भारतीय मानक

Indian Standard

IS 13221 : 2023

वस्त्रादि — स्क्रू गिल जूट ड्राइंग फ्रेम के लिए कैम्स, फॉलर स्क्रू — विशिष्टि

(पहला पुनरीक्षण)

Textiles — Cams, Faller Screw for Screw Gill Jute Drawing Frame — Specification

(First Revision)

ICS 59.120.30

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

September 2023 **Price Group 5**

Textile Machinery and Accessories Sectional Committee, TXD 14

FOREWORD

This Indian Standard (First Revision) was adopted by the Bureau of Indian Standards, after the draft finalized by the Textile Machinery and Accessories Sectional Committee had been approved by the Textiles Division Council.

This standard was originally published in 1991. The standard has again been revised to incorporate the following changes:

a) References to Indian Standards have been updated; and
b) Marking clause has been modified.

This standard provides guidance to the manufacturers of 'faller screw cams for screw gill jute drawing frame'. This would ensure the manufacture of 'faller screw cams for screw gill jute drawing frame' of acceptable quality leading to the improvement in efficiency and productivity of jute drawing frames.

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

TEXTILES — CAMS, FALLER SCREW FOR SCREW GILL JUTE DRAWING FRAME — SPECIFICATION

(First Revision)

1 SCOPE

This standard prescribes the requirements of double leaf and triple leaf cams (top and bottom) for use in jute drawing frame.

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 USED IN MANUFACTURE

The bottom cam shall be manufactured from carbon steel (*see* Class V of IS 1875) and the top cam shall be manufactured from case hardening steel (*see* IS 4432).

4 MANUFACTURE

Both top and bottom cams shall be hardened (*see* **5.2**) by giving suitable heat treatment. The bore of the bottom cam shall be finished by internal grinding. The top cam shall be machined all over.

5 REQUIREMENTS

5.1 Dimensions

5.1.1 Nominal dimensions of top and bottom cams for jute drawing frame shall be as agreed to between the manufacturer and the purchaser or in the absence of any agreement, the nominal dimensions shall be as declared by the manufacturer.

5.1.2 *Tolerances*

The nominal dimensions of triple leaf top cam (*see* Fig. 1) and triple leaf bottom cam (*see* Fig. 2) shall be subject to following tolerances:

Top cam (triple leaf)

Sl No.	*Dimensions*	*Tolerances mm*
(1)	(2)	(3)
i)	A	$+0.00$ $+0.20$
ii)	B	$+0.00$ -0.13
iii)	Dia D	-0.08 -0.20
iv)	α	± 1°

Bottom cam (triple leaf)

Sl No.	*Dimensions*	*Tolerances mm*
(1)	(2)	(3)
i)	A	± 0.25
ii)	B	$+0.00$ -0.13
iii)	Dia D	-0.08 -0.13
iv)	Dia D_1	$+0.00$ -0.04
v)	Keyway	$+0.00$ -0.10
vi)	α	± 1°

NOTE — The tolerances for various dimensions of double leaf top and bottom cams would be same as indicated for triple leaf cams. The tolerances for various dimensions of RH cams shall be similar to that of LH cams (*see* Fig. 3A and Fig. 3B and Fig. 4A and Fig. 4B).

5.2 Hardness

5.2.1 The hardness of the cams shall be between 58 HRC to 62 HRC.

5.2.2 Hardness shall be determined by the method prescribed in IS 1586 (Part 1).

6 SAMPLING

Unless otherwise agreed to between the purchaser and the manufacturer, to ascertain the conformity of the faller screw cams for screw gill jute drawing frame to the requirements of this specification, single sampling plan with Inspection Level I and Acceptance Quality Level (AQL) of 1.5 percent as given in Table 1 and Table 2 of IS 2500 (Part 1) shall be followed.

