



PROPOSAL FOR A NEW FIELD OF TECHNICAL ACTIVITY	
Circulation date: 2015-01-22 Closing date for voting: 2015-04-22	Reference number (to be given by Central Secretariat)
Proposer SAC	ISO/TS/P 248

A proposal for a new field of technical activity shall be submitted to the Central Secretariat, which will assign it a reference number and process the proposal in accordance with the ISO/IEC Directives (part 1, subclause 1.5). The proposer may be a member body of ISO, a technical committee or subcommittee, the Technical Management Board or a General Assembly committee, the Secretary-General, a body responsible for managing a certification system operating under the auspices of ISO, or another international organization with national body membership. Guidelines for proposing and justifying a new field of technical activity are given in the ISO/IEC Directives (part 1, Annex C).

**The proposal** (to be completed by the proposer)

<p><b>Title of the proposed new committee (The title shall indicate clearly yet concisely the new field of technical activity which the proposal is intended to cover.)</b></p> <p>Bamboo and Rattan</p>
<p><b>Scope statement of the proposed new committee (The scope shall precisely define the limits of the field of activity. Scopes shall not repeat general aims and principles governing the work of the organization but shall indicate the specific area concerned.)</b></p> <p>Standardization of bamboo, rattan, and derived materials, including terminology, classification, specifications, test methods and quality requirements.</p>
<p><b>Proposed initial programme of work (The proposed programme of work shall correspond to and clearly reflect the aims of the standardization activities and shall, therefore, show the relationship between the subject proposed. Each item on the programme of work shall be defined by both the subject aspect(s) to be standardized (for products, for example, the items would be the types of products, characteristics, other requirements, data to be supplied, test methods, etc.). Supplementary justification may be combined with particular items in the programme of work. The proposed programme of work shall also suggest priorities and target dates.</b></p> <p>Formulation and revision of international standards in the fields of bamboo and rattan will be launched covering three levels. At Level A, the new TC will focus on basic standards covering terminology and classification of bamboo, rattan and related products. Level B will cover standards related to methods, including test methods of physical and mechanical properties of bamboo strip, bamboo charcoal, and rattan. Level C will cover standards on products, including major processed products of bamboo and rattan. Level A and B form the basis for formulating bamboo and rattan product standards, while level C is for product applications.</p> <ol style="list-style-type: none"><li>1. Basic standards of bamboo and rattan<ul style="list-style-type: none"><li>- Terminology on bamboo products</li><li>- Terminology on rattan</li></ul></li><li>2. Standards on methods of bamboo and rattan<ul style="list-style-type: none"><li>- Test methods of physical and mechanical properties of bamboo strip</li><li>- Test methods of physical and mechanical properties of bamboo charcoal</li><li>- Test methods of physical and mechanical properties of rattan</li></ul></li><li>3. Standards on products of bamboo and rattan<ul style="list-style-type: none"><li>- Bamboo mat plywood</li><li>- Bamboo flooring</li><li>- Bamboo charcoal</li><li>- Bamboo mat</li><li>- Rattan woven products</li></ul></li></ol> <p>Formulation and revision of standards will start with basic standards and standards on methods since these form the foundations for product standards. It is most urgent to formulate standards on products for trade on bamboo and rattan. The new TC plans to propose three international standards in three years.</p>

**Indication(s) of the preferred type or types of deliverable(s) to be produced under the proposal (This may be combined with the "Proposed initial programme of work" if more convenient.)**

1. Terminology for bamboo and related products
2. Rattan terminology
3. Test methods on physical and mechanical properties of bamboo strips

**A listing of relevant existing documents at the international, regional and national levels. (Any known relevant document (such as standards and regulations) shall be listed, regardless of their source and should be accompanied by an indication of their significance.)**

Standards relevant with terms and definitions of bamboo and rattan are:

1. China national standard: GB/T 26914-2011 Rattan terminology
2. Chinese industrial standard: LY/T 1660-2006 Terminology on bamboo plywood

Standards relevant with test methods of bamboo and rattan are:

