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Programme Book



SCHEDULE

The 4th International Symposium of Indonesian Wood Research Society (IWoRS)

AMBON, OCTOBER 21, 2016

Waktu	Acara	Moderator
08.00-08.30	Registration	
08.00-09.30	Opening Ceremony	
09.00-09.10	Organizing Committee Report	
09.10-09.20	Opening ceremony by Head of MAPDI	
09.20-09.30	Opening ceremony by Rector of Pattimura University	
09.30-09.40	Opening ceremony by Ambon Mayor	
09.10-10.00	Coffee Break	
10.00-11.00	Keynote Speaker I : Dr. Sang Bum Park <i>Conversion of Woody Resources into Eco-Friendly Materials by Carbonation</i>	Prof. Dr. Ir. Yusan Masjaya, M.Sc
11.00-12.00	Keynote Speaker II : Prof. Dr. Ir. Dodi Handika, MS <i>Water level management in Indonesia's wetland plantation forest to reduce submersean forest infestation: case in <i>Acacia crassicarpa</i> plantation</i>	
12.00-13.00	lunch	
13.00-15.00	Parallel Sessions I	
15.00-15.30	Coffee Break	
15.30-17.00	Parallel Sessions II	
17.30-18.00	The Closing of WoRS 2016	
19.00-21.00	Banquet	

DAFTAR PESERTA PRESENTASI MAKALAH

BIDANG ILMU : WOOD PHYSICS
 RUANG : BANDA NARA 1

Ukiran Kayu dan Perawatan Kayu Tahan Terhadap Hama dan Penyakit
 dan Teknik Pembuatan Produk Kayu

Physical, Mechanical and Soil Bearing Characteristic Properties of Mahoe and Teak Wood

NO	KODE ABSTRAK	WAKTU	NAMA	JUDUL
Moderator : Evalina Herawati				
1.	A2-01	13.00-13.40	Hanusa Abo	Changes in Anatomical and Chemical Characteristics by Reaction Wood Formation in 28 Tropical Angiosperms Naturally Grown in Indonesia
2.	A2-02		Imam Wahyudi	Several Improvement Techniques for The Inferior Quality of Jabon, Sengon, and Teak Woods from Plantation Forest
3.	A2-03		Tomy Lityanto	Heat Treatment on Colour Change and Durability of Perhutani Superior Teak (<i>Tectona Grandis</i> L.F)
4.	A2-04		Wahyu Hidayat	Heat Treatment of Okan Wood (<i>Cyrtocarpus Gabunensis</i> : Effect of Treatment Duration and Clamping on The Color Change, Physical and Mechanical Properties
		13.40-13.50	DISKUSI	
Moderator : Imam Wahyudi				
5.	A2-05	13.50-14.30	Woo-Seok Jeon	Anatomical Characteristics of Stem, Branch, and Root in

				Paulownia Tomentosa Wood and Their Application for Microfibrillated Products
6.	A2-06		Yue Qi	Carbonization of Reaction Wood From Paulownia Tomentosa and Pinus Densiflora Branch Woods
7.	A2-07		Ivulina Herawati	Physical, Mechanical and Bolt Bearing Strength Properties Of Meranti and Kapur Wood
8.	A2-08	13.50-14.30	Yun-Ki Kim	Long Term Monitoring on The Durability of Larch Wood Treated with Wood-Tar and Wood-Vinegar
		14.30-14.40		DISKUSI
Moderator : Fauzi Febrianto				
9.	A2-09	14.40-15.20	Opu Affan G	Studies of Nanostructure and MOE of Kumea and Agathis in South of Sulawesi
10.	A2-10		Trisna Priadi	The Durability, Treatability and Drying Properties of Garitri Wood (<i>Eleocharis gabonensis</i> Schum) from Sekelumi
11.	A2-11		Susilo Budi Husodo	Natural Wood Color in The Arlak Mountain District Area
12.	A2-12		Irlie Rahayu	Physical and Mechanical Properties of Impregnated Sengon by Nano Particle
		15.20-15.30		DISKUSI
Moderator : Trisna Priadi				
13.	A2-13	15.30-16.10	Fauzi Febrianto	Physical, Mechanical and Durability Properties of Bamboo Oriented Strand Board Prepared under Various Pretreatment

LONG TERM MONITORING ON THE DURABILITY OF LARCH WOOD TREATED WITH WOOD-TAR AND WOOD-VINEGAR

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ABSTRACT

This study investigated the changes in anatomical, physical and mechanical properties of larch wood treated with wood tar and vinegar. The treated wood samples with 90 cm long were kept under different conditions as buried underground, deposited in water and exposed in air for 8 years. The properties of untreated larch wood at same conditions were determined for comparison. The deterioration degree was observed by optical microscope, and crystalline properties were measured by an X-ray diffraction. This research was started from 2008 and examined every three years. The results obtained in 2010 showed that the cell walls of earlywood collapsed more severely compared to latewood due to fungi deterioration. This phenomenon occurred more frequently in woods buried underground after wood-tar treatments. Woods exposed in the air after wood-tar treatments, and untreated wood buried underground had highest relative crystallinity of 63%, while woods buried underground after wood-tar treatments had the lowest relative crystallinity of 46%. In the results examined in 2013, woods buried underground after wood-vinegar treatments had more severe deteriorations of cell walls and lower physical and mechanical properties than woods buried underground after wood-tar treatments. In the condition of exposure in air, wood-

tar treated wood cells had more severe deteriorations and lower physical and mechanical properties than wood- vinegar treated wood cells. The third stage of experiments has been started in April 2016, and the results will be shown in the future presentation.

Keywords : Deterioration, Durability, Larch Wood, Wood Tar, Wood Vinegar

ABSTRACT

Quality of the mechanical properties of wood is determined by specific gravity and modulus of elasticity (MOE) because within wood, tracheids, early tracheids appeared that controlled such density and nanostructure also influenced the mechanical properties of wood. Due to arguments, this study is to analyze the effect of succinic anhydride as MMA and crystallite dimensions (crystallite length and crystallite width) as factors was Agatha in South of Sulawesi. Purposes of study is to suggest the influence of nanostructure to MOE. In this study, the measurement of MOE to hardwood and softwood were used standard ASTM D 198-04 (2005). Part of the test specimens from unhardened MOE testing were used as sample for specific gravity formula ($\rho_{0.12}$), ($\rho_{0.2}$), ($\rho_{0.3}$), ($\rho_{0.4}$) and the nanostructure analysis (XRD). The measurement of MMA were using Meyerle formula and crystallite dimensions were using Scherrer formula. The result of this study showed that the correlation between nanostructure with MOE was moderate in larch and high in agathis wood. MOE isn't only influenced specific gravity but also nanostructure. Besides that, the age of tree can affect nanostructure as the mechanical properties of wood.

Keywords: Nanostructure, MOE, Crystallite Dimensions, Formic Agathis