7 MARKING

7.1 Each cam shall be legibly marked with the following information:

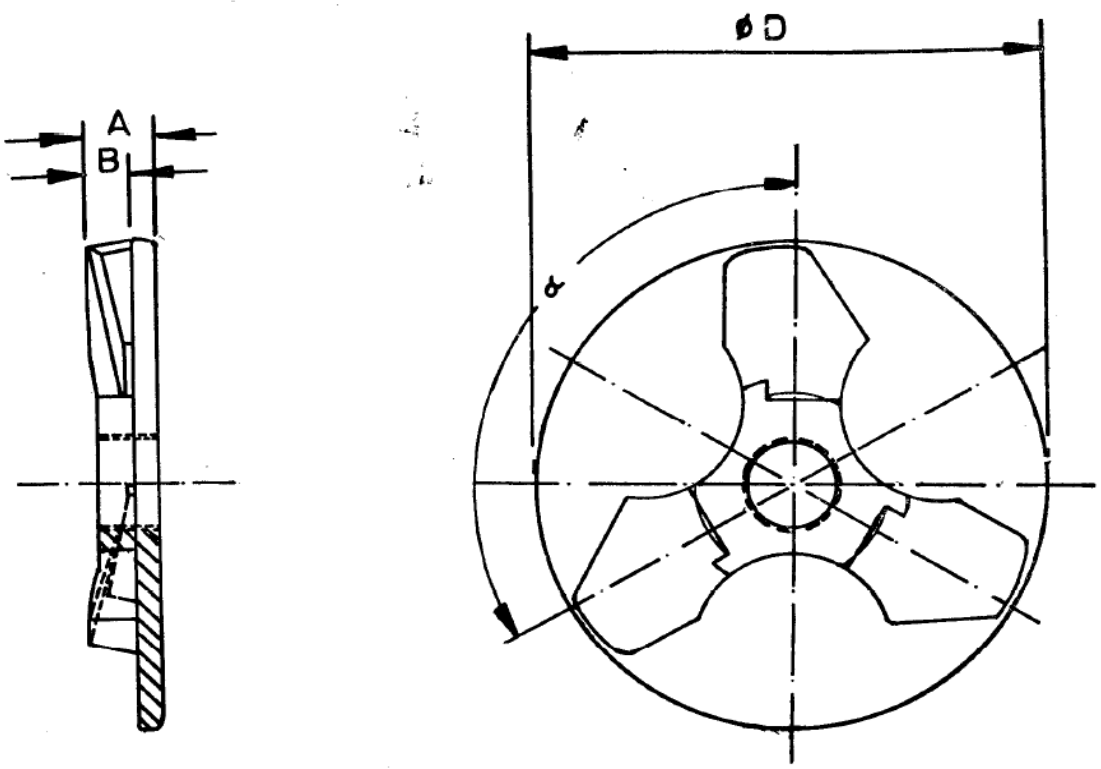
a) Indication of the source of manufacture;
b) Gross and net mass;
c) Lot/batch number;
d) Country of origin; and
e) Any other information required by the law in force and/or by the buyer.

7.2 BIS Certification Marking

The product 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 product may be marked with the Standard Mark.

