

इंटरनेट

मानक

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Whereas the Parliament of India has set out to provide a practical regime of right to information for citizens to secure access to information under the control of public authorities, in order to promote transparency and accountability in the working of every public authority, and whereas the attached publication of the Bureau of Indian Standards is of particular interest to the public, particularly disadvantaged communities and those engaged in the pursuit of education and knowledge, the attached public safety standard is made available to promote the timely dissemination of this information in an accurate manner to the public.

“जानने का अधिकार, जीने का अधिकार”

Mazdoor Kisan Shakti Sangathan

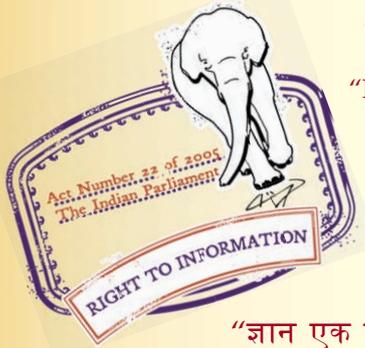
“The Right to Information, The Right to Live”

“पुराने को छोड़ नये के तरफ”

Jawaharlal Nehru

“Step Out From the Old to the New”

IS 9457 (2005): Safety colours and safety signs - Code of Practice [CHD 8: Occupational Safety, Health and Chemical Hazards]



“ज्ञान से एक नये भारत का निर्माण”

Satyanarayan Gangaram Pitroda

“Invent a New India Using Knowledge”



“ज्ञान एक ऐसा खजाना है जो कभी चुराया नहीं जा सकता है”

Bhartrhari—Nitiśatakam

“Knowledge is such a treasure which cannot be stolen”

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भारतीय मानक
सुरक्षा रंग और सुरक्षा चिन्ह – रीति संहिता
(पहला पुनरीक्षण)

Indian Standard
SAFETY COLOURS AND SAFETY SIGNS —
CODE OF PRACTICE
(*First Revision*)

ICS 01.080.10

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BUREAU OF INDIAN STANDARDS
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

FOREWORD

This Indian Standard (First Revision) was adopted by the Bureau of Indian Standards, after the draft finalized by the Occupational Safety and Health and Chemical Hazards Sectional Committee had been approved by the Chemical Division Council.

This standard was first published in 1980 to unify widely different Codes of practice hoping that those involved in the preparation of new or amended schemes for safety colours and safety signs will base their schemes on the provisions of this standard.

This standard also fulfills the need to standardize a system of providing safety information which does not require the use of words. The need arises because of the increase in national and international trade and travel and the growth of work forces lacking a common language. Further, this standard would help in education which is an essential part of disseminating safety information. It is desirable to standardize these systems as lack of standardization may perhaps lead to confusion and even accidents.

Over the years, throughout the world, Code of practice for safety colours and safety signs have been further developed to draw attention rapidly to hazardous situations and objects. This revision is based on International Standard ISO 3864-1 'Safety colours and safety signs — Part 1 : Design principles for safety signs on workplaces and in public areas'. In the preparation of this standard assistance has also been derived from the following International Standards:

- | | |
|---------------------------|--|
| BS : 5378 – Part 1 : 1980 | Safety signs and colours — Part 1 : Specification for colour and design |
| BS : 5378 – Part 2 : 1980 | Safety signs and colours — Part 2 : Specification for colorimetric and photometric properties of materials |

The composition of the Committee responsible for the formulation of this standard is given at Annex B.

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 : 1960 'Rules for rounding off numerical values (*revised*)'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

Indian Standard

SAFETY COLOURS AND SAFETY SIGNS — CODE OF PRACTICE

(*First Revision*)

1 SCOPE

This standard prescribes the safety identification colours and design principles for safety signs to be used in workplaces and in public areas for the purpose of accident prevention, fire protection, health hazard information and emergency evacuation.

This standard is applicable to workplaces, all locations and all sectors where safety-related questions may be posed. However, it is not applicable to the signalling used for guiding rail, road, river, maritime and air traffic and generally speaking, to those sectors subject to regulations which may differ.

2 REFERENCE

The standard given below contains provisions, which through reference in this text, constitute provisions of this standard. At the time of publication, the editions indicated was valid. All standards are subject to revisions and parties to agreement based on this standard is encouraged to investigate the possibility of applying the most recent editions of the standard indicated below:

| <i>IS No.</i> | <i>Title</i> |
|---------------|--|
| 5 : 2004 | Colours for ready mixed paints and enamels (<i>fifth revision</i>) |

3 TERMINOLOGY

For the purpose of this standard, the following terms and definitions apply.

