

IS : 905 - 1980

Indian Standard

SPECIFICATION FOR
DELIVERY BREECHINGS, DIVIDING AND
COLLECTING, INSTANTANEOUS PATTERN,
FOR FIRE FIGHTING PURPOSES

(Second Revision)

UDC 614.843.3 : 621.643.4.064



© Copyright 1981

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

 Gr 2

Price Rs 5.00

January 1981

Indian Standard

SPECIFICATION FOR DELIVERY BREECHINGS, DIVIDING AND COLLECTING, INSTANTANEOUS PATTERN, FOR FIRE FIGHTING PURPOSES

(Second Revision)

Fire Fighting Sectional Committee, BDC 22

Chairman

SHRI P. N. MEHROTRA

Representing

Ministry of Home Affairs

Members

SHRI G. B. MENON (Alternate to Shri P. N. Mehrotra)	
SHRI MAHESH C. AGARAWAL	Brijbasi Udyog, Mathura (UP)
SHRI P. S. BANERJEE (Alternate)	
ASSISTANT SECURITY OFFICER (FIRE), NORTHERN RAILWAY	Ministry of Railways
SHRI S. R. BANSAL	Steel Authority of India (Bokaro Steel Plant), Bokaro Steel City
SHRI A. CHATTERJI	Tariff Advisory Committee, Bombay
SHRI F. B. SANJANA (Alternate)	
SHRI S. C. CHATTERJEE	West Bengal Fire Services, Calcutta
SHRI D. K. BANERJEE (Alternate)	
SHRI N. DEVASAHAYAM	Home Department (Fire Services), Government of Tamil Nadu, Madras
SHRI V. JAYAPERUMAL (Alternate)	
SHRI R. R. DHOBLEY	Bhabha Atomic Research Centre, Trombay, Bombay
DIRECTOR, FIRE SERVICES	Home (Police) Department, Government of Andhra Pradesh, Hyderabad
DEPUTY DIRECTOR, FIRE SERVICES (Alternate)	
GENERAL SECRETARY	The Institution of Fire Engineers India, New Delhi
BRIG S. B. GHORPADE	Ministry of Defence (DGI)
SHRI P. K. GHOSH (Alternate)	

(Continued on page 2)

© Copyright 1981

INDIAN STANDARDS INSTITUTION

This publication is protected under the *Indian Copyright Act* (XIV of 1957) and reproduction in whole or in part by any means except with written permission of the publisher shall be deemed to be an infringement of copyright under the said Act.

(Continued from page 1)

<i>Members</i>	<i>Representing</i>
SHRI P. N. GHOSH	Ministry of Defence (R & D)
SHRI A. K. SURI (<i>Alternate</i>)	
SHRI G. N. GIDWANI	Directorate General of Supplies & Disposals, New Delhi
SHRI H. C. VERMA (<i>Alternate</i>)	
SHRI GOPAL KRISHAN	Central Building Research Institute (CSIR), Roorkee
SHRI D. P. GUPTA	Directorate General of Technical Development, New Delhi
SHRI J. S. JAMSHEDJI	Steelage Industries Limited (Minimax Division), Calcutta
SHRI H. K. ERANI (<i>Alternate</i>)	
JUNIOR MANAGER (FIRE)	Heavy Engineering Corporation Ltd, Ranchi
SHRI S. N. KUNDU	Fire and Safety Appliances Co, Calcutta
SHRI S. PAUL (<i>Alternate</i>)	
MANAGING DIRECTOR	Avon Services (P & A) Pvt Ltd, Bombay
TECHNICAL EXECUTIVE (<i>Alternate</i>)	
SHRI L. S. D. MEHERVANJEE	Municipal Corporation of Greater Bombay (Bombay Fire Brigade)
SHRI V. B. NIKAM (<i>Alternate</i>)	
SHRI B. R. MEHTA	Central Industrial Security Force (Ministry of Home Affairs), New Delhi
SHRI P. C. RATHO	Steel Authority of India (Rourkela Steel Plant), Rourkela
SHRI C. D. SHARMA (<i>Alternate</i>)	
SHRI K. K. SAWHNEY	Air Foam Industries Pvt Ltd, New Delhi
SHRI R. MEHTA (<i>Alternate</i>)	
SHRI P. L. SEBASTIN	Oil & Natural Gas Commission, Dehra Dun
SHRI V. V. KIMMATKAR (<i>Alternate</i>)	
SHRI P. H. SETHNA	Kooverji Devshi & Co Pvt Ltd, Bombay
SHRI N. T. PANJWANI (<i>Alternate</i>)	
SHRI CHANDRAKANT M. SHAH	Zenith Fire Services, Bombay
SHRI M. H. SHAH (<i>Alternate</i>)	
SHRI J. V. SHAH	New Age Industries, Surendranagar (Gujarat)
SHRI B. J. SHAH (<i>Alternate</i>)	
SHRI D. K. SIRKAR	Synthetics & Chemicals Limited, Bareilly
SHRI R. S. SUNDARAM	Municipal Corporation of Delhi (Delhi Fire Services), Delhi
SHRI TARIT SUR	Sur Enamel & Stamping Works Pvt Ltd, Calcutta
SHRI S. SUR (<i>Alternate</i>)	
SHRI S. VENKA SWAMY	Directorate General of Civil Aviation, New Delhi
SHRI B. V. WAGLE	Urban Development and Public Health Department, Government of Maharashtra, Bombay
SHRI V. H. MADHAIKAR (<i>Alternate</i>)	
SHRI G. RAMAN, Director (Civ Engg)	Director General, ISI (<i>Ex-officio Member</i>)

