भारतीय मानक

IS 3093 : 2024

Indian Standard

दाह — विशिष्टि

(दूसरा पुनरीक्षण)

Dah — Specification

(Second Revision)

ICS 65.020

भारतीय मानक ब्यूरो

BUREAU OF INDIAN STANDARDS

मानक भवन, 9 बहादुर शाह ज़फर मार्ग, नई दिल्ली - 110002

MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG

NEW DELHI - 110002

www.bis.gov.in www.standardsbis.in

February 2024 **Price Group 5**

Agricultural Machinery and Equipment Sectional Committee, FAD 11

FOREWORD

This Indian Standard (Second Revision) was adopted by the Bureau of Indian Standards, after the draft finalized by the Agricultural Machinery and Equipment Sectional Committee had been approved by the Food and Agriculture Division Council.

Dah is a tool extensively used in cutting trees and clearing jungle growth. This tool is also sometime used by the defence services in jungle warfare.

This standard was first published in 1965 and subsequently revised in 1981, in order to make it more implementable. In this revision, the following changes have been incorporated:

a) The raw material specification has been updated as per the current manufacturing practices; and

b) Additional unit for hardness has been specified for better comprehension.

In this standard, considerable assistance has been derived from the technical information provided by Agricultural Machinery Manufacturers Association, Pune, India.

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 : 2022 ‘Rules for rounding off numerical values (*second revision*)’. 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

DAH — SPECIFICATION

(Second Revision)

1 SCOPE

This standard specifies materials, dimensions, and other requirements for *dah*.

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 edition of these standards.

3 MATERIALS

3.1 The blade of the *dah* shall be manufactured from carbon steel.

3.1.1 The chemical composition of carbon steel shall be as follows:

a)	Carbon	0.5 percent to 0.9 percent;
b)	Manganese	0.5 percent to 0.9 percent;
c)	Sulphur	0.05 percent *Max*; and
d)	Phosphorus	0.05 percent *Max*.

3.1.1.1 Some of the typical carbon steels that may be used are: C55, C55Mn75, C60, C65, C70, C75, C80, and C85 [*see* IS 1570 (Part 2/Sec 1)].

3.2 Handle

Timber (*see* Appendix D of IS 620) or PVC (Poly vinyl chloride) (*see* IS 15226) shall be used.

3.3 Rivets

Mild steel (*see* IS 2062) shall be used. Riveting for PVC handle is not required.

4 HARDNESS

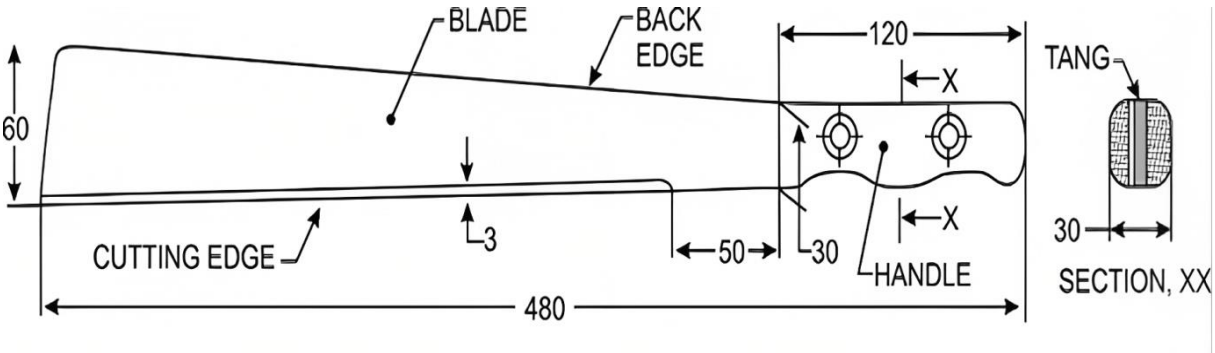
The blade shall be heat-treated to have a hardness in range of 45 HRC to 60 HRC (hardness on rockwell scale C) (*see* IS 1586) or in the range of 400 HB to 475 HB (brinell hardness number) or HBW (hardness Brinell Wolfram carbide) [*see* IS 1500 (Part 1)] or its equivalent in other scales.