3.1 Coefficient of Retroreflection, R' — Plane retro-reflecting surface quotient of the luminous intensity (I) of a plane retroreflecting material in the direction of observation divided by the product of the illuminance (E_1) of the retroreflecting surface on a plane perpendicular to the direction of the incident light and its area (A).

$$R' = \frac{I}{E_1 \cdot A}$$

3.2 Combined Materials — Materials which combine the optical characteristics of photoluminescent and retroreflective materials.

3.3 Critical Detail — Element of a graphical symbol

without which the graphical symbol cannot be understood.

3.4 Fluorescence — Photoluminescence in which the emitted optical radiation results from direct transitions from the photo-excited energy level to a lower level, these transitions taking place generally within 10 ns after the excitation.

3.5 Luminance Contrast — Quotient of the luminance of the contrast colour L_1 divided by the luminance of the safety colour L_2 where L_1 is greater than L_2 .

$$K = \frac{L_1}{L_2}$$

3.6 Luminance Factor — Ratio of the luminance of the surface element in a given direction to that of a perfect reflecting or transmitting diffuser identically illuminated.

3.7 Luminescence — Emission, by atoms, molecules or ions in a material of optical radiation which for certain wavelengths or regions of the spectrum is in excess of the radiation due to thermal emission from that material at the same temperature, as a result of these particles being excited by energy other than thermal agitation.

3.8 Ordinary Materials — Materials which are neither retroreflecting nor luminescent.

3.9 Retroreflecting Materials — Materials which reflect radiation in a direction close to the opposite of the direction from which it came.

3.10 Phosphorescence — Photoluminescence delayed by storage of energy in an intermediate energy level.

3.11 Photoluminescence — Luminescence caused by absorption of optical radiation.

3.12 Safety Colour — Colour of special properties to which a safety meaning is attributed.

3.13 Safety Marking — Marking which adopts the use of safety colours and/or safety contrast colours to convey a safety message or render an object or location conspicuous.

3.14 Safety Sign — Sign which gives a general safety message, obtained by a combination of a colour and

geometric shape and which by the addition of a graphical symbol, gives a particular safety message.

3.15 Supplementary Sign — Sign that is supportive of another sign and whose main purpose is to provide additional clarification.

4 PURPOSE OF SAFETY COLOURS AND SAFETY SIGNS

4.1 The purpose of safety colours and safety signs is to draw attention rapidly to objects and situations affecting safety and health and to gain rapid understanding of a specific message.

4.2 The use of safety colours and safety signs should not replace the need for proper accident prevention measures.

4.3 Safety signs shall be used only for instructions which are related to safety and health.

5 GEOMETRIC FORM, SAFETY COLOURS AND SAFETY SIGNS

5.1 Safety Colours

There shall be four safety colours — red, yellow, green and blue. Their shades shall be close match to the following shade numbers (see IS 5):

| | |
|--------|------------------------------------|
| Red | : Shade number 537 signal red |
| Yellow | : Shade number 309 canary yellow |
| Green | : Shade number 221 brilliant green |
| Blue | : Shade number 166 french blue |

5.1.1 Periodic checks should be made to ensure that the colours of the signs and symbols continued to be a close match to the standard shades mentioned above.

5.2 General meaning assigned to geometric shapes safety colours and contrast colours for safety signs is given in Table 1.

6 DIMENSIONS OF SAFETY SIGNS

The preferred dimensions of safety sign and preferred letter sizes should be as given in Table 2.

7 LAYOUT OF SAFETY SIGN

7.1 General

The safety colours, contrast colours and geometric shapes (see 5) shall be used only in the following combinations to obtain the five basic types of safety signs (see Fig. 1 to 7).

Where a graphical symbol is not available to indicate a particular desired meaning, the meaning shall be obtained preferably by using the appropriate general sign together with a supplementary sign (see Fig. 8 to 16).

Borders are recommended to achieve contrast between the safety and/or supplementary sign and the

surrounding. The value of the border is 0.025 to 0.05 of the geometric shape as shown in Fig. 1 to 10 and using the dimensions 'a_s' for rectangular signs. For practical reasons *d* is equal to *d_s* and *b* is equal to *b_s* within a tolerance of 5 percent.