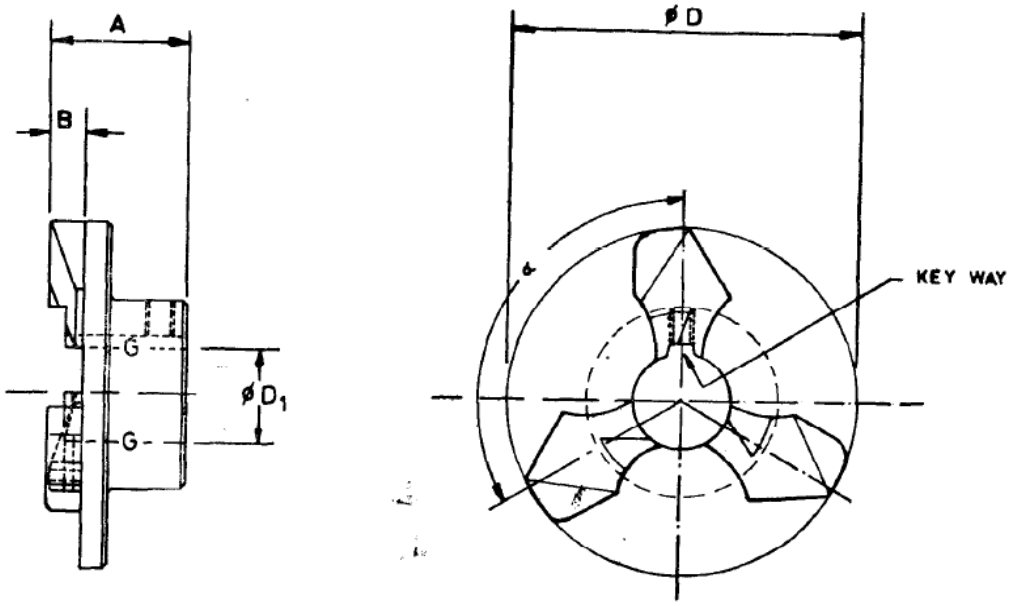
8 PACKING

Each cam shall be packed to ensure complete protection from rust.



All dimensions in millimetres.

FIG. 1 TOP CAM FOR JUTE DRAWING FRAME (TRIPLE LEAF)



All dimensions in millimetres.

FIG. 2 BOTTOM CAM FOR JUTE DRAWING FRAME (TRIPLE LEAF)

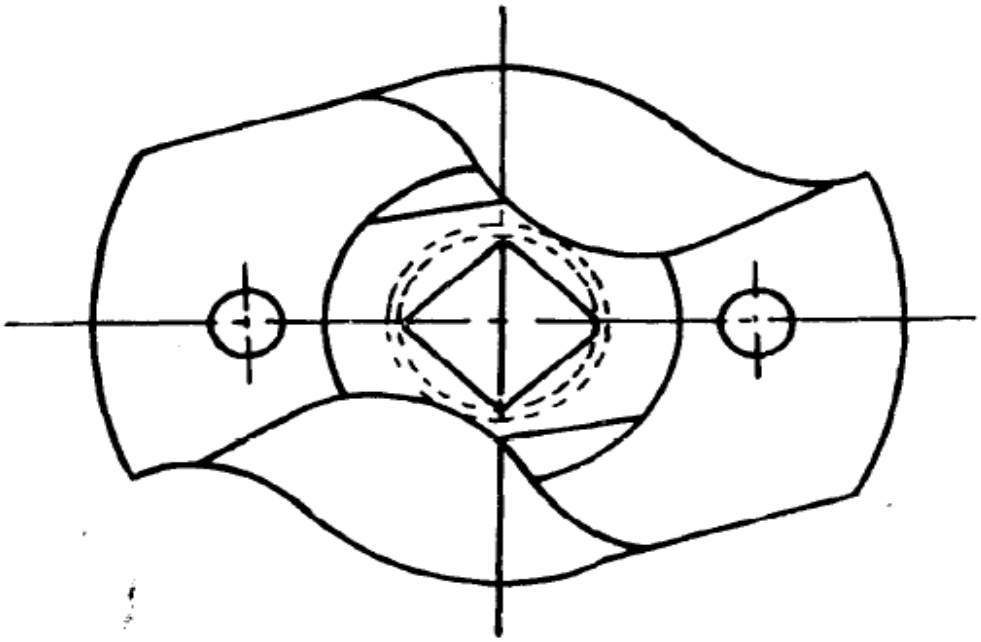


FIG. 3A TOP CAM FOR FALLER SCREW (LH)
(First jute drawing frame)