1. China national standard: GB/T 15780-1995 Testing methods for physical and mechanical properties of bamboo
2. Chinese industrial standard: LY/T 2139-2013 Testing methods for physical properties of rattan
3. International standard: Bamboo--Structural design, ISO 22156: 2004, International Organization for Standardization (ISO)
4. International standard: Bamboo--Determination of physical and mechanical properties -- Part 1: Requirements, ISO 22157-1: 2004, International Organization for Standardization (ISO)
5. International standard: Bamboo--Determination of physical and mechanical properties -- Part 2: Laboratory manual, ISO 22157-2: 2004, International Organization for Standardization (ISO)

Standards relevant with bamboo and rattan products are:

1. China national standard: GB/T 13123-2003 Bamboo plywood
2. China national standard: GB/T 20240-2006 Bamboo flooring
3. China national standard: GB/T 23114-2008 Plaited bamboo products
4. China national standard: GB/T 26913-2011 Bamboo charcoal
5. China national standard: GB/T 23172-2008 Plaited rattan products
6. National standard of the Philippines: 1976 No.821-09.03 Philippine standard specifications for rattan and wicker furniture;
7. National standard of the Philippines: 1989 No.103 Specification for rattan poles and their by-products;
8. Indian standard: IS 13958: 1994 Bamboo mat board for general purposes-specification;
9. Indian standard: IS 6874: 2008 Method of Tests for Bamboo
10. Indian standard: IS 7344: 1974 Specification for Bamboo Tent Poles
11. Indian standard: IS 8242: 1976 Methods of Tests for Split Bamboos
12. Indian standard: IS 9096: 2006 Preservation of bamboo for Structural Purposes – Code of Practice
13. Indian standard: IS 13958: 1994 Specification for bamboo mat board for general purposes
14. Indian standard: IS 14588: 1999 Specification for bamboo mat veneer composites for general purposes
15. Indian standard: IS-15476: 2004 Bamboo mat corrugated sheets – Specification
16. Indian standard: IS 1902: 2006 Code of Practice for preservation of bamboo and cane for non-structural purposes
17. Indonesian national standard: 1979 SNI01-7254-2006 Rattan
18. Jamaica standard: JS ISO 22156 Bamboo — Structural design
19. Jamaica standard: JS ISO 22157-1 Bamboo — Determination of physical and mechanical properties — Part 1: Requirements
20. Jamaica standard: JS ISO/TR 22157-2 Bamboo — Determination of physical and mechanical properties — Part 2: Laboratory manual
21. Ethiopia standard: ES ISO 22156:2014 Bamboo— Structural design
22. Ethiopia standard: ES ISO 22157-1:2014 Bamboo —Determination of physical and mechanical properties —Part 1: Requirements
23. Ethiopia standard: ES ISO/TR 22157-2:2014 Bamboo —De termination of physical and mechanical properties — Part 2: Laboratory manual.

**A statement from the proposer as to how the proposed work may relate to or impact on existing work, especially existing ISO and IEC deliverables. (The proposer should explain how the work differs from apparently similar work, or explain how duplication and conflict will be minimized. If seemingly similar or related work is already in the scope of other committees of the organization or in other organizations, the proposed scope shall distinguish between the proposed work and the other work. The proposer shall indicate whether his or her proposal could be dealt with by widening the scope of an existing committee or by establishing a new committee.)**

Currently there is no technical committee of standardization (TC or PC) directly related to bamboo and rattan in ISO and IEC. The proposed Technical Committee of Bamboo and Rattan (TC-BR) would be responsible for standardization of bamboo, rattan, and derived materials, including formulating standards in terminology, classification, specifications, test methods and quality requirements. ISO TC 165 (Timber structures) has issued three standards for round bamboo used in bamboo buildings in 2004. TC165 only involves standards relevant with timber structures, excluding standards in terminology, test methods for major-traded non-structural products of bamboo & rattan; thus the scope of TC165 does not overlap with that of the newly established TC-BR. The purpose of TC-BR is to offer standards on terminology, methods and major products of bamboo and rattan via a systematic and holistic perspective of the status-quo of research and development, processing and trade of global bamboo and rattan products. This will provide valuable guidance to stakeholders in the fields of bamboo and rattan.

Taking into account the relevance of new TC's standards and likely linkages, it is expected that the new TC will probably establish cooperation and liaison with TC165, 218, 219, as well as international organizations, such as International Network for Bamboo and Rattan (INBAR), and the International Tropical Timber Organization (ITTO).