7.2 Prohibition Signs

Prohibition signs shall comply with the layout requirements given in Fig. 1.

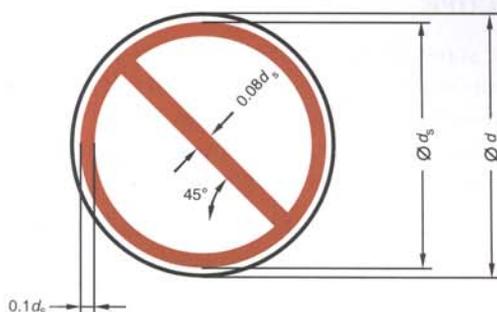


FIG. 1 LAYOUT REQUIREMENTS FOR A PROHIBITION SIGN

The colours of the sign shall be as follows:

| | |
|--------------------------------|---------|
| Background colour | : White |
| Circular band and diagonal bar | : Red |
| Graphical symbol | : Black |
| Border | : White |

The safety colour red shall cover at least 35 percent of the total area of the sign.

7.3 Mandatory Action Signs

Mandatory action signs shall comply with the layout requirements given in Fig. 2.

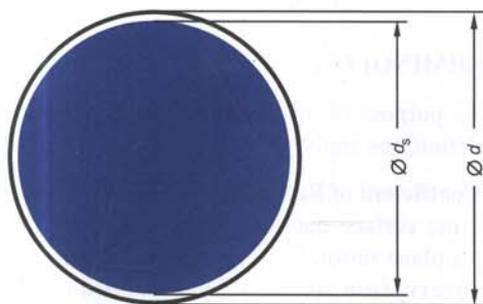


FIG. 2 LAYOUT REQUIREMENT FOR A MANDATORY ACTION SIGN

The colours of the sign shall be as follows:

| | |
|-------------------|---------|
| Background colour | : Blue |
| Graphical symbol | : White |
| Border | : White |

The safety colour blue shall cover at least 50 percent of the area of the sign.

Table 1 General Meaning of Geometric Shapes, Safety Colours and Contrast Colours
(Clause 5.2)

| List No. (1) | Geometric Shape (2) | Meaning (3) | Safety Colour (4) | Contrast Colour (5) | Graphical Symbol Colour (6) | Example of Use (7) |
|--------------|---|--|---|--|---|--|
| i) |  Circle with Diagonal Bar | Prohibition | Red | White | Black | a) No Smoking b) No Unauthorised Vehicles c) Do not Drink |
| ii) |  Circle | Mandatory Action | Blue | White | White | a) Wear Eye Protection b) Wear Personal Protective Equipment c) Switch off Before Beginning Work |
| iii) |  Equilateral Triangle | Warning | Yellow | Black | Black | a) Danger Hot Surface b) Danger Acid c) Danger High Voltage |
| iv) |  Square  Rectangle | Safe Condition Means of Escape Safety Equipment | Green | White | White | a) First Aid Room b) Fire Exit c) Fire Assembly Point |
| v) |  Square  Rectangle | Fire Safety | Red | White | White | a) First Alarm Call Point b) Fire Fighting Equipment c) Fire Extinguisher |
| vi) |  Square  Rectangle | Supplementary Information | White or the Colour of the Safety Sign | Black or the Contrast Colour of the Relevant Safety Sign | Symbol Colour of the Relevant Safety Sign | As Appropriate to Reflect Message given by Graphical Symbol |

Table 2 Dimensions of Safety Signs

(Clause 6)

| Sl No. | Modular Height of Sign Plate mm | Diameter or Height of Geometric Safety Sign (<i>b</i>) mm | Height of Letter 'x' mm |
|--------|------------------------------------|--|----------------------------|
| (1) | (2) | (3) | (4) |
| i) | 75 | 60 | 5.0 |
| ii) | 100 | 80 | 6.6 |
| iii) | 150 | 120 | 10.0 |
| iv) | 225 | 180 | 15.0 |
| v) | 300 | 240 | 20.0 |
| vi) | 600 | 480 | 40.0 |
| vii) | 750 | 600 | 50.0 |
| viii) | 900 | 720 | 60.0 |
| ix) | 1 200 | 960 | 80.0 |

7.4 Warning Signs

Warning action signs shall comply with the layout requirements given in Fig. 3.



