इंटरनेट मानक

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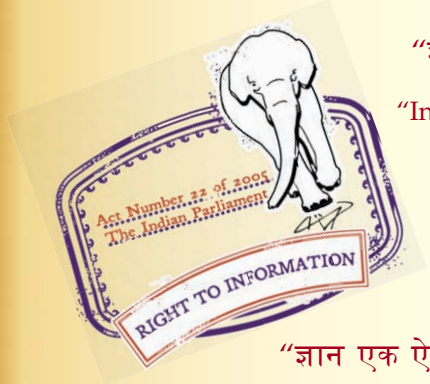
"जानने का अधिकार, जीने का अधिकार"
Mazdoor Kisan Shakti Sangathan
"The Right to Information, The Right to Live"

"पुराने को छोड नये के तरफ"
Jawaharlal Nehru
"Step Out From the Old to the New"

IS 2097 (2012): Foam Making Branch Pipe and Foam Inductor-Specification [CED 22: Fire Fighting]



"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"
Bhartṛhari—Nītiśatakam
"Knowledge is such a treasure which cannot be stolen"

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भारतीय मानक

झाग बनाने के लिए शाखा पाइप और झाग प्रेरक — विशिष्टि

(दूसरा पुनरीक्षण)

Indian Standard

FOAM MAKING BRANCH PIPE AND FOAM INDUCTOR — SPECIFICATION

(Second Revision)

ICS 13.220.10

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

June 2012 **Price Group 3**

Fire Fighting Sectional Committee, CED 22

FOREWORD

This Indian Standard (Second Revision) was adopted by the Bureau of Indian Standards, after the draft finalized by the Fire Fighting Sectional Committee had been approved by the Civil Engineering Division Council.

Foam making branches provide one of the means for the production of mechanical foam, which is used for fighting fires in flammable liquids. Similarly, mechanical foam is also used to cover flammable liquid spills to prevent ignition. These branches work on self-aspirating principle in which air is induced into the stream of water-foam solution by the suction effect created at the water head in the branch during discharge of solution under pressure.

This standard was first published in 1969 and revised in 1983. This revision include different types and designs of foam branches now used by fire brigades, and to make the standard more performance oriented. Design details including figures have been elaborated for different type of branches. Stainless steel and additional grade of aluminium alloy also incorporated as the material of construction.

The composition of the Committee responsible for the formulation of this standard is given in 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 specified value in this standard.

Indian Standard

FOAM MAKING BRANCH PIPE AND FOAM INDUCTOR — SPECIFICATION

1 SCOPE

This standard lays down the requirements regarding material and performance of the three types (as per the flow capacity) of foam making branches, that is FB 5X (225 lpm), FB 10X (450 lpm) and FB 20X (900 lpm) and inline foam inductor.

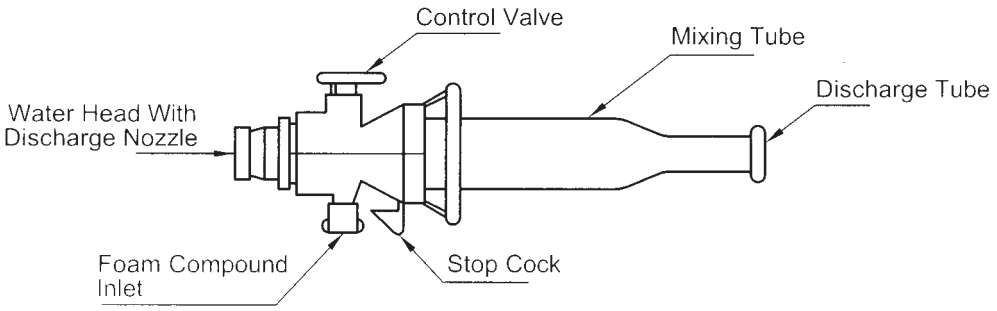
2 REFERENCES

The standards listed in Annex A 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 the standards indicated in Annex A.

