

इंटरनेट

मानक

Disclosure to Promote the Right To Information

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

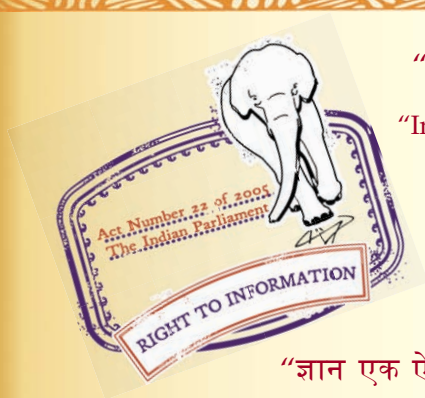
“The Right to Information, The Right to Live”

“पुराने को छोड़ नये के तरफ”

Jawaharlal Nehru

“Step Out From the Old to the New”

IS 15458 (2004): Classification of Indian canes and their zonal distribution [CED 9: Timber and Timber Stores]



“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”

BLANK PAGE



भारतीय मानक

भारतीय बेंत तथा उसके क्षेत्रीय वितरण का वर्गीकरण

Indian Standard

CLASSIFICATION OF INDIAN CANES AND THEIR
ZONAL DISTRIBUTION

ICS 79.020

© BIS 2004

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

FOREWORD

This Indian Standard was adopted by the Bureau of Indian Standards, after the draft finalized by the Timber and Timber Stores Sectional Committee had been approved by the Civil Engineering Division Council.

Despite the fact that cane resources reflect the national heritage in India, till recently they remained as one of the neglected non-wood forest products. However, over the past one and a half decades, a wealth of information has been generated on resource management and utilization due to the concerted efforts of the State Forest Departments and research institutions. Remarkable institutional support and contributions to conservation and sustainable development and utilization of cane resources, that merit wide recognition, are from the Karnataka Forest Department and Kerala Forest Research Institute. Rattan is a versatile material as it competes with other materials such as wood, plastics and metals. Because of its unique aesthetic beauty, high strength to weight ratio, durability, ease in workability, pliability, biodegradability and natural renewability, it is recognized as the most valuable traditional material of small-scale furniture and handicraft industries which provide livelihood to the poor and village communities in the country.

For the purpose of this standard, three Indian zones have been recognized in view of natural occurrence of rattans in three distinct regions. They include: (a) North, East and North-eastern states, (b) Western Ghats (Southern India), and (c) Andaman and Nicobar islands.

The local names of rattans vary not only according to linguistic regions, which are far too numerous themselves, but even within one linguistic region there are dialectal variations, resulting in difficulty in standardization due to considerable variation even in the pronunciation. In the preparation of this standard, the usage adopted by Kerala Forest Research institute has been followed and the classification is alphabetically arranged according to the botanical names revised particularly in the light of publications of the Kerala Forest Research Institute, Karnataka Forest Department and the Botanical Survey of India, Kolkata. Vernacular names are given for easy reference by the regional communities/traders.

Indian Standard

CLASSIFICATION OF INDIAN CANES AND THEIR ZONAL DISTRIBUTION

1 SCOPE

This standard details the zonal distribution (natural occurrence) of common Indian rattans, classified according to their various uses and gives information of the diameter and strength classes as well as the average basic specific gravity (on green volume to oven dry weight basis).

This standard provides a proforma for general classification and nomenclature of commercial rattan species in a country, with information about the source of supply/distribution, properties and potential end-uses. The important rattan genera are *Calamus*, *Ceratolobos*, *Daemonorops*, *Korthalsia*, *Myrialepis*, *Plectocomia* and *Plectocomiopsis*.

2 REFERENCE

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

IS No.	Title
707:1976	Glossary of terms applicable to timber technology and utilization (second revision)

3 GENERAL REQUIREMENTS

When a country has distinctly different agroclimatic zones with restricted occurrence of species, zonal distribution will be included in the national classification system.

4 TERMINOLOGY

For the purpose of this standard, the definitions given in IS 707 and the following shall apply.