5 DIMENSIONS

5.1 Unless otherwise agreed to between the purchaser and the supplier, the dimensions of the *dah* shall be as given in Fig. 1. The tolerance for various dimensions shall be as given in IS 2102 (Part 1).

5.2 The thickness of the blade near the cutting edge shall be 1.5 mm. Thickness of back edge near the handle shall be 6.5 mm ± 1 mm from where it shall gradually decrease to 3.15 mm at the front.

5.3 Other dimensions given in figure are for guidance only.



All dimensions in millimetres.

FIG. 1 *DAH*

6 WORKMANSHIP AND FINISH

6.1 The *dah* blade shall be made by sheet metal process or forged to shape. The blade shall be free from cracks, pits, burrs and other visual defects. The blade as well as tang shall be drawn well.

6.2 The rivets shall be countersunk and flushed with the surface of handle.

6.3 The blade shall be finished bright and cutting edge sharpened.

6.4 The blade shall be given a coat of any suitable mineral jelly or any other corrosion preventive coating (*see* IS 1153).

6.5 The wooden handle shall be varnished.

7 TESTS

7.1 The cutting edge of the *dah* shall be tested by striking at least six hard blows on a suitably shaped dry hard wood blocks, such as *babul*, tamarind, *haldu*, *bija sal*, *sal* and *sissoo*, across their grain. During or on the completion of the test, the edge shall not show any sign of damage.

7.2 The back and flat portions of the blade shall be tested by striking at least three sharp blows on a suitably shaped block of lead. During or on the completion of the test, the blade shall not show any sign of damage.

8 MARKING AND PACKING

8.1 Marking

The *dah* shall be marked with the following particulars:

a) Manufacturer's name and recognized trade-mark, if any; and

b) Batch or code number.

8.2 BIS Certification Marking

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.

8.3 Packing

Because of highly sharp edges the exposed metallic parts shall be packed with proper thick paper or plastic sheet, such as blister type or pouch type of packing to prevent any accidental damage of the product or injury to any human being.

9 SAMPLING FOR LOT ACCEPTANCE

Unless otherwise agreed to between the purchaser and the supplier, the method of sampling and criteria for conformity of *dah* for lot acceptance shall be as given in **3** of IS 7201 (Part 1).

The classification of different requirements of this standard for the purpose of testing for lot acceptance is given below for guidance:

a) Dimensional and visual requirements [*see* 5, 6, 8.1 and 8.2].

b) Requirements other than dimensional and visual [*see* 4 and 7].

ANNEX A

(*Clause 2*)

LIST OF REFERRED STANDARDS

IS No.	*Title*
IS 620 : 1985	Specification for wooden tool handles general requirements (*fourth revision*)
IS 1153 : 2021	Temporary corrosion preventives, hard film, solvent deposited — Specification (*third revision*)
IS 1500 (Part 1) : 2019/ISO 6506-1 : 2014	Metallic materials — Brinell hardness test: Part 1 Test method (*fifth revision*)
IS 1570 (Part 2/Sec 1) : 1979	Schedules for wrought steels: Part 2 Carbon steels (unalloyed steels), Section 1 Wrought products (other than wires) with specified chemical composition and related properties (*first revision*)
IS 1586 (Part 1) : 2018/ISO 6508-1 : 2016	Metallic materials — Rockwell hardness test: Part 1 Test method (*fifth revision*)
IS 2062 : 2011	Hot rolled medium and high tensile structural steel — Specification (*seventh revision*)
IS 2102 (Part 1) : 1993/ISO 2768-1 : 1989	General tolerances: Part 1 Tolerances for linear and angular dimensions without individual tolerance indications (*third revision*)
IS 7201 (Part 1) : 1987	Methods of sampling for agricultural machinery and equipment: Part 1 Hand-tools and hand-operated/animal drawn equipment (*first revision*)
IS 15226 : 2002	Rigid polyvinyl chloride (PVC) compounds — Specification

ANNEX B

(*Foreword*)