Secretary

SHRI K. M. MATHUR
Deputy Director (Civ Engg), ISI

(Continued on page 8)

Indian Standard
**SPECIFICATION FOR
DELIVERY BREECHINGS, DIVIDING AND
COLLECTING, INSTANTANEOUS PATTERN,
FOR FIRE FIGHTING PURPOSES**
(Second Revision)

0. F O R E W O R D

0.1 This Indian Standard (Second Revision) was adopted by the Indian Standards Institution on 28 August 1980, after the draft finalized by the Fire Fighting Sectional Committee had been approved by the Civil Engineering Division Council.

0.2 Delivery breechings are normally used for fire fighting operations along with the hoses. Dividing breeching is employed to meet those cases where it is necessary to divide or breach a line of hose under good pressure into two lines so that two branches may be used. A collecting breeching is employed in cases where the pressure is not adequate and it is required to step up the same by an additional feed.

0.2.1 In the case of dividing breeching, there shall be a male fitting (single) on the inlet side and female fittings on the two outlets. In the case of collecting breeching, there shall be a female fitting (single) on the outlet side and male fittings on the two inlets.

0.3 This standard was prepared to ensure compatibility of breechings with other standard fire fighting equipment. It was first published in 1958 and revised in 1965. In this revision complete drawings of items are given and the other provisions are up-dated.

0.4 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*. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

*Rules for rounding off numerical values (revised).

1. SCOPE

1.1 This standard lays down the requirements regarding materials, shape, dimensions and performance requirements of delivery breechings, dividing and collecting types.

2. DESCRIPTION

2.1 The delivery breechings shall consist of the following components:

- a) Body,
- b) Female outlet(s), and
- c) Male half coupling(s).

3. MATERIALS

3.1 Castings and forgings of breechings shall be made of any one of the materials given under **3.1.1** and **3.1.2**.

3.1.1 Copper Alloys — Copper alloys used for castings or forgings shall conform to the requirements given below:

- a) Sand castings — Grade 2 of IS : 318-1962* or Grade 3 of IS : 304-1961†.
- b) Die castings — Grade 3 of IS : 292-1961‡.
- c) Hot forgings — Grade 1 of IS : 291-1977§.

3.1.2 Aluminium Alloy — Aluminium alloy used for castings shall conform to IS Designation 4450 or 4225 of IS : 617-1975||.

3.2 Springs — The spring shall be of wire conforming to IS : 7608-1975¶ for copper alloy breechings and IS : 6528-1972** for aluminium alloy breechings.

3.3 The washer shall be made of rubber conforming to IS : 937-1965††.

*Specification for leaded tin bronze ingots and castings (revised).

†Specification for high tensile brass ingots and castings (revised).