FIG. 3 LAYOUT REQUIREMENTS FOR A WARNING ACTION SIGN

The colours of the sign shall be as follows:

| | |
|-------------------|-------------------|
| Background colour | : Yellow |
| Triangular band | : Black |
| Graphical symbol | : Black |
| Border | : Yellow or white |

The safety colour shall cover at least 50 percent of the total area of the sign.

7.5 Safe Condition Signs

Safe condition signs shall comply with the layout requirements given in Fig. 4 or Fig. 5.

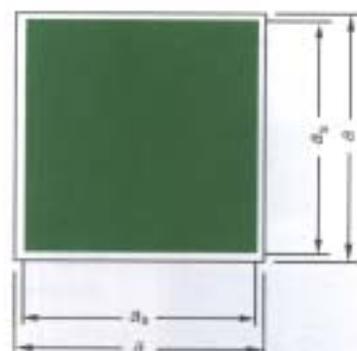


FIG. 4 LAYOUT REQUIREMENTS FOR A SQUARE SAFE CONDITION SIGN

The colours of the sign shall be as follows:

| | |
|-------------------|---------|
| Background colour | : Green |
| Graphical symbol | : White |
| Border | : White |

The safety colour green shall cover at least 50 percent of the area of the sign.

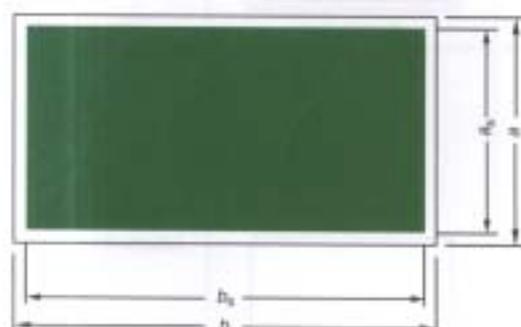


FIG. 5 LAYOUT REQUIREMENTS FOR A RECTANGULAR SAFE CONDITION SIGN

The colours of the sign shall be as follows:

| | | |
|-------------------|---|-------|
| Background colour | : | Green |
| Graphical symbol | : | White |
| Border | : | White |

The safety colour green shall cover at least 50 percent of the area of the sign.

7.6 Fire Safety Signs

Fire safety signs shall comply with the layout requirements given in Fig. 6 or Fig. 7.

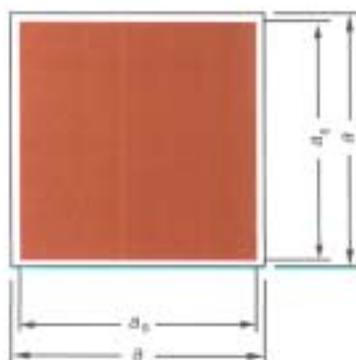


FIG. 6 LAYOUT REQUIREMENTS FOR A SQUARE FIRE SAFETY SIGN

The colours of the sign shall be as follows:

| | | |
|-------------------|---|-------|
| Background colour | : | Red |
| Graphical symbol | : | White |
| Border | : | White |

The safety colour red shall cover at least 50 percent of the area of the sign.

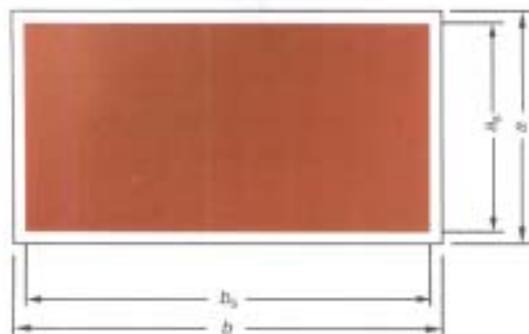


FIG. 7 LAYOUT REQUIREMENTS FOR A RECTANGULAR FIRE SAFETY SIGN

The colours of the sign shall be as follows:

| | | |
|-------------------|---|-------|
| Background colour | : | Red |
| Graphical symbol | : | White |
| Border | : | White |

The safety colour red shall cover at least 50 percent of the area of the sign.

8 LAYOUT OF SUPPLEMENTARY, COMBINATION AND MULTIPLE SIGN

8.1 General

Words may be used to supplement or clarify the meaning of the symbol(s) used on a safety sign. Words shall be placed in either a separate supplementary sign or as a part of a combination sign.