ISO/TC 165 is responsible for standards on timber structures. TC 165's scope covers "standardization concerning structural applications of timber, wood-based panels, other wood based products, and related lignocellulosic fibrous materials including: requirements for design; structural properties, performance, and design values of materials, products, components, and assemblies and; test methods and requirements to establish related structural, mechanical and physical properties and performance". TC165 host a working group 12 on structural uses of bamboo and already manages three standards concerning bamboo: Bamboo -- Determination of physical and mechanical properties -- Part 1: Requirements, ISO 22157-1: 2004, Bamboo -- Determination of physical and mechanical properties -- Part 2: Laboratory manual, ISO 22157-2: 2004, which only issues requirements on testing of physical and mechanical properties of round bamboo materials. Bamboo -- Structural design, ISO 22156: 2004 only regulates on architectural design of round bamboo housing. Therefore, ISO 22157 and ISO 22156 in TC 165 only dealt with the properties and utilization of round bamboo (bamboo culms), very useful but limited to timber structure with round bamboo. "The test methods for physical and mechanical properties of bamboo strips" covered in the proposed TC-BR uses regular strips cut from bamboo culms as testing samples, which test properties of bamboo materials itself. The testing results are important for nearly all the application fields of bamboo. The proposed TC-BR will not include round bamboo covered under the scope of TC 165.

Bamboo and rattan belongs to Gramineae and Palmae respectively while wood belongs to other families. They are totally different in terms of plant taxonomy. Bamboo and rattan are strikingly different from wood in many ways, such as microstructure, properties and processing approaches during utilization.

The scope of TC218 is the standardization of round, sawn and processed timber, and timber materials in and for use in all applications, including terminology, specifications and test methods. Therefore, there is no overlap with this proposed TC-BR.

The scope of TC219 is the standardization in the field of textile, resilient and laminate floor coverings which excludes: wood (of course also solid bamboo), ceramic, terrazzo, concrete and raised access type floorings. Presently, TC 219 covers laminated floorings that are produced with high-density fiberboard (HDF) as substrates and melamine resin saturated paper as overlays. Therefore, laminated floorings have no texture and color of natural solid wood. HDF is a kind of composite reconstructed with wood pulping fibers. The bamboo floorings covered in the proposed TC-BR are produced with solid bamboo. No melamine resin saturated paper overlays and fiber composite substrates are used. Therefore, bamboo floorings are totally different from those of laminated floorings both in structure, performances and manufacturing process, furthermore remaining the texture and color of natural bamboo. Presently, no bamboo floorings related standards can be found in TC219.

The International Network for Bamboo and Rattan (INBAR) is the only global inter-governmental international organization engaged in bamboo and rattan cooperation. Its 40 member states are all producing countries of bamboo and rattan, with the exception of Canada. The newly established TC-BR will maintain close ties with INBAR, which is already a liaison organisation to ISO TC 165, as well as the convenor of working group 12 on structural uses of bamboo within TC 165.

International Tropical Timber Organization (ITTO) is an intergovernmental organization promoting the conservation and sustainable management, use and trade of tropical forest resources. Its members represent about 80% of the world's tropical forests and 90% of the global tropical timber trade. Widely distributed in the tropics, bamboo and rattan resources are the objects of ITTO-funded projects. The execution of projects related with bamboo and rattan involves bamboo and rattan standards. The newly established TC-BR will maintain ties with ITTO when drafting international standards.

**A listing of relevant countries where the subject of the proposal is important to their national commercial interests.**

There are over 50 bamboo and rattan producer countries, including China, India, Indonesia, the Philippines, Brazil, Ecuador, Ethiopia, Kenya, Ghana. Main consumer markets for bamboo and rattan include the European Union, the United States, Canada, Japan, and the Republic of Korea.

