** Test for all characteristics shall be carried out on the composite sample.

**6.3** The material shall be taken to have conformed to this standard if the composite sample passes all the tests.

### 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.

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## ANNEX A

[ Table 1, SI No. (i) ]

### GAS CHROMATOGRAPHIC METHOD OF TEST FOR ALCOHOL CONTENT AND ABSENCE OF METHANOL IN AFTER SHAVE LOTION

#### A-1 DETERMINATION OF ALCOHOL CONTENT

##### A-1.1 Apparatus

**A-1.1.1 Gas Chromatograph** — Equipped with Flame Ionization Detector (FID) and split injection port.

##### A-1.1.1.1 Chromatographic condition

Column	Fused Silica Capillary Column Packed With 6 Percent Cyanopropylphenyl and 94 Percent Dimethyl Polysiloxane
Film thickness	1.8 µm
Column dimension	30 m × 0.32 mm ID
Injector temperature	200°C
Split ratio	1 : 40
Sample size	0.5 µl (2 percent solution in suitable solvent)
Carrier gas and flow	Nitrogen or Helium, at the flow rate of about 1.2 ml/min
Hydrogen gas flow	300 ml/min
Column oven temperature	60°C for 5 min, then raised to 150°C at a rate of 10°C per min
Detector type	FID
Detector temperature	250°C

NOTE — Optimum operating conditions may vary with column and instrument used and must be determined by using standard solutions. Adjust the parameters for maximum peak sharpness and optimum separation. With high level standard, 1-propanol should give almost complete baseline separation from ethanol.

#### A-1.2 Reagents and Solutions

**A-1.2.1 Ethanol** — 99.9 percent (v/v), Min.

**A-1.2.2 1-Propanol** — 99.9 percent (v/v), Min.

**A-1.2.3 Methanol** — 99.9 percent (v/v), Min.

**A-1.2.4 Internal Standard Stock Solution** — Dilute 5.0 ml of 1-propanol (see A-1.2.2) to 100 ml.

**A-1.2.5 Ethanol Stock Solution** — Dilute 5.0 ml of ethanol (see A-1.2.1) to 100 ml.

**A-1.2.6 Ethanol Standard Solution** — Take 10 ml of ethanol stock solution (see A-1.2.5) in a 100 ml volumetric flask, add 10 ml of internal standard stock solution (see A-1.2.4) and make up volume to 100 ml.

**A-1.2.7 Internal Standard Solution** — Dilute 5 ml of internal standard stock solution (see A-1.2.4) to 50 ml.

**A-1.2.8 Test Solution** — Take sample equivalent to 0.5 ml of ethanol (see A-1.2.1) in a 100 ml volumetric flask, add 10 ml of internal standard stock solution (see A-1.2.4) and make up volume to 100 ml.

**A-1.2.9 Methanol Stock Solution** — Dilute 5.0 ml of methanol (see A-1.2.3) to 100 ml.

**A-1.2.10 Methanol Standard Solution** — Take 5.0 ml of methanol stock solution (see A-1.2.9) in a 100 ml volumetric flask, add 10 ml of internal standard stock solution (see A-1.2.4) and make up volume to 100 ml.

#### A-1.3 Procedure

**A-1.3.1** Set the instrument as per chromatographic condition as given in A-1.1.1 and allow the instrument till stable base line is achieved.

**A-1.3.2** Inject separately 2 µl of each, ethanol standard solution, internal standard solution and methanol standard solution and determine the retention time of ethanol, 1-propanol and methanol.

**A-1.3.3** Inject 5 injections of ethanol standard solutions and calculate Relative Standard Deviation (RSD) of internal standard response ratio. RSD should be less than 2. Use average peak area of five injections for calculation.

**A-1.3.4** Inject 2 µl of test solution in duplicate. Use average peak area of two injections for calculation.

#### A-1.4 Calculation

Calculate ethanol content in sample as follows:

$$\text{Ethanol content, percent (v/v)} = \frac{R_2 \times W_s \times D \times 100}{R_1}$$



where

$R_2$  = peak ratio of ethanol to 1-propanol for sample solution;

$W_s$  = concentration of ethanol in standard solution in percent (v/v);

$D$  = dilution factor for sample solution; and

$R_1$  = peak ratio of ethanol to 1-propanol for standard solution.

## A-2 DETERMINATION OF ABSENCE OF METHANOL

Observe the chromatograms obtained with test solution and methanol standard solution. Test complies if no peak is observed, in the chromatogram obtained with test solution at the retention time of methanol.