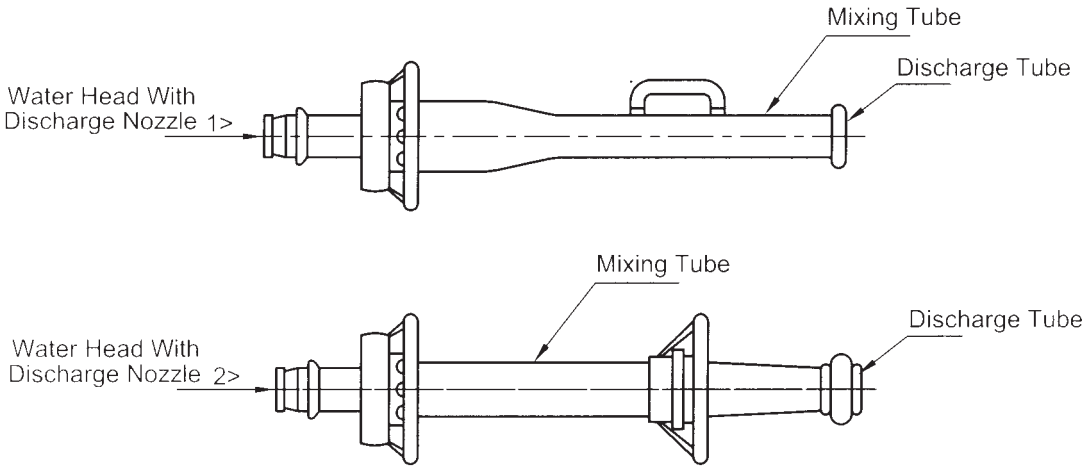
of different designs as shown in Fig. 1B. These designs are only indicative, and as performance parameters are prescribed, the design can be of any suitable type which meets the performance requirements. For the FB 20X branch, the holding arrangement shall be such so as to facilitate operation by two operators simultaneously.

T

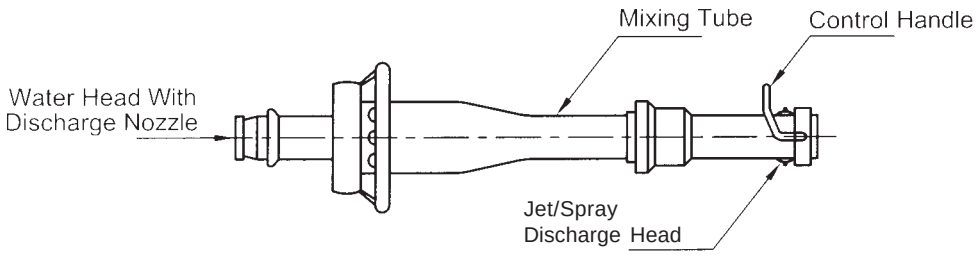
and capacities as given in Table 1.



1A FB 5X



1B FB 10X AND 20X



1C FB 10X AND 20X (Jet/Spray Head)

NOTE — For Identification FB 5X branch should be Green, FB 10X Red and FB 20X Blue, coloured strap.

FIG. 1 TYPICAL SHAPE OF FOAM MAKING BRANCH

branch shall be operated at an approximate angle of 30° in still air.

6.2 The foam so produced shall be tested for 25 percent drainage time according to procedure laid down in IS 4989. The mechanical foam qualities shall be within the limits shown in Fig. 2.

7 MARKING

7.1 The foam making branches shall be clearly and permanently marked with the following information:

a) Name of the manufacturer or trade-mark, if any;
b) Type of the branch;
c) Flow capacity at rated pressure; and
d) Year of manufacture.

7.2 BIS Certification Marking

The foam making branches may also be marked with the Standard Mark.

7.2.1 The use of the Standard Mark is governed by the provisions of the *Bureau of Indian Standards Act*, 1986 and the Rules and Regulations made thereunder. The details of conditions under which the license for the use of the Standard Mark may be granted to manufacturers or producers may be obtained from the Bureau of Indian Standards.