**A listing of relevant external international organizations or internal parties (other ISO and/or IEC committees) to be engaged as liaisons in the development of the deliverable(s). (In order to avoid conflict with, or duplication of efforts of, other bodies, it is important to indicate all points of possible conflict or overlap. The result of any communication with other interested bodies shall also be included.)**

TC165 Timber structures  
TC218 Timber  
TC219 Floor coverings  
INBAR  
ITTO

**A simple and concise statement identifying and describing relevant affected stakeholder categories (including small and medium sized enterprises) and how they will each benefit from or be impacted by the proposed deliverable(s).**

Stakeholders of bamboo and rattan refer to producers, consumers, distributors, government agencies, and third-party agencies that will be affected or may be affected by implementation of bamboo and rattan standards. International standards of bamboo and rattan will bring the following benefits and impacts to the above stakeholders: consumers will gain access to bamboo and rattan products with reliable quality and security, thus conserving the ecological environment and ensuring rational use of resources; the interests of consumers will also be safeguarded. For producers, international standards will help them to improve their management capacity, as well as stabilize and improve product quality. This promotes producers to take a quality-oriented mindset to enhance quality and improve competitiveness. For distributors, international standards will enhance mutual communication and understanding across borders, facilitate trade, provide market access for bamboo and rattan products, and promote free and fair trade. For third-party organizations, it will offer tools of scientific evaluation to establish a standardized evaluation scale to expand the size of the market, resulting in tremendous business value.

**An expression of commitment from the proposer to provide the committee secretariat if the proposal succeeds.**

China is willing to undertake the work of secretariat of new TC.

**Purpose and justification for the proposal. (The purpose and justification of the standard to be prepared shall be made clear and the need for standardization of each aspect (such as characteristics) to be included in the standard shall be justified. Clause C.4.12.1 through C.4.12.10 of Annex C of the ISO/IEC Directives, Part 1 contain a menu of suggestions or ideas for possible documentation to support and purpose and justification of proposals. Proposers should consider these suggestions, but they are not limited to them, nor are they required to comply strictly with them. What is most important is that proposers develop and provide purpose and justification information that is most relevant to their proposals and that makes a substantial business case for the market relevance and the need for their proposals. Thorough, well-developed and robust purpose and justification documentation will lead to more informed consideration of proposals and ultimately their possible success in the ISO IEC system.)**

Due to bamboo and rattan's numerous advantageous characteristics, which include their green, biodegradable and renewable nature, fast growth, early maturation, high yields, and diverse array of end uses, these two resources are among the world's most important sources of non-timber forest products as measured by international trade volumes. There are nearly 10,000 types of products made from bamboo and rattan, covering applications in furniture, construction, decoration, papermaking, chemicals, textiles, food, health, agriculture, and electronics, to name but a few. Currently, there are more than 50 bamboo and rattan producer countries, based in the Americas, Africa and Asia, with the European Union (EU), the United States (US), Canada, Japan, and the Republic of Korea being the major import markets. The global trade volume of bamboo and rattan products already amounts to \$5 billion USD, with an estimated 1.5 billion people dependent on these resources for at least part of their livelihoods. However, lack of unified standards is already hindering the development of international trade for bamboo and rattan products.

Widely distributed in developing countries and regions, bamboo and rattan resources play a vital role in the mitigation and eradication of poverty, as well as promoting environmental and social sustainability. International standardization of bamboo and rattan will greatly facilitate the efficient use of these resources, thus reducing pressure on limited timber resources in the tropics and sub-tropics and contributing to global forest resource conservation and climate change mitigation.

In recent years, some bamboo and rattan producer countries and regions have started to develop their own national and industry standards based on the local status-quo: For example, China has formulated 28 national standards and 82 industrial standards relevant to bamboo and rattan, while countries, such as Ethiopia, Indonesia, India, the Philippines, and Colombia has developed their own standards on bamboo/rattan and, or adopted existing ISO standards; However, most current national and industry standards cannot be applied worldwide, which is incompatible with the flourishing international trade of bamboo and rattan products. Thus, it is imperative to establish global standards on design specifications, technical conditions, processing planning, product standards, and test methods to ensure product quality and promote healthy growth of the industry. International standards of bamboo and rattan will promote the efficient use of bamboo and rattan resources in the world, as well as help support economic growth and meet peoples' livelihoods needs. From a global perspective, the limited quantity and narrow scope of international standards of bamboo and rattan products are far from enough to cover the diverse categories of bamboo, rattan and derived products available on the market today. This is also incompatible with robust and growing trends in current bamboo and rattan industries and international trade, which has already been recognised by the World Customs Organization, where 24 new Harmonized System (HS) codes have been added for bamboo and rattan products respectively in 2007 and 2014.