‡Specification for brass ingots and castings (revised).

§Specification for naval brass rods and sections (suitable for machining and forging) (second revision).

||Specification for aluminium and aluminium alloy ingots and castings for general engineering purposes (second revision).

¶Specification for phosphor bronze wires (for general engineering purposes).

**Specification for stainless steel wire.

††Specification for washers for water fittings for fire fighting purposes (revised).

4. TYPES AND DIMENSIONS

4.1 The delivery breechings shall be of two types as under:

- a) Dividing (*see* Fig. 1), and
- b) Collecting (*see* Fig. 2).

4.2 The general shape and principal dimensions of each type shall be as given in Fig. 1 and 2.

5. FINISH

5.1 All parts shall be of good finish, and clear of burrs and sharp edges. All castings shall be clean and sound, and shall be free from plugging, welding or repair of any defects.

6. PERFORMANCE REQUIREMENTS

6.1 **Hydraulic Test** — The assembled fitting shall be subjected to a hydraulic pressure test for a period of 2 minutes for the purpose of locating porosity in the casting and testing leakage at joints. The hydraulic pressure to be applied shall be 2.1 MN/m^2 (21 kgf/cm^2). The fitting, when so tested, shall not show any sign of leakage.

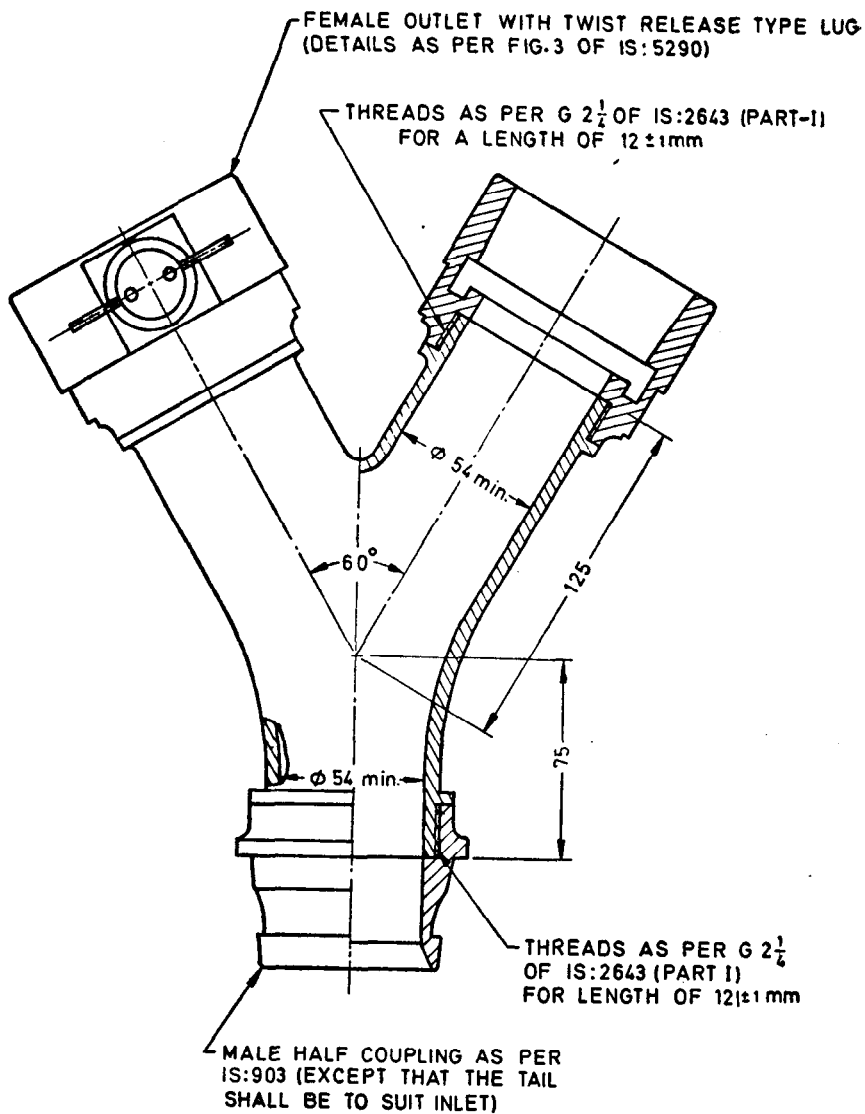
7. MARKING

7.1 Each breeching shall be clearly and permanently marked with the following information:

- a) Manufacturer's name or trade-mark,
- b) Type of breechings, and
- c) Year of manufacture.