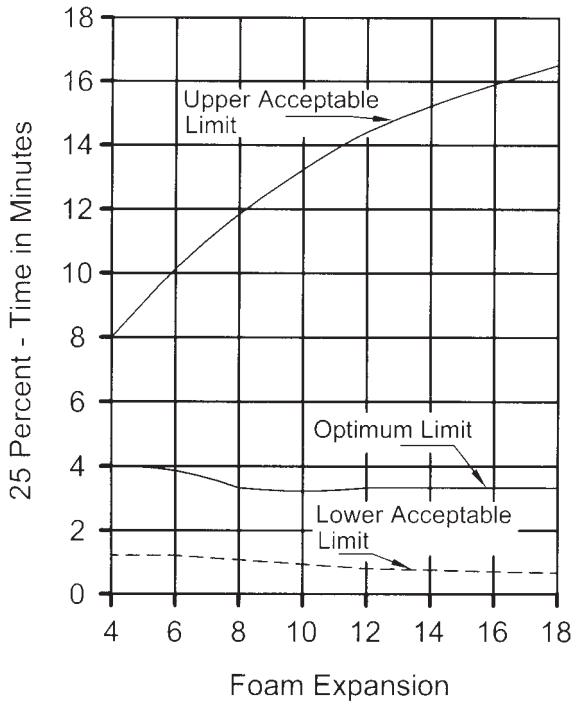


FIG. 2 PERFORMANCE REQUIREMENTS OF FOAM MAKING BRANCH

ANNEX A
(*Clause* 2)
LIST OF REFERRED INDIAN STANDARDS

IS No.	*Title*	*IS No.*	*Title*
318 : 1981	Specification for leaded tin bronze ingots and castings (*second revision*)	3444 : 1999	Corrosion resistant alloy steel and nickel base castings for general application — Specification (*third revision*)
410 : 1977	Specification for cold rolled brass sheet, strip and foil (*third revision*)	4989 : 2006	Foam concentrate for producing mechanical foam for fire fighting — Specification (*third revision*)
617 : 1994	Aluminium and aluminium alloy ingots and castings for general engineering purposes (*third revision*)	7882 : 1975	Specification for aluminium sheet and strip for aircraft purposes (Alloy 19000)

ANNEX B
(*Foreword*)

COMMITTEE COMPOSITION

Fire Fighting Sectional Committee, CED 22

Organization	*Representative(s)*
Ministry of Home Affairs, New Delhi	Shri Om Prakash (***Chairman***) Shri D. K. Shami (*Alternate*)
Agni Controls, Chennai	Shri D. Balachandran
Airport Authority of India, New Delhi	Shri Subhash Kumar Shri R. Banerjee (*Alternate*)
ASKA Equipment Ltd, New Delhi	Shri Ashok H. Garg
Bhabha Atomic Research Centre, Mumbai	Chief Fire Officer
Bombay Fire Brigade, Mumbai	Chief Fire Officer Deputy Chief Fire Officer (*Alternate*)
Building Fire Research Centre, Mysore	Dr N. Suresh Shri Y. M. Manjunath (*Alternate*)
Central Building Research Institute, Roorkee	Dr M. P. Singh Shri Suvir Singh (*Alternate*)
Central Public Works Department, New Delhi	Chief Engineer Superintending Engineer (*Alternate*)
Centre for Fire & Explosive Environment Safety (DIFR), Delhi	Director Dr K. C. Wadhwa (*Alternate*)
Chennai Petroleum Corporation Ltd, Chennai	Shri J. P. K. Hepat
Chhatariya Rubber & Chemicals Industries, Mumbai	Shri S. A. Havelivala Shri H. A. Chhatariya (*Alternate*)
Concord Arai Pvt Limited, Chennai	Shri R. Ramakrishnan
Controllerate of Quality Assurance, Pune	Col L. K. Sharma Lt Col S. K. Teri (*Alternate*)
Council of Architecture, New Delhi	President
Defence Research Development Organization, Ministry of Defence, Delhi	Shrimati Meenakshi Gupta Shri B. C. Sharma (*Alternate*)
Delhi Development Authority, New Delhi	Representative
Delhi Fire Service, New Delhi	Shri R. C. Sharma Shri A. K. Sharma (*Alternate*)
Directorate of Fire and Emergency Services, Goa	Shri Ashok Menon
Electricity Consumer Grievances Redressal Forum, New Delhi	Shri Hemant Kumar
Engineer-in-Chief's Branch, New Delhi	Shri A. K. Sharma Shri A. K. Ray (*Alternate*)
Engineers India Ltd, New Delhi	Shri Naresh Kaul Shri R. B. Bhutda (*Alternate*)
F. M. Engineering International India Branch, Bangalore	Shri Vikran Kalbag
Fire Protection Association of India, Mumbai	President