4.1 Bleached Rattan — Cane which has been lightened in colour by bleaching agents to improve surface brightness.

4.2 Cane — A general term of convenience for any piece or stem of round rattan.

4.3 Defect — An abnormality or irregularity in cane which lowers its technical quality or commercial value by decreasing strength or adversely affecting

its appearance and use.

4.4 Flat/Oval Core — Flat or oval shaped material, width ranging from 2 to 10 mm, obtained from inner part (core) of the cane by peeling and splitting. This is normally used for weaving and binding (see Fig. 1).

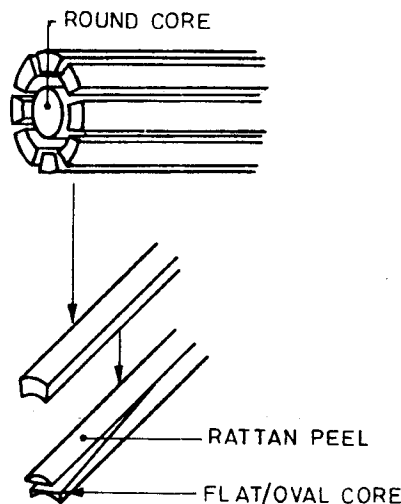


FIG. 1 THE RESULTANT RATTAN DERIVATIVES

4.5 Fumigated Rattan — Cane which has been exposed to sulphur fumes for improvement of surface appearance.

4.6 Internode — The region between nodes of a stem (see Fig. 2).

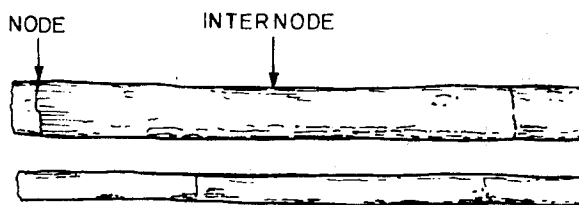


FIG. 2 CANE SHOWING NODES AND INTERNODES

4.7 Lustrous Cane — Cane in which the surface is bright and exhibits sheen or glossiness.

4.8 Mature Cane — Rattan stem which has attained full structural development, and does not show any deformation or fracture during drying and bending.

4.9 Node — The thickened part of the stem at which leaves are attached in juvenile phase of growth.

4.10 Oil-Cured Rattan — Cane which has been cured in hot oil media in green condition to impart desired surface colour/appearance and prevent biological degradation.

4.11 Rattan — A collective term for the climbing members of a large group or *Lepidocaryoid palms* (sub family: *Calamoideae*).

4.12 Rattan Derivatives — Products or parts of cane resulting from rattan conversion (splitting/peeling).

4.13 Rattan Peel — Flat or semi-circular material, the width ranging from 2 to 10 mm obtained from the peripheral portion of the cane including the skin; normally used for weaving and binding.

4.14 Rattan Pole — Round rattan of convenient length.

4.15 Round Core — Round material, consisting of central part (core) of rattan stem with diameters ranging from 2 to 10 mm, obtained by peeling and splitting; normally used for weaving and binding.

4.16 Round Rods — *See* scraped poles.

4.17 Scraped Poles — Poles from which rattan skin has been removed either by scraping or by a round-rod making machine.

4.18 Seasoned Rattan — Cane whose moisture content has been reduced to the specified minimum under more or less controlled process of drying.

4.19 Treated Rattan — Cane which has been treated with chemicals to prevent biological degradation.

4.20 Unsplit Rattan — Round cane, scraped or unscraped, but without being subjected to peeling or splitting.

5 USES

The uses are classified under the following categories:

- a) Furniture frames;
- b) Furniture seats/back;
- c) Walking sticks, umbrella handles, sports goods, etc;
- d) Handicraft and novelty items; and
- e) Baskets.

6 ZONES

- a) North, East and North-eastern states,

- b) Western Ghats (Southern India), and
- c) Andaman and Nicobar islands.

7 METHOD OF CLASSIFICATION

Following criteria have been adopted in this model for evaluating the quality of the rattan:

7.1 Diameter Class

Based on the diameter in the small end, following standard diameter classes are followed:

- a) *Large* — diameter rattan: Unsplit cane measuring from 18 mm to 40 mm (or above).
- b) *Small* — diameter rattan: Unsplit cane measuring below 18 mm.