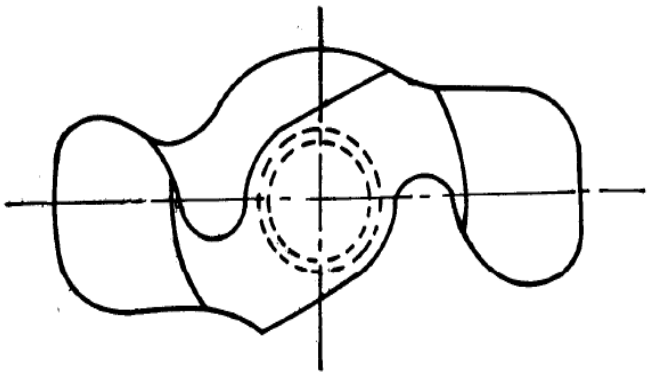


FIG. 3B TOP CAM FOR FALLER SCREW (LH)
(Second jute drawing frame)

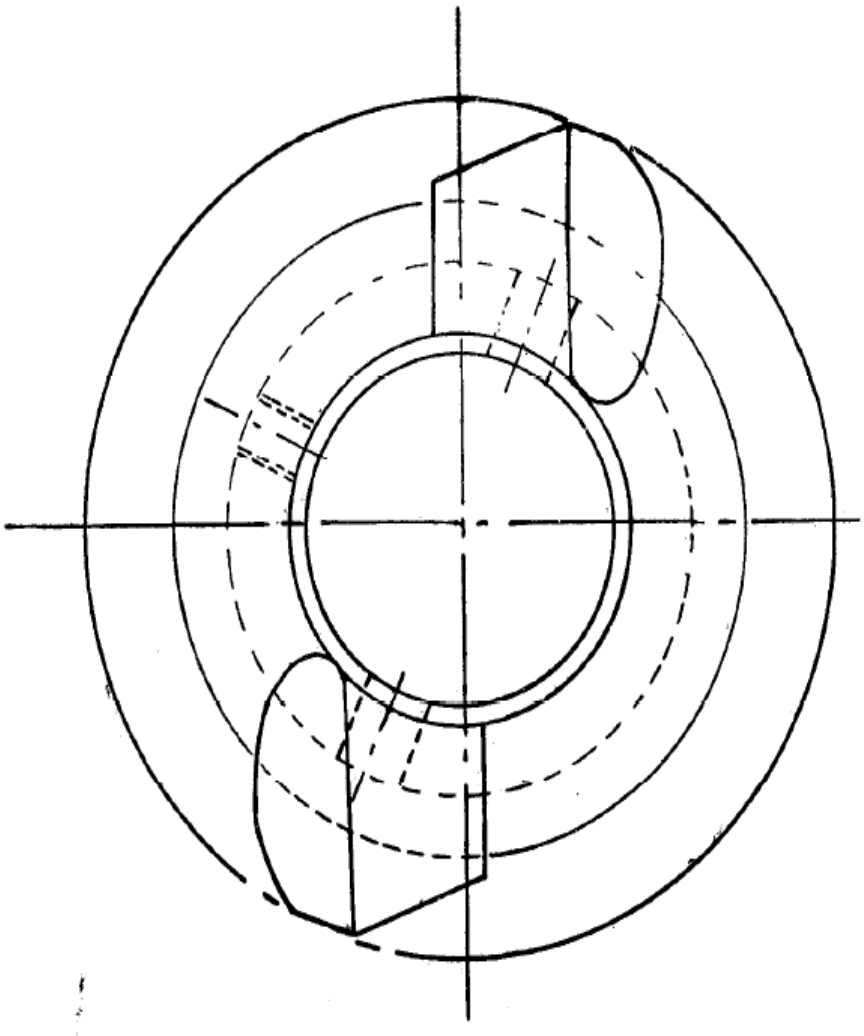


FIG. 4A BOTTOM CAM FOR FALLER SCREW (LH)
(First jute drawing frame)