8.2 Supplementary Signs

Supplementary signs shall comply with the layout requirements given in Fig. 8 or Fig. 9.

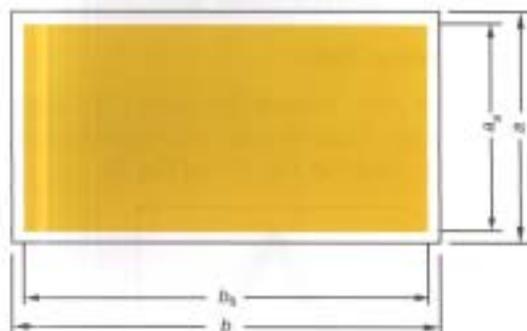


FIG. 8 LAYOUT REQUIREMENTS FOR A SUPPLEMENTARY SIGN

The colours of the sign shall be as follows:

| | | |
|-----------------------|---|---|
| Background colour | : | White or safety colour of the safety sign |
| Symbol or text colour | : | Relevant contrast colour |
| Border | : | White |

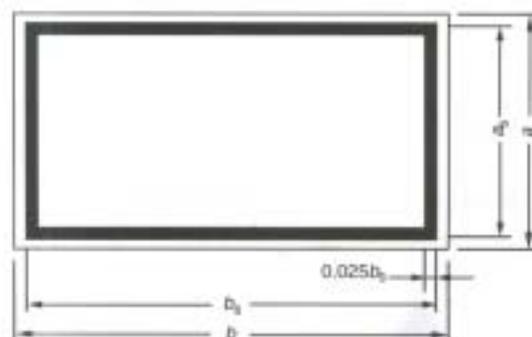


FIG. 9 LAYOUT REQUIREMENTS FOR A SUPPLEMENTARY SIGN WITH BORDERS

The colours of the sign shall be as follows:

| | | |
|-----------------------|---|---|
| Background colour | : | White or safety colour of the safety sign |
| Symbol or text colour | : | Relevant contrast colour |
| Border | : | White |
| Boundary | : | Black |

8.3 Position Assignment of a Supplementary Sign

The positions of the supplementary sign are shown in Fig. 10. The supplementary sign shall be placed below (see Fig. 11) to the right (see Fig. 12) or to the left of the safety sign.



FIG. 10 POSITION ASSIGNMENT OF A SUPPLEMENTARY SIGN

8.4 Combination Signs

Combination signs contain the safety sign and the supplementary sign on one rectangular carrier. Examples are shown in Fig. 11 and Fig. 12.



FIG. 11 LAYOUT FOR A COMBINATION SIGN WITH THE SUPPLEMENTARY SIGN BELOW THE SAFETY SIGN

The colours of the sign shall be as follows:

- Colour of sign carrier : Colour of the safety sign or white
- Symbol or text colour : Relevant contrast colour

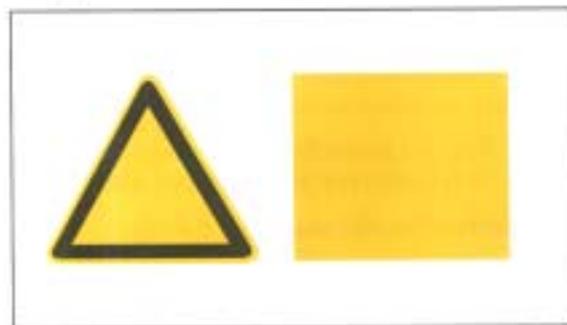


FIG. 12 LAYOUT FOR A COMBINATION SIGN WITH THE SUPPLEMENTARY SIGN TO THE RIGHT OF THE SAFETY SIGN

The colours of the sign shall be as follows:

- Colour of sign carrier : Symbol or text
- Colour : Colour of the safety sign or white relevant contrast colour

8.5 Multiple Signs as a Means of Communicating Complex Safety Messages

A multiple sign is a combination sign containing two or more safety signs and/or associated supplementary signs on the same rectangular carrier. An example of a layout for a multiple sign used to communicate a warning, a mandatory instruction to avoid risk of injury and/or provide a prohibition message is given in Fig. 13.

In multiple signs, the order of the safety signs (and/or the corresponding supplementary signs) should according to the importance of the safety messages. The horizontal layout may also be used.



