

DUTIES/FUNCTIONS OF VARIOUS DIVISIONS IN IPIRTI

CENTEC

Testing

IPIRTI is a laboratory recognized by BIS for testing of wood and wood composites and products viz. plywood, wood, timber, hardboard, particleboard, doors, panel doors, block board, flush doors, veneered panels, veneers, laminated panels, composite boards etc. IPIRTI accepts samples from Government and private agencies for testing.

Standardization

IPIRTI is very much involved in the activities of BIS related to Standards on Wood and wood based Panels. Scientists serve on various sectional committees and sub committees of Civil Engineering Division of BIS as conveners/members. Director, IPIRTI is the Chairman of wood products and products from other lignocellulosic materials sectional committee CED: 20 and also a member of BIS Council.

Standardization Activities include:

- formulation of draft Standards for materials developed at the Institute or elsewhere
- revision of existing Standards of BIS based on research carried out at the Institute
- preparation and revision of draft Standards referred by BIS
- sending comments to draft amendments,
- rationalization of test procedures and methods and review ISO draft Standards.

SORIT (& Training)

Training is an important tool to facilitate efficient use of a resource through making available trained personnel at various levels in industries, and enhancing the professional competence of the industrial workers through refresher courses in different disciplines. IPIRTI is the only training institute of its type in the country. IPIRTI is conducting one-year PG Diploma Course in Plywood and Panel Products Technology (PPPT) to Science and Engineering graduates who wish to make a carrier in wood based industries. IPIRTI is also conducting various short-term vocational training courses with period varying from 1 day to 2 weeks in several wood/panel processing related technologies for Indian as well as foreign students and IFS Officers in connection with forest product utilization for plywood industry, trade and allied industries. Imparting of technical education and/or training at undergraduate, postgraduate, and/or any other level in technology of forests products and plastics, chemicals and paper laminates, and/or synthetic finishing, and manufacturing machinery.

HRD for industries. - Officers of regulating/resource management departments - Forests, Excise, Customs, Bureau of Indian Standards (BIS, the national standardization organization)

Projects for Engineering Graduates Class rooms with modern amenities including audio and video facilities for conducting classes for the trainees of One year PGDC and short term courses are available for training purpose.

The Institute has a unique library dedicated to composite products made from wood and other lignocelluloses materials. A collection of 4152 books on forestry, wood science, polymer science, polymers and allied subjects, journals including international journals and 2618 back volumes are available for ready reference. The library facilities are extensively used by the scientists and trainees, and are also open to industry personnel and researchers from other institutes.

It has a unique library with exhaustive collection of publications connected with wood and wood products for dissemination of information in wood science and technology. About 3000 bound volumes of Indian and Foreign journals published in the field of wood science and technology and more than 4000 books in relevant subjects are available for reference. The library has collections of both National and International Specifications and Code of Practices of Indian and Foreign Standards. The library is also furnished with Internet information services.

Extension

Extension is one of the important activities provided by IPIRTI to Industry. This activity has become an important assignment to extend the Research & Development Works of the Institute to wood and wood based industries including bamboo and other lignocellulosic materials.

Saw doctoring services were also extended to wood based industries by carrying out re-sharpening/re-tipping/jointing work of the TCT saws/Band saws received from Industries.

An extension activity includes information dissemination among the various stakeholders through technical reports, quarterly newsletters, Research Reports, participation in exhibitions. Seminars, conferences, workshops, visit of Scientists and Technology transfer to the target industries/organizations,

ADHESIVE TECHNOLOGY (CHEMISTRY)

The lab has facilities to undertake development of adhesive system based on synthetic resin, evaluation of resin characteristics, testing of resin as per relevant BIS standards, analysis of raw materials used in resin preparation and preservative chemicals, formaldehyde emission measurement as per European Standards, curing behavior of the synthetic resins, Molecular weight determination of organic compounds, toxicity & limited oxygen index measurement, Molecular segregation of polymer etc.

The main equipment available in the lab are Resin reactors, Brookfield viscometer, pH meter, High Pressure Liquid Chromatography (HPLC), Humidity chamber, Differential Scanning Calorimeter (DSC), Atomic Absorption Spectrometer (AAS), Toxicity Index measuring instrument, Formaldehyde emission testing chamber, Limited oxygen index measuring apparatus, Volatile organic compound testing chamber, Liquid chromatography mass spectrometry, Ultra filtration equipment for Molecular segregation of polymer.

BIOLOGY

The lab has facilities to take up investigations on preservatives for protection of wood and other panel products from Fungi, Borers, Termites, etc. It has also facilities for wood identification. The important equipment's available are Incubation chamber, Humidity chamber, Ultraphot microscope, Binocular microscope, Microtome, etc.

In addition, for large scale application of preservatives, vacuum/pressure impregnation plant and Boucherie process plant are also available for research and training.

CENTRE FOR BAMBOO DEVELOPMENT (CBD)

The centre has machinery for primary processing of bamboo and machines for developing bamboo laminates and bamboo mat panel products. The main machines concerned with these activities are Bamboo cross-cutting machine, Bamboo splitting machine with knife and circular saws, Two side planer, Four side planer, Slivering machines, Bamboo mat corrugated press, Bamboo laminate press, etc.

PROCESS DEVELOPMENT, ENGINEERING, SAW MILLING AND SAWDOCTORING (PDES),

The Division undertakes development of process/equipment/machine/product based on the requirement of the In-house/Sponsored project. Division is actively involved in Training and extension activities of the Institute. The division has a maintenance workshop for taking care of repair and maintenance works of machines

installed in various plants and mills and also for fabrication of small equipment's, instruments, jigs, fixtures, accessories etc.

PRODUCT APPLICATION AND SAW MILLING (PASD)

The division undertake Research & Development on Housing System and its components. Division is actively involved in Promotion of Bamboo based housing system by putting model houses at various places. Technical Consultancy & Training for the Engineers, Architects, Govt. agencies, Industries and other private firms on Bamboo based housing system is part of the divisions work. Division is also involved in civil works and other building maintenance works. Carpentry shop is under this division and caters to the development of furniture, joinery and other housing components as needed under different R&D projects. The test specimens as per BIS standards required for testing various types of panel products are also prepared in the carpentry shop.

INFORMATION TECHNOLOGY

As an electronic media for sharing & disseminating technical and products information internet holds immense potential for forest based industry. The forestry sector including the timber industry is already having a substantial presence on the Net. To facilitate sourcing of global research and development related information Internet facilities were established. Some wood related information has been down loaded from the Internet and the hard copies are available at the Institute library as IPIRTI Internet Information Booklets. To give global research overview on wood products "Wood Products Research Update"- a bimonthly digital information service of IPIRTI was rendered to members of IPIRTI's Society through E-mail.