## ANNEX B

[ Table 1, SI No. (ii) ]

### DETERMINATION OF HEAVY METALS

#### B-1 OUTLINE OF THE METHOD

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

#### B-2 APPARATUS

**B-2.1 Nessler's Cylinders** — 50 ml capacity.

#### B-3 REAGENT

**B-3.1 Dilute Hydrochloric Acid** — Approximately 5 N.

**B-3.2 Dilute Acetic Acid** — Approximately 1 N.

**B-3.3 Dilute Ammonium Hydroxide** — Approximately 5 N.

**B-3.4 Hydrogen Sulphide Solution** — Standard.

**B-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 milligram of this

solution contains 0.01 mg of lead (as Pb).

#### B-4 PROCEDURE

Weigh 2.000 g of material in a crucible 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's cylinder and make up the volume with water to 50 ml. Mix and allow to stand for 10 min. Compare the colour produced in the two Nessler's cylinders. Blank determinations without samples are recommended to avoid errors arising out of reagents.

#### B-5 RESULTS

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.

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## ANNEX C

[ Table 1, SI No. (iii) ]

### DETERMINATION OF ARSENIC

#### C-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.

#### C-2 REAGENTS

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

**C-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 one litre.

**C-2.3 Concentrated Hydrochloric Acid** [*see* IS 265]

**C-2.4 Stannous Chloride Solution** — Dissolve 80 g of stannous chloride ( $\text{SnCl}_2 \cdot 2\text{H}_2\text{O}$ ) in 100 ml of water containing 5 ml of concentrated hydrochloric acid.

#### C-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 of sample solution as prepared in **B-4**.

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

## ANNEX D

[ Table 1, SI No. (iv) ]

### DETERMINATION OF pH

#### D-1 APPARATUS

**D-1.1 pH meter**— preferably equipped with glass electrode.

#### D-2 PROCEDURE

Take 25 ml of after shave lotion and determine its pH at  $27 \pm 2^\circ\text{C}$  using pH meter.



## ANNEX E

( Foreword )

### COMMITTEE COMPOSITION

Cosmetics Sectional Committee, PCD 19

<i>Organization</i>	<i>Representative(s)</i>
Drugs Controller General (INDIA), Delhi	DR V. G. SOMANI ( <b>Chairman</b> )
Chemstar Limited, Mumbai	SHRI SUNIL JOSHI
CSIR Indian Institute of Toxicological Research, Lucknow	DR R. S. RAY
Department of AYUSH, Delhi	DR D. C. KATOCH
Directorate of Drugs Control, Kolkata	SHRI K. R. CHAWLA
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Indian Beauty & Hygiene Association (IBHA), Mumbai	MS MALATHI NARAYANAN
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Ministry of Micro, Small and Medium Enterprises (MSME), Delhi	DR ARUN KUMAR
Procter & Gamble, Mumbai	SHRI SIVAKUMAR THANIGACHALAM
All India Cosmetic Manufacturers Association, Mumbai	MS KAJAL ANAND DR VIRENDRA V. CHAVAN ( <i>Alternate</i> )
Cavinkare Private Limited, Chennai	DR T. KUMAR DR SRIDHAR RAJAM ( <i>Alternate</i> )
Central Drugs Standard Control Organization (CDSCO), Delhi	DR S. P. SHANI
Central Drugs Testing Laboratory (CDTL), Chennai	MS C. VIJAYA LAKSHMI DR J. UMA MAHESWARI ( <i>Alternate</i> )
Central Drugs Testing Laboratory (CDTL), Mumbai	DR RAMAN MOHAN SINGH MS S. U. WARDE ( <i>Alternate</i> )
Colgate Palmolive (India) Limited, Mumbai	DR MANAS V. VYAS DR PURUSHOTTAM JADHAV ( <i>Alternate I</i> ) MS SHARDA GANESH ( <i>Alternate II</i> )
Consumer Guidance Society of India, Mumbai	DR SITARAM DIXIT DR M.S. KAMATH ( <i>Alternate</i> )
Dabur India Limited, Sahibabad	DR PRASUN BANDYOPADHYAY DR S. K. LUTHRA ( <i>Alternate I</i> ) SHRI SHIVAJI RAI ( <i>Alternate II</i> )
Directorate of Food and Drugs Administration, Goa	MS JYOTI J. SARDESSAI MS SHWETA DESSAI ( <i>Alternate</i> )

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Voluntary Organization In Interest of Consumer Education (VOICE), Delhi	DR M. A. U. KHAN SHRI K. C. CHAUDHARY ( <i>Alternate</i> )
In Personal Capacity	DR A. N. BHAT
BIS Directorate General	SHRI V. K. DIUNDI, SCIENTIST 'G' AND HEAD (PCD) [ REPRESENTING DIRECTOR GENERAL ( <i>Ex-officio</i> ) ]

*Member Secretary*

SHRIMATI. NISHA BURA  
SCIENTIST 'C' (PCD), BIS



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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'.

This Indian Standard has been developed from Doc No.: PCD 19 (12579).

### Amendments Issued Since Publication

Amend No.	Date of Issue	Text Affected

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