7.2 Strength Class

Based on the strength values obtained in mechanical testing, unsplit rattans are classified as follows:

- | | |
|-----------------------------------|--|
| Class I (Strong to very strong) | : Static bending-modulus of rupture (MOR) and/or tensile strength-ultimate tensile stress (UTS) above 70 N/mm ² |
| Class II (Moderately strong) | : MOR or UTS 45-70 N/mm ² |
| Class III (Weak) | : MOR or UTS below 45 N/mm ² |

7.3 End-Use Class

Following five categories of end-uses are recognized for assessing utilization potential of a particular grade.

- a) Furniture frames;
- b) Furniture seat/back;
- c) Walking sticks, umbrella handles, sports goods, etc;
- d) Handicraft/novelty items; and
- e) Baskets.

7.4 Classification

The listing of species suitable for each category of end-use given in 4 will include botanical name, standard trade name, distribution (source), diameter class, specific gravity and strength classes. The classification of Indian species is given in Table 1.

Table 1 Classification of Indian Rattans According to Their Properties and End Uses

(Clause 7.4)

Botanical Name	Vernacular/Trade Name	Distribution	Diameter Class	Average Basic Specific Gravity	Strength Class
(1)	(2)	(3)	(4)	(5)	(6)
a) Furniture Frames (in Unsplit/Split Forms)					
<i>Calamus acanthospathus</i> Griff.	Gouri beth (Hin)	a	Large	—	—
<i>C.andamanicus</i> Kurz.	Moth beth (Hin)	c	Large	0.446	II
<i>C.dransfieldii</i> Renuka	—	b	Large	0.443	—
<i>C.gamblei</i> Becc.	Hasiru beth (Kan) Pachachural (Mal), Ponchural (Tam)	b	Large	0.599	I
<i>C.hookerianus</i> Becc.	Vallichural (Mal) Kakkachural, Vanthal (Mal); Nagathali (Tam)	b	Large	0.444	II
<i>C.inerinis</i> T. Anders	—	a	Large	—	—
<i>C.karnatakensis</i> Renuka and Lakshmana	—	b	Large	0.459	II
<i>C.khasianus</i> Becc.	—	a	Large	—	—
<i>C.longisetus</i> Griff.	—	c	Large	0.468	I
<i>C.nagbetta</i> Fer.et Dey	Nagabetha (Kan)	b	Large	0.410	I
<i>C.thwaitesii</i> Becc.	Handi betha (Kan); Pannichural, Thadiyanchural (Mal) Perappanakku (Tam)	b	Large	0.498	II
<i>Dacmonorops jenkinsiana</i> (Griff.) Mart.	Golak beth, Chēka beth, Dudhia beth, Dangri beth, Golla beth (Hin)	a	Large	0.400	I
<i>D.kurziana</i> Becc.	—	c	Large	0.468	I
b) Chair Seats/backs (in Unsplit Form/Peelings)					
<i>C.brandissi</i> Becc.	Vanthal (Tam)	b	Small	0.499	—
<i>C.guruba</i> Buch. Ham.	Jati beth (Hin)	a	Small	—	—
<i>C.lakshumanac</i> Renuka	Halu beth (Kan)	b	Small	0.462	—
<i>C.latifolius</i> Roxb.	Pekhri beth (Hin)	a	Small	—	—
<i>C.leptospadix</i> Griff.	Dangri beth, Rab beth Mugri beth, Rani beth (Hin)	a	Small	0.469	II
<i>C.pseudorivalis</i> Becc.	Safed beth (Hin)	c	Small	0.581	I
<i>C.pseudotenuis</i> Becc.	Perumperambu (Tam)	b	Small	0.463	II
<i>C.rotang</i> Linn.	—	b	Small	0.466	II
<i>C.stoloniferus</i> Renuka	Jeddu betha (Kan)	b	Small	0.455	—
<i>C.tenuis</i> Roxb.	Pani beth (Hin)	a	Small	—	—
<i>C.travancoricus</i> Bedd.	—	b	Small	0.486	II
<i>C.viminalis</i> Willd.var. <i>Fasciculatus</i> (Griff.)	Hasali beth Kiring beth (Hin)	a, c	Small	0.474	II
<i>C.vattayila</i> Renuka	Vattayila, Ottaman (Mal)	b	Small	0.533	—