7.1.1 The breeching may also be marked with the ISI Certification Mark.

NOTE — The use of the ISI Certification Mark is governed by the provisions of the Indian Standards Institution (Certification Marks) Act and the Rules and Regulations made thereunder. The ISI Mark on products covered by an Indian Standard conveys the assurance that they have been produced to comply with the requirements of that standard under a well-defined system of inspection, testing and quality control which is devised and supervised by ISI and operated by the producer. ISI marked products are also continuously checked by ISI for conformity to that standard as a further safeguard. Details of conditions under which a licence for the use of the ISI Certification Mark may be granted to manufacturers or processors, may be obtained from the Indian Standards Institution.



All dimensions in millimetres.

FIG. 1 DIVIDING BREECHING

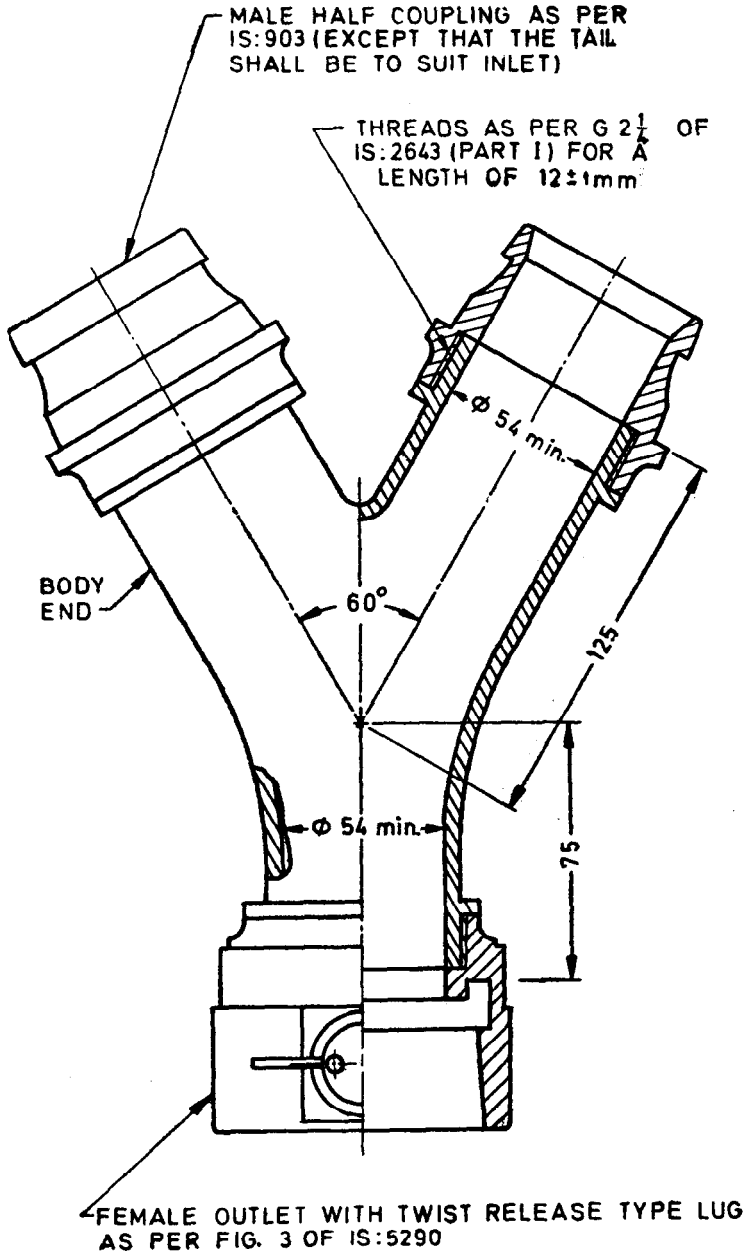


FIG. 2 COLLECTING BREECHINGS

(Continued from page 2)