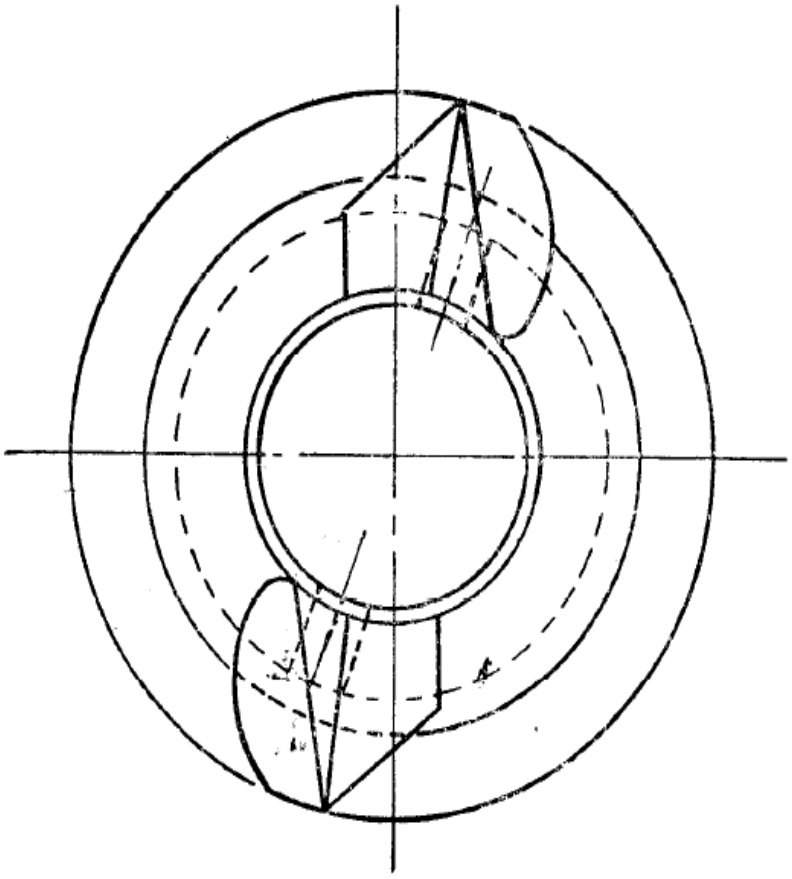


FIG. 4B BOTTOM CAM FOR FALLER SCREW (LH)
(Second jute drawing frame)

ANNEX A

(*Clause* 2)

LIST OF REFERRED STANDARDS

IS No.	*Title*	*IS No.*	*Title*
IS 1586 (Part 1) : 2018/ ISO 6508-1 : 2016	Metallic materials — Rockwell hardness test: Part 1 Test method (*fifth revision*)	IS 2500 (Part 1) : 2000/ ISO 2859-1 : 1999	Sampling procedures for inspection by attributes: Part 1 Sampling schemes indexed by acceptance quality limit (AQL) for lot-by-lot inspection (*third revision*)
IS 1875 : 1992	Carbon steel billets, blooms, slabs and bars for forgings — Specification (*fifth revision*)	IS 4432 : 1988	Specification for Case hardening steels (*first revision*)

ANNEX B

(*Foreword*)