Table 1 (Continued)

Botanical Name	Vernacular/Trade Name	Distribution	Diameter Class	Average Basic Specific Gravity	Strength Class
(1)	(2)	(3)	(4)	(5)	(6)
c) Walking Sticks, Umbrella Handles, Sports Goods, etc					
<i>C.dransfieldii</i> Renuka	—	b	Large	0.433	—
<i>C.gamblei</i> Becc.	Hasiru beth (Kan); Pachachural, Ponchural (Tam)	b	Large	0.599	I
<i>C.hookerianus</i> Becc.	Vallichural, Kakkachural, Vanthal (Mal); Nagathali (Tam)	b	Large	0.444	II
<i>C.karnatakensis</i> Renuka and Lakshmana	—	b	Large	0.459	II
<i>C.latifolius</i>	Pekhri beth (Hin)	a	—	—	—
<i>C.longisetus</i> Griff	—	c	Large	0.468	I
<i>C.nagbettai</i> Fer.et Dey	Nagabetha (Kan)	b	Large	0.410	I
<i>C.pseudorivalis</i> Becc.	Safed beth (Hin)	c	Small	0.581	I
<i>C.pseudotenuis</i> Becc.	Perumperambu (Tam)	b	Small	0.463	II
<i>C.unifarius</i> Wendl.	—	c	Small	0.397	II
<i>Korthalsia laciniosa</i> Griff.	Lal beth (Hin)	c	Small	0.461	II
<i>K.rogersii</i> Becc.	—	c	Small	0.448	II
<i>C.stoloniferus</i> Renuka	Jeddu betha (kan)	b	Small	0.455	—
<i>C.thwaitesii</i> Becc.	Handi betha (Kan); Pannichural, Thadiyanchural, Anachural, Vandichural (Mal); Thadiperambu, Perappanakku (Tam)	b	Large	0.498	II
<i>C.tenuis</i> Roxb.	Paru beth (Hin)	a	Small	—	—
<i>C.vattayila</i> Renuka	Vattayila, Otytaman (Mal)	a	Small	0.533	—
<i>C.viminalis</i>	Hosali beth (Hin)	a and b	Small	0.474	II
d) Handicraft/Novelty Items (in Unsplit/Flat and Oval Core/Peelings)					
<i>C.brandisii</i> Becc.	Vanthal (Tam)	b	Small	0.499	—
<i>C.dransfieldii</i> Renuka	—	b	Large	0.443	—
<i>C.gamblei</i> Becc.	Hasiru betha (Kan); Pachachural, Ponchural (Tam)	b	Large	0.599	I
<i>C.gracilis</i> Roxb.	—	a	Small	0.549	—
<i>C.hookerianus</i> Becc.	Vallichural, Kakkachural, Vanthal (Mal); Nagathali (Tam)	b	Small	0.444	II
<i>C.karnatakensis</i> Renuka & Lakshmana	—	b	Large	0.459	II
<i>C.lakshmanae</i> Renuka	Halu betha (Kan)	—	Small	0.462	—
<i>C.longisetus</i> Griff.	—	c	Large	0.468	I
<i>C.nagbettai</i> Fer.et Dey	Nagabetha (Kan)	b	Large	0.410	I

Table 1 (Concluded)