FIG. 13 EXAMPLE OF A LAYOUT FOR MULTIPLE SIGN

8.6 Combination Signs Using the Supplementary Sign Depicting an Arrow, with and without Supplementary Text Signs

A graphical symbol sign, a supplementary sign and a supplementary directional arrow sign, may be combined to provide a comprehensive directional safety message. Examples are given in Fig. 14 to Fig. 16.

A combination sign on one carrier may omit internal borders.

Directional arrows shaft be placed below or to the left or right of the safety sign.



Left from here



Left from here

FIG. 14 EXAMPLE OF A COMBINATION SIGN WITH DIRECTIONAL ARROWS ON LEFT



Right from here



Right from here

FIG. 15 COMBINATION SIGN WITH DIRECTIONAL ARROWS ON RIGHT: EXAMPLE 1



Straight on



Straight on

FIG. 16 COMBINATION SIGN WITH DIRECTIONAL ARROWS ON RIGHT: EXAMPLE 2

9 LAYOUT OF SAFETY MARKINGS

9.1 The bands are of equal width inclined at an angle of approximately 45° (see Fig. 17 to Fig. 20).

The colours of safety marking which indicate hazard locations shall be a combination of yellow and contrast black as shown in Fig. 17.



YELLOW AND CONTRAST BLACK

FIG. 17 SAFETY MARKING FOR INDICATING HAZARD LOCATIONS

9.2 The colours of safety marking which indicate prohibition or location of fire fighting equipment shall be a combination of red and contrast white as shown in Fig. 18.



RED AND CONTRAST WHITE

FIG. 18 SAFETY MARKING FOR INDICATING PROHIBITION OR LOCATION OF FIRE FIGHTING EQUIPMENT

9.3 The colours of safety marking which indicate a mandatory instruction shall be a combination of blue and contrast white as shown in Fig. 19.



BLUE AND CONTRAST WHITE

FIG. 19 SAFETY MARKING FOR INDICATING A MANDATORY INSTRUCTION

9.4 The colours of safety marking which indicate a safe condition shall be a combination of green and contrast white as shown in Fig. 20.



GREEN AND CONTRAST WHITE

FIG. 20 SAFETY MARKING FOR INDICATING A SAFE CONDITION

10 DESIGN OF SYMBOLS

10.1 Design of symbols shall be as simple as possible and details not essential for the understanding of safety message should be omitted.

10.1.1 Examples of some safety symbols in common use are given in Annex A.

NOTE — If symbols shown in this standard do not cover a particular desired meaning, other symbol already standardized in other connection should be tried or text only should be used.

ANNEX A

(Clause 10.1.1)

SAFETY SYMBOLS IN COMMON USE



SMOKING PROHIBITED



FIRE AND LIGHTING MATCHSTICK
PROHIBITED



THOROUGHFARE PROHIBITED FOR
PEDESTRIANS



WATER AS EXTINGUISHING
AGENT PROHIBITED



WATER NOT FOR DRINKING



CAUTION, RISK OF DANGER



CAUTION, RISK OF FIRE



CAUTION, RISK OF EXPLOSION



CAUTION, RISK OF CORROSION



CAUTION, RISK OF LIFE



CAUTION, RISK OF IONIZING RADIATION



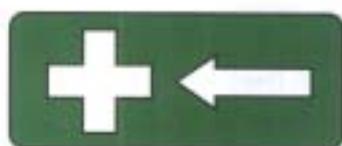
CAUTION, RISK OF ELECTRIC SHOCK



FIRST AID



GENERAL INDICATION OF DIRECTION



INDICATION OF DIRECTION TO FIRST AID



EYE PROTECTOR MUST BE WORN



RESPIRATORY PROTECTOR MUST BE WORN



HEAD PROTECTOR MUST BE WORN



HEARING PROTECTOR MUST BE WORN



HAND PROTECTOR MUST BE WORN



FOOT PROTECTOR MUST BE WORN

ANNEX B

(Foreword)