COMMITTEE COMPOSITION

Agriculture Machinery and Equipment Sectional Committee, FAD 11

Organization	*Representative(s)*
ICAR - Central Institute of Agricultural Engineering, Bhopal	DR C. R. MEHTA **(*Chairperson*)**
Agriculture Machinery Manufacturers Association, Pune	DR SURENDRA SINGH SHRI MITUL PANCHAL (*Alternate*)
All India Farmers Alliance, New Delhi	DR RAJARAM TRIPATHI SHRIMATI APURVA TRIPATHI (*Alternate*)
Aspee Agro Equipment Private Limited, Mumbai	SHRI JATIN S. PATEL SHRI GANGADHAR VARPE (*Alternate*)
Automotive Research Association of India, Pune	SHRI A. AKBAR BADUSHA SHRI GIRISH TANAWADE (*Alternate* I) SHRI GANGARAM AUTI (*Alternate* II)
CCS Haryana Agricultural University, Hisar	DR VIJAYA RANI
Central Farm Machinery Training and Testing Institute, Budni	SHRI ANIL KUMAR UPADHYAY
CLAAS India Private Limited, Chandigarh	SHRI KRISHNA PRABHAKAR SINGH
CNH Industrial India Private Limited, Pune	SHRI SANTHOSH RAO SHRI SUJIT HINGE (*Alternate*)
Consumer Guidance Society of India, Mumbai	SHRI SITARAM DIXIT
Dasmesh Mechanical Works Private Limited, Malerkotla	SHRI SARBJEET SINGH PANESAR SHRI GURDEEP SINGH PANESAR (*Alternate*)
ICAR - All India Coordinated Research Project on Ergonomics and Safety in Agriculture, Bhopal	DR RAHUL R. POTDAR SHRIMATI SWEETI KUMARI (*Alternate*)
ICAR - All India Coordinated Research Project on Farm Implements and Machinery, Bhopal	DR K. N. AGRAWAL
ICAR - All India Coordinated Research Project on Utilization of Animal Energy, Bhopal	DR S. P. SINGH
ICAR - Central Institute of Agricultural Engineering, Bhopal	DR V. P. CHAUDHARY DR U. R. BADEGAONKAR (*Alternate* I) DR DILIP JAT (*Alternate* II)
Indian Council of Agricultural Research, New Delhi	DR PANNA LAL SINGH
John Deere India Private Limited, Pune	SHRI ANAND RAJ SHRI CHANDRASHEKHAR DESHMUKH (*Alternate* I) SHRI PRATIK DURAPHE (*Alternate* II)
Kerala Agro Machinery Corporation Ltd (KAMCO), Athani	SHRI A. UNNIKRISHNAN SHRI P. C. SAJIMON (*Alternate*)