Organization	*Representative(s)*
GAIL (India Limited), New Delhi	Shri S. P. Garg
Government of Maharashtra, Mumbai	Fire Adviser
Gunnebo Steelage Industries Ltd, Chennai	Shri Rajesh Kumar Sharma Shri Dinesh Babbar (*Alternate*)
H. D. Fire Protect Co, Thane	Shri Harish N. Dharamshi Shri K. T. Chaudhari (*Alternate*)
In Time Fire Appliances, Mumbai	Shri Mukesh Shah
Indian Oil Corporation Limited, Noida	Shri T. K. Kumar
Institution of Fire Engineers, New Delhi	President General Secretary (*Alternate*)
Karnataka State Fire and Emergency Services, Bangalore	Shri B. G. Changappa Shri B. K. Hampagol (*Alternate*)
K. V. Fire Chemicals (India) Pvt Ltd, Navi Mumbai	Shri Rajesh H. Sabadra Shri Uday K. Shroff (*Alternate*)
Kochi Refineries Ltd, Dist. Ernakulam	Shri A. K. Das
National Fire Service College, Nagpur	Director
National Thermal Power Corporation, New Delhi	Shri D. K. Suryanarayan
NEEPCO Limited, Dibrugarh	Shri V. S. Chowdhary
Newage Industries, Fire Protection Engineers, Surendranagar	Shri Ashok M. Shah Shri Shetul A. Shah (*Alternate*)
Oil Industry Safety Directorate, New Delhi	Shri B. R. Gadekar
Peter Autokits Pvt Limited, Mumbai	Shri J. K. Shah
Prakash Suraksha Devices, Delhi	Shri Pramod Prakash Shri Amod Prakash (*Alternate*)
Reliance Industries Limited, Jamnagar	Shri Varadendra Koti Shri Umesh Khandalkar (*Alternate*)
S&P Safety Products Pvt Ltd, Kolkata	Shri Tunir Chakrabarti
Safex Fire Services Limited, Mumbai	Shri Jitendra Shah Shri Sandip Shah (*Alternate*)
Shah Bhogilal Jethalal & Bros, Ahmedabad	Shri Mukesh M. Shah Shri Abhay D. Purandare (*Alternate*)
State Bank of India, Mumbai	Shri J. S. Gahlaut
Steel Authority of India, Bokaro	Shri Shyam Narayan Shri A. Rautela (*Alternate*)
Surex Production and Sales Private Limited, Kolkata	Shri Debashis Neogi
Tariff Advisory Committee, Mumbai	Shri D. K. Poddar
TYCO Thermal Controls India Pvt Ltd, Mumbai	Shri Ajit Raghavan Shri Vinayak Joglekar (*Alternate*)
UL India Pvt Limited, Bangalore	Dr Pravinray Gandhi Shri V. Jagdish (*Alternate*)
Uttar Pradesh Fire Services, Lucknow	Shri D. G. P. Karsolia Shri Pranvendra Kumar Roa (*Alternate*)

Organization	*Representative(s)*
West Bengal Fire and Emergency Service, Kolkata	Shri D. P. Biswas Shri G. K. Bhattacharya (*Alternate*)
Zenith Fire Services (India) Pvt Ltd, Mumbai	Shri B. C. Shah Shri D. C. Shah (*Alternate*)
In personal capacity (*P/4 Belgacuta, Kolkata*)	Shri S. N. Kundu
In personal capacity (*K-33-A Green Park, New Delhi*)	Shri S. K. Dheri
In personal capacity (*C-127 Kendriya Vihar, Noida*)	Shri H. S. Kaparwan
In personal capacity (*305, SJR Verity, Amrita College Road Kasavanahalli, Bangalore*)	Shri T. R. A. Krishnan
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Member Secretary

Shri S. Chaturvedi
Scientist 'E' (Civil Engg), BIS

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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.: CED 22 (7583).

Amendments Issued Since Publication

Amendment No.	Date of Issue	Text Affected

BUREAU OF INDIAN STANDARDS

Headquarters:

Manak Bhavan, 9 Bahadur Shah Zafar Marg, New Delhi 110002
Telephones: 2323 0131, 2323 3375, 2323 9402 *Website*: www.bis.org.in

Regional Offices: *Telephones*

Central : Manak Bhavan, 9 Bahadur Shah Zafar Marg, NEW DELHI 110002 — 2323 7617, 2323 3841

Eastern : 1/14, C.I.T. Scheme VII M, V.I.P. Road, Kankurgachi, KOLKATA 700054 — 2337 8499, 2337 8561, 2337 8626, 2337 9120

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Southern : C.I.T. Campus, IV Cross Road, CHENNAI 600113 — 2254 1216, 2254 1442, 2254 2519, 2254 2315

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