**Water Fittings for Fire Fighting Purposes Subcommittee,
BDC 22 : 1**

Convener

SHRI P. N. MEHROTRA

Representing

Ministry of Home Affairs

Members

SHRI G. B. MENON (*Alternate* to
Shri P. N. Mehrotra)

DIRECTOR	West Bengal Fire Service, Calcutta
GENERAL SECRETARY	The Institution of Fire Engineers India, New Delhi
SHRI P. N. GHOSH	Ministry of Defence (R & D)
SHRI S. BARDHAN (<i>Alternate</i>)	
HYDRAULIC ENGINEER	Municipal Corporation of Greater Bombay, Bombay
SHRI L. S. D. MEHERVANJEE (<i>Alternate</i>)	
SHRI M. R. KAMAT	Mather & Platt Ltd, Calcutta
MAJ S. K. MISRA	Ministry of Defence (DGI)
SHRI V. K. VAJPAI (<i>Alternate</i>)	
SHRI K. RUDRAPPA	Engineers India Ltd, New Delhi
SHRI J. V. SHAH	New Age Industries, Surendranagar (Gujarat)
SHRI B. J. SHAH (<i>Alternate</i>)	
SHRI S. VENKA SWAMY	Directorate General of Civil Aviation, New Delhi
SHRI R. S. SUNDRAM	Municipal Corporation of Delhi (Delhi Fire Service), Delhi

INTERNATIONAL SYSTEM OF UNITS (SI UNITS)

Base Units

QUANTITY	UNIT	SYMBOL
Length	metre	m
Mass	kilogram	kg
Time	second	s
Electric current	ampere	A
Thermodynamic temperature	kelvin	K
Luminous intensity	candela	cd
Amount of substance	mole	mol

Supplementary Units

QUANTITY	UNIT	SYMBOL
Plane angle	radian	rad
Solid angle	steradian	sr

Derived Units

QUANTITY	UNIT	SYMBOL	DEFINITION
Force	newton	N	1 N = 1 kg.m/s ²
Energy	joule	J	1 J = 1 N.m
Power	watt	W	1 W = 1 J/s
Flux	weber	Wb	1 Wb = 1 V.s
Flux density	tesla	T	1 T = 1 Wb/m ²
Frequency	hertz	Hz	1 Hz = 1 c/s (s ⁻¹)
Electric conductance	siemens	S	1 S = 1 A/V
Electromotive force	volt	V	1 V = 1 W/A
Pressure, stress	pascal	Pa	1 Pa = 1 N/m ²

INDIAN STANDARDS INSTITUTION

Manak Bhavan, 9 Bahadur Shah Zafar Marg, NEW DELHI 110002

Telephones : 26 60 21, 27 01 31

Telegrams : Manaksanstha

Regional Offices:

Western : Novelty Chambers, Grant Road
 Eastern : 5 Chowringhee Approach
 Southern : C. I. T. Campus, Adyar

	Telephone
BOMBAY 400007	37 97 29
CALCUTTA 700072	27 50 90
MADRAS 600020	41 24 42

Branch Offices:

Pushpak, Nurmohamed Shalkh Marg, Khanpur	AHMADABAD 380001	2 03 91
'F' Block, Unity Bldg, Narasimharaja Square	BANGALORE 560002	2 76 49
Gangotri Complex, Bhadbhada Road, T.T.Nagar	BHOPAL 462003	6 27 16
22E Kalpana Area	BHUBANESHWAR 751014	5 36 27
Ahimsa Bldg, SCO 82-83, Sector 17C	CHANDIGARH 160017	2 83 20
5-8-56C L. N. Gupta Marg	HYDERABAD 500001	22 10 83
D-277 Todarmal Marg, Banipark	JAIPUR 302006	6 98 32
117/418 B Sarvodaya Nagar	KANPUR 208005	8 12 72
Patliputra Industrial Estate	PATNA 800013	6 28 08
Hantex Bldg (2nd Floor), Rly Station Road	TRIVANDRUM 695001	32 27

Printed at Priatograph, New Delhi, India