Botanical Name	Vernacular/Trade Name	Distribution	Diameter Class	Average Basic Specific Gravity	Strength Class
(1)	(2)	(3)	(4)	(5)	(6)
<i>C.pseudotenius</i> Becc.	Perumperambu (Tam)	b	Small	0.463	II
<i>C.rotang</i> Linn.	—	b	Small	0.466	II
<i>Korthalsia laciniosa</i> Mart.	Lal beth (Hin)	c	Small	0.461	II
<i>K.rogersii</i> Becc.	—	c	Small	0.448	II
<i>C.stoloniferus</i> Renuka	Jeddu betha (Kan)	b	Small	0.455	—
<i>C.thwaitesii</i> Becc.	Handi betha (Kan); Pannichural (Mal), Thadiperambu (Tam)	b	Large	0.498	II
<i>C.travancoricus</i> Bedd.	—	b	Small	0.486	II
<i>C.vattayila</i> Renuka	Vattayila, Ottaman (Mal)	b	Small	0.533	—
e) Baskets (in Unsplit Form/Flat and Oval Core/Peelings)					
<i>C.brandisii</i> Becc.	Vanthal (Tam)	b	Small	0.499	—
<i>C.erectus</i> Roxb.	—	a	Large	0.360	III
<i>C.floribundus</i> Mart.					
<i>Var.depauperatus</i> Becc.	Moksoma kyein (Kan)	a	Small	0.337	—
<i>C.gracilis</i> Roxb.	—	a	Small	0.549	—
<i>C.hookerianus</i> Becc.	Vallichural, Kakkachural, Vanthal (Mal); Nagathali (Tam)	—	Large	0.444	II
<i>C.karnatakensis</i> Renuka and Lakshmana	—	b	Large	0.459	II
<i>C.kingianus</i> Becc.	—	a	Small	0.313	—
<i>C.lacciferus</i> Lakshmana & Renuka	Neeru betha (Kan)	b	Large	0.356	III
<i>C.lakshmanae</i> Renuka	Halu betha (Kan)	b	Small	0.462	—
<i>C.leptospadix</i> Griff.	Dhangri beth, Rabi beth Mugri beth, Rani beth (Hin)	a	Small	0.469	II
<i>C.metzianus</i> Schlecht	Odiyanchural (Mal)	b	Small	0.252	III
<i>C.palustris</i> Griff.	—	b	Small	0.399	III
<i>C.pseudotenius</i> Becc.	Perumperambu (Tam)	b	Small	0.463	II
<i>C.stoloniferus</i> Renuka	Jeddu betha (Kan)	b	Small	0.455	—
<i>C.unifarius</i> Wendl.	—	c	Small	0.397	II
<i>C.vattayila</i> Renuka	Vattayila (Mal)	b	Small	0.533	—
<i>Daemonorops jenkinsiana</i> (Griff.) Mar	Golak beth, Cheka beth Dudhia beth, Dangri beth, Golla beth (Hin)	a	Large	0.400	I
<i>Plectocomia himalayana</i> Griff.	Tehri beth, Runul beth, Rano beth (Hin)	a	Large	0.415	II

NOTES

1 Hin – Hindi; Kan – Kannada; Mal – Malayalam, Tam – Tamil.

2 a – North, East and North-eastern states.

b – Western Ghats (Southern India).

c – Andaman and Nicobar Islands.

Bureau of Indian Standards

BIS is a statutory institution established under the *Bureau of Indian Standards Act, 1986* to promote harmonious development of the activities of standardization, marking and quality certification of goods and attending to connected matters in the country.

Copyright

BIS has the copyright of all its publications. No part of these publications may be reproduced in any form without the prior permission in writing of BIS. This does not preclude the free use, in the course of implementing the standard, of necessary details, such as symbols and sizes, type or grade designations. Enquiries relating to copyright be addressed to the Director (Publications), BIS.

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. CED 9 (5914).

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 110 002
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 110 002	{ 2323 7617 2323 3841
Eastern : 1/14 C. I. T. Scheme VII M, V. I. P. Road, Kankurgachi KOLKATA 700 054	{ 2337 8499, 2337 8561 2337 8626, 2337 9120
Northern : SCO 335-336, Sector 34-A, CHANDIGARH 160 022	{ 260 3843 260 9285
Southern : C. I. T. Campus, IV Cross Road, CHENNAI 600 113	{ 2254 1216, 2254 1442 2254 2519, 2254 2315
Western : Manakalaya, E9 MIDC, Marol, Andheri (East) MUMBAI 400 093	{ 2832 9295, 2832 7858 2832 7891, 2832 7892

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