COMMITTEE COMPOSITION

Occupational Safety and Health and Chemical Hazards Sectional Committee, CHD 8

| <i>Organization</i> | <i>Representative(s)</i> |
|---|--|
| National Safety Council, Navi Mumbai | SHRI K. C. GUPTA (<i>Chairman</i>) |
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| Indian Chemical Manufacturers Association, Mumbai | SHRI V. N. DAS SHRI A. A. PANJWANI (<i>Alternate</i>) |
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| Atomic Energy Regulatory Board, Mumbai | SHRI P. K. GHOSH |
| Bhabha Atomic Research Centre, Mumbai | DR B. N. RATHI SHRI S. SOUNDARARAJAN (<i>Alternate</i>) |
| Central Boiler Board, New Delhi | REPRESENTATIVE |
| Central Leather Research Institute, Chennai | SHRI G. SWAMINATHAN |
| Central Mining Research Institute, Dhanbad | SHRI J. K. PANDEY |
| Central Warehousing Corporation, New Delhi | REPRESENTATIVE |
| Century Rayon, Thane | SHRI H. G. UTTAMCHANDANI SHRI S. K. MISHRA (<i>Alternate</i>) |
| Department of Explosives, Nagpur | REPRESENTATIVE |
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| Department of Industrial Policy and Promotion, New Delhi | DR D. R. CHAWLA |
| Directorate General Factory Advice Service & Labour Institute, Mumbai | DR A. K. MAJUMDAR SHRI S. P. RANA (<i>Alternate</i>) |
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| Directorate General of Mines Safety, Dhanbad | DIRECTOR OF MINES (MSE) DEPUTY DIRECTOR OF MINES SAFETY (HQ) (<i>Alternate</i>) |
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| Directorate of Standardization, Ministry of Defence, New Delhi | SHRI P. S. AHUJA LT-COL TEJINDER SINGH (<i>Alternate</i>) |
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| Ministry of Defence (R&D), Kanpur | DR A. K. SAXENA DR RAJINDRA SINGH (<i>Alternate</i>) |
| Ministry of Environment & Forest, New Delhi | REPRESENTATIVE |
| National Institute of Occupational Health, Ahmedabad | DR V. KRISHNA MURTHY DR A. K. MUKHERJEE (<i>Alternate</i>) |

Organization

National Safety Council, Navi Mumbai
 NOCIL, Mumbai
 Office of the Development Commissioner (SSI), New Delhi
 Oil Industry Safety DTE (Ministry of Petroleum & Natural Gas),
 New Delhi
 Ordnance Factory Board, Kolkata
 Safety Appliances Manufacturers Association, Mumbai
 SIEL Chemical Complex, New Delhi
 Southern Petrochemical Inds. Corporation Ltd, Chennai
 Standing Fire Advisory Council, Ministry of Home Affairs,
 New Delhi
 Steel Authority of India Ltd, Ranchi
 Tata AIG Risk Management Services Ltd, Mumbai
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Member Secretary
 SHRI N. K. PAI
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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. CHD 8 (1189).

Amendments Issued Since Publication

| Amend No. | Date of Issue | Text Affected |
|-----------|---------------|---------------|
| | | |
| | | |
| | | |
| | | |

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Telephones : 2323 01 31, 2323 33 75, 2323 94 02

Telegrams : Manaksanstha
(Common to all offices)

Regional Offices :

| | Telephone |
|---|--|
| Central : Manak Bhavan, 9 Bahadur Shah Zafar Marg NEW DELHI 110 002 | { 2323 76 17 2323 38 41 |
| Eastern : 1/14 C.I.T. Scheme VII M, V. I. P. Road, Kankurgachi KOLKATA 700 054 | { 2337 84 99, 2337 85 61 2337 86 26, 2337 91 20 |
| Northern : SCO 335-336, Sector 34-A, CHANDIGARH 160 022 | { 260 38 43 260 92 85 |
| Southern : C.I.T. Campus, IV Cross Road, CHENNAI 600 113 | { 2254 12 16, 2254 14 42 2254 25 19, 2254 23 15 |
| Western : Manakalaya, E9 MIDC, Marol, Andheri (East) MUMBAI 400 093 | { 2832 92 95, 2832 78 58 2832 78 91, 2832 78 92 |

Branches : AHMEDABAD. BANGALORE. BHOPAL. BHUBANESHWAR. COIMBATORE. FARIDABAD.
GHAZIABAD. GUWAHATI. HYDERABAD. JAIPUR. KANPUR. LUCKNOW. NAGPUR.
NALAGARH. PATNA. PUNE. RAJKOT. THIRUVANANTHAPURAM. VISAKHAPATNAM.