Therefore, we recommend ISO to establish a specialized Technical Committee for Bamboo and Rattan (TC-BR), responsible for the standardization of bamboo, rattan and derived products, including terminology, classification, specifications, test methods and quality requirements.

After the establishment, the new TC will focus on working with widely accepted and used standards for bamboo and rattan at the regional, national and sub-national level to formulate international standards. Firstly, a comprehensive summary of basic nomenclature used in bamboo and rattan-based fields will be developed to create international standards on bamboo and rattan terminology. This will help to prevent mislabeling of products and incorrect usage of terminology, already a significant challenge for bamboo and rattan industries. Secondly, the committee will review test methods and requirements for bamboo and rattan-based fields to improve and integrate general methods in various fields and, thus, provide practical test methods for all types of organizations. Thirdly, by combing the status quo of global bamboo and rattan industries with commonly accepted practices of trade, the new TC will propose international standards for major internationally traded bamboo and rattan products. This will provide guidance to global enterprises, especially small and medium-sized ones in developing countries, to increase trade of bamboo and rattan products and boost their value and competitiveness, as well as facilitate global trade.

The main purposes of the new TC are as follows:

- (1) To share the best research outcomes and practical experiences in R&D, processing, trade and management in the fields of bamboo and rattan;
- (2) To enhance bamboo and rattan product value, effectiveness, and market competitiveness;
- (3) To provide consumption guidance to consumers and other stakeholders;
- (4) To facilitate international trade.

Signature of the proposer

LI Yubing

*Further information to assist with understanding the requirements for the items above can be found in the Directives, Part 1, Annex C.*

**Comments of the Secretary-General** (to be completed by the Central Secretariat)

Signature

## **Proposal to Establish ISO Technical Committee for Bamboo and Rattan**

Since there is no technical committees of standardization (TC or PC) directly related to bamboo and rattan in ISO and IEC, China proposes to establish Technical Committee for Bamboo and Rattan (TC-BR), ISO, as follows:

### **I. Purpose of Establishing a New TC**

#### **A. The need to promote international trade**

As the most vital non-timber forest resources, bamboo and rattan enjoys unique advantages such as fast growth, high yield, wide use, etc. and natural features including green, biodegradable, renewable, etc. There are nearly 10,000 kinds of products based on bamboo, rattan and related products widely used in furniture, construction, decoration, papermaking, chemicals, textiles, food, health, agriculture, electronics and other fields. International standards for bamboo and rattan can make a great difference to efficient use of global bamboo and rattan resources to meet the needs of economic growth and people's livelihood.

Currently, there are more than 50 producers for bamboo and rattan: China, India, Indonesia, the Philippines, Brazil, Ecuador, Ethiopia, Kenya, Ghana, etc. and consumers such as the European Union (EU), the United States (US), Canada, Japan, Republic of Korea, etc. Global trade volume of bamboo and rattan products amounts to \$5 billion USD; the lives of 1.5 billion people are closely related with bamboo and rattan in the world. However, lack of unified standards has hindered the development of international trade on bamboo and rattan.

#### **(1) Specify definitions of bamboo and rattan products to reduce disputes**

At present, due to mega-diverse bamboo and rattan products, obscure and inconsistent definitions and connotations of bamboo processing terminology lead to homonyms, synonyms and confused concepts. For example, bamboo fiber, natural bamboo fiber, bamboo viscose fiber and other concepts are often confused as the same one: bamboo fiber. Bamboo fiber is a natural fiber while bamboo viscose fiber is a chemical fiber. If these two terminologies are not clarified, trade and testing disputes would occur easily which will damage the interests of consumers. EU, US, Canada all require proper identification on bamboo-related textiles. The United States has started to punish acts that use textiles of bamboo viscose fiber to fake textiles of bamboo fiber.

#### **(2) Facilitate trade**

International standards can promote manufacturing enterprises of bamboo and rattan products to improve product quality to comply with the requirements of importers for green products, which facilitates trade. World Customs Organization added a total of 24 codes for bamboo and rattan products respectively in 2007 and 2014, which would cover at least 80% of bamboo and rattan products. Implementation of new codes of bamboo and rattan products will make a great difference in facilitating international trade on bamboo and rattan products, and thus proposes more urgent needs for the internationalization of product standards.