Organization	*Representative(s)*
Kubota Agricultural Machinery India Private Limited, Faridabad	SHRI ASHOK KUMAR SHRI ASHISH KUMAR MALLARH (*Alternate*)
Maharana Pratap University of Agricultural and Technology, Udaipur	DR SANWAL SINGH MEENA
Mahatma Phule Krishi Vidyapeeth, Rahuri	DR SACHIN MADHUKAR NALAWADE SHRI VIKRAM PARASHARAM KAD (*Alternate* I) DR AVDHUT ASHOK WALUN (*Alternate* II)
Mahindra and Mahindra Limited, Mumbai	SHRI PRADEEP SHINDE
Ministry of Agriculture, Department of Agriculture, New Delhi	DR V. N. KALE SHRI ARVIND N. MESHRAM (*Alternate*)
National Institute of Plant Health Management, Hyderabad	DR VIDHU KAMPURATH P. SHRI MUTYALA UDAYA (*Alternate*)
North Eastern Region Farm Machinery Training and Testing Institute, Biswanath Chariali	DR P. P. RAO SHRI S. G. PAWAR (*Alternate*) SHRI KHAGENDRA BORA (*Alternate II*)
Northern Region Farm Machinery Training and Testing Institute, Hisar	DR MUKESH JAIN SHRI SANJAY KUMAR (*Alternate*)
Odisha University of Agriculture and Technology, Bhubaneswar	DR DEBARAJ BEHERA DR PADMA LOCHAN PRADHAN (*Alternate* I) DR PRERANA PRIYADARSINI (*Alternate* II)
Power Tillers Manufacturers Association, Kolkata	SHRI A. R. GANESH KUMAR
Punjab Agricultural University, Ludhiana	DR MAHESH KUMAR NARANG DR RAJESH GOYAL (*Alternate* I) SHRI APOORV PRAKASH (*Alternate* II)
Southern Region Farm Machinery Training and Testing Institute, Anantpur	DR B. M. NANDEDE
Tamil Nadu Agricultural University, Coimbatore	DR R. KAVITHA DR A. SURENDRA KUMAR (*Alternate I*) DR A. P. MOHANKUMAR (*Alternate* II)
Tirth Agro Technology Pvt Ltd 'Shaktiman', Rajkot	SHRI PARAG DEVIDAS BADGUJAR SHRI RAVI MATHUR (*Alternate*)
Tractor and Mechanization Association, New Delhi	SHRI MOHIT KUMAR SHRI MANSINGH JAGDALE (*Alternate*)
Tube Investments Clean Mobility Private Limited, Chennai	SHRI VIVEK GUPTA SHRI S. O. TYAGI (*Alternate*)
Voluntary Organisation in Interest of Consumer Education (VOICE), New Delhi	SHRI B. K. MUKHOPADHYAY
BIS Directorate General	SHRIMATI SUNEETI TOTEJA, SCIENTIST 'E'/DIRECTOR AND HEAD (FOOD AND AGRICULTURE) [REPRESENTING DIRECTOR GENERAL (*Ex-officio*)]

Member Secretary
SHRI VIKRANT CHAUHAN
SCIENTIST 'B'/ASSISTANT DIRECTOR
(FOOD AND AGRICULTURE), BIS

Panel to Formulate and Review Indian Standards on Gardening and Forestry Tools and Agricultural Implements, FAD 11/P 3

Organization	*Representative(s)*
Agriculture Machinery Manufacturers Association, Pune	DR SURENDRA SINGH **(*Convenor*)**
Falcon Garden Tools Pvt, Ltd, Ludhiana	SHRI GURCHINTAN SINGH
ICAR - Central Institute of Agricultural Engineering, Bhopal	DR DILIP JAT
John Deere India Private Limited, Pune	SHRI CHANDRASHEKAR DESHMUKH

Bureau of Indian Standards

BIS is a statutory institution established under the *Bureau of Indian Standards Act*, 2016 to promote harmonious development of the activities of standardization, marking and quality certification of goods and attending to connected matters in the country.

Copyright

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 website-www.bis.gov.in or www.standardsbis.in

This Indian Standard has been developed from Doc No.: FAD 11 (21450).

Amendments Issued Since Publication

Amend 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.gov.in

Regional Offices:		*Telephones*
Central	: 601/A, Konnectus Tower -1, 6th Floor, DMRC Building, Bhavbhuti Marg, New Delhi 110002	2323 7617
Eastern	: 8th Floor, Plot No 7/7 & 7/8, CP Block, Sector V, Salt Lake, Kolkata, West Bengal 700091	2367 0012 2320 9474
Northern	: Plot No. 4-A, Sector 27-B, Madhya Marg, Chandigarh 160019	265 9930
Southern	: C.I.T. Campus, IV Cross Road, Taramani, Chennai 600113	2254 1442 2254 1216
Western	: Plot No. E-9, Road No.-8, MIDC, Andheri (East), Mumbai 400093	2821 8093

Branches : AHMEDABAD. BENGALURU. BHOPAL. BHUBANESHWAR. CHANDIGARH. CHENNAI. COIMBATORE. DEHRADUN. DELHI. FARIDABAD. GHAZIABAD. GUWAHATI. HIMACHAL PRADESH. HUBLI. HYDERABAD. JAIPUR. JAMMU & KASHMIR. JAMSHEDPUR. KOCHI. KOLKATA. LUCKNOW. MADURAI. MUMBAI. NAGPUR. NOIDA. PANIPAT. PATNA. PUNE. RAIPUR. RAJKOT. SURAT. VISAKHAPATNAM.

Published by BIS, New Delhi