COMMITTEE COMPOSITION

Textile Machinery and Accessories Sectional Committee, TXD 14

Organization	*Representative(s)*
Central Manufacturing Technology Institute, Bengaluru	DR NAGAHANUMAIAN **(*Chairperson*)**
Amritlakshmi Machine Works, Mumbai	SHRI N. K. BRAHMACHARI SHRI N. K. RAUT (*Alternate*)
ATE Enterprises Private Limited, New Delhi	SHRI ABHIJIT KULKARNI SHRI ANIL KUMAR SHARMA (*Alternate*)
Bajaj Industries Private Limited, Kolkata	REPRESENTATIVE
Bhowmick Calculator, Kolkata	SHRI GOUTAM BHOWMICK SHRI VIVEKANANDA BHOWMICK (*Alternate*)
Central Manufacturing Technology Institute, Bengaluru	SHRI B. R. MOHANRAJ SHRI K. SARAVANAN (*Alternate*)
Confederation of Indian Textile Industry, New Delhi	SHRI AJAY KUMAR
Dashmesh Jacquard and Powerloom Private Limited, Panipat	SHRI RAJMEET DHAMMU (*Representative*)
HLL Lifecare Limited, Noida	SHRI AKHIL G. S. SHRI RATNAKAR GUPTA (*Alternate*)
ICAR-Central Institute for Research on Cotton Technology, Mumbai	DR N. SHANMUGAM DR T. SENTHILKUMAR (*Alternate*)
India ITME Society, Mumbai	SHRI PRASHANT MANGUKIA SHRIMATI SEEMA SRIVASTAVA (*Alternate*)
Indian Jute Industries Research Association, Kolkata	SHRIMATI SAUMITA CHOUDHURY SHRI PARTHA SANYAL (*Alternate*)
Indian Jute Mils Association, Kolkata	REPRESENTATIVE
Indian Textile Accessories and Machinery Manufacturers Association, Mumbai	SHRI N. D. MHATRE SHRI CHANDRESH SHAH (*Alternate*)
Inspiron Engineering Private Limited, Ahmedabad	SHRI SANJAY KOWARKAR SHRI ANKUR SONI (*Alternate*)
JCB Industries, Guwahati	SHRI DHRUBA SARMA SHRI ABHIJIT BHUYAN (*Alternate*)
Kusters Calico Machinery Limited, Karjan	SHRI DEVANG PARIKH SHRI SHUBHASIS SUR (*Alternate*)
Lakshmi Machine Works Limited, Coimbatore	MS KALPANA A. MS DIVYA V. (*Alternate*)
Laxmi Shuttleless Looms Private Limited, Ahmedabad	SHRI KETAN SANGHVI
Ludlow Jute Limited, Kolkata	REPRESENTATIVE

Organization	*Representative(s)*
Ministry of Heavy Industries and Public Enterprises, Department of Heavy Industry, New Delhi	SHRI SANJEEV GUPTA SHRI S. SUNDAR (*Alternate*)
National Safety Council, Navi Mumbai	SHRI LALIT R. GABHANE SHRI R. R. DEOGHARE (*Alternate*)
Office of the Textile Commissioner, Mumbai	SHRI C. R. KALESAN SHRI JAGRAM MEENA (*Alternate*)
Peass Industrial Engineers Private Limited, Navari	SHRI RAVI S. RAO SHRI JIGNESH B. PATEL (*Alternate*)
Technocraft Industries India Limited, Mumbai	SHRI RAVINDER KUMAR SHRI DURADUNDESHWAR HIREMATH (*Alternate*)
Textile Machinery Manufacturers Association, Mumbai	SHRI M. SHANKAR SHRI PRASHANT MANGUKIA (*Alternate*)
The Bombay Textile Research Association, Mumbai	SHRI VIJAY GAWDE SHRI R. A. SHAIKH (*Alternate*)
The Synthetic and Art Silk Mills Research Association, Mumbai	DR MANISHA MATHUR SHRI SANJAY SAINI (*Alternate*)
The Textile Association (India), Mumbai	SHRI J. B. SOMA SHRI ASHOK JUNEJA (*Alternate*)
Truetzschler India Private Limited, Ahmedabad	SHRI PRAVIN KANDGE SHRI SHILADITYA JOSHI (*Alternate*)
United Nations International Children's Emergency Fund, New Delhi	DR PRATIBHA SINGH SHRI YUSUF KABIR (*Alternate*)
Veermata Jijabai Technological Institute, Mumbai	DR SURANJANA GANGOPADHYAY SHRI S. P. BORKAR (*Alternate*)
BIS Directorate General	SHRI J. K. GUPTA, SCIENTIST 'E'/DIRECTOR AND HEAD (TEXTILES) [REPRESENTING DIRECTOR GENERAL (*Ex-officio*)]

Member Secretary
SHRI SWAPNIL
SCIENTIST 'B'/ASSISTANT DIRECTOR
(TEXTILES), BIS

Bureau of Indian Standards

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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
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