#### **B. The requirement of boosting green growth**

Widely distributed in developing countries and regions, bamboo and rattan resources play a vital role in mitigation and eradication of poverty, promotion of environmental, social sustainability. Internationalization of bamboo and rattan standards will greatly facilitate the efficient use of bamboo and rattan resources, reduce wood consumption, and thus exerts a positive and profound impact to conserve global forest resource and address climate change.

## **II. Relations and differences with relevant existing ISO/TCs**

Biological characteristics, material properties, processing technologies of products of bamboo and rattan resources have significant differences with that of timber resources. Existing timber-related ISO/TCs cannot fully cover standards of bamboo and rattan products. Thus it is urgent to establish a new bamboo and rattan TC.

Technical Committees of ISO associated with newly established TC-BR are: TC 165 Timber structures, TC 218 Timber, TC 219 Floor coverings.

### **A. Relations**

ISO/TC 165 is in charge of standards on timber structures, which scope is: standardization concerning structural applications of timber, wood-based panels, and related lignocellulosic fibrous materials. Currently, TC 165 manages two standards concerning bamboo: Bamboo -- Structural design, ISO 22156: 2004, Bamboo -- Determination of physical and mechanical properties -- Part 1: Requirements, ISO 22157-1: 2004, Bamboo -- Determination of physical and mechanical properties -- Part 2: Laboratory manual, ISO 22157-2: 2004. The newly established TC-BR will involve standards on the test methods of physical and mechanical properties for bamboo.

ISO/TC 219 is in charge of standards on floor coverings, which scope is: standardization in the field of textile, resilient and laminate floor coverings. The newly established TC-BR will involve standards on bamboo floorings.

### **B. Differences**

TC165 manages two standards concerning bamboo: Bamboo -- Determination of physical and mechanical properties -- Part 1: Requirements, ISO 22157-1: 2004, Bamboo -- Determination of physical and mechanical properties -- Part 2: Laboratory manual, ISO 22157-2: 2004, which only issues requirements on testing of physical and mechanical properties of round bamboo materials. Bamboo -- Structural design, ISO 22156: 2004 only regulates on architectural design of round bamboo housing. The newly established TC-BR will not include round bamboo related standards.

Scope of TC218, standardization of round, sawn and processed timber, does not overlap with that of the newly established TC-BR because bamboo and rattan belongs to Gramineae and Palmae respectively while wood belongs to other families. They are totally different in many ways, such as microstructure, properties and processing approaches during utilization.

Scope of TC219, standardization in the field of textile, resilient and laminate floor coverings which excludes: wood, ceramic, terrazzo, concrete and raised access type floorings, does not overlap with that of the newly established TC-BR.

There is no ISO standards on processing and utilization of rattan yet.

### **III. Work Plan of the New TC**

The proposed TC-BR is mainly in charge of: standardization of bamboo, rattan, and derived materials, including standards in terminology, classification, specifications, test methods and quality requirements. The purpose of TC-BR is to offer standards on terminology, methods and major products of bamboo and rattan via a systematic and holistic perspective of the status-quo of research and development, processing and trade of global bamboo and rattan products, thus providing more valuable guidance to stakeholders in the fields of bamboo and rattan.

After the establishment, the new TC will focus on widely accepted and used standards of bamboo and rattan, and formulates international standards in the fields of bamboo and rattan. First, comprehensively summarize basic terminologies in bamboo and rattan-based fields in the world, improve the standards in this area. Second, comb test methods and requirements in bamboo and rattan-based fields in the world, improve and integrate general methods in various fields to provide practical test methods for all types of organizations. Third, propose international standards of important bamboo and rattan products combining status-quo of global bamboo and rattan industries and practice of trade, guide global enterprises, especially small and medium enterprises in developing countries, to enhance trade flow capacity of bamboo and rattan products, boost the value and competitiveness of bamboo and rattan products, and facilitate trade.

### **IV. Strengthening Global Cooperation**

As global bamboo and rattan industries grow, an increasing number of countries and regions join in the production, consumption and trade of bamboo and rattan, thus generating a promising international market. The newly established TC-BR will work with producers, consumers, related ISO/TCs, International Network for Bamboo and Rattan (INBAR), the International Tropical Timber Organization (ITTO), etc. to strengthen cooperation, develop international standards related to bamboo and rattan, and promote global trade.