

The 8th IWoRS

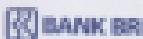
Sirih Bay Hotel, Amedon, October 20-21, 2006

International Conference of World Congress on Technology for sustainable energy and energy of clean energy

Programme Book



AFOLYTH HOTEL



UD. ROMAWISKA

SCHEDULE

The 8th International Symposium of Indonesian Wood Research Society (IWoRS)

AMBON, OCTOBER 21, 2016

Waktu	Jadwal	Moderator
08.00-08.30	Registration	
09.00-09.30	Opening Ceremony	
09.00-09.10	Organizing Committee Report	
09.10-09.20	Opening ceremony by Head of MAPDRI	
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>	
11.00-12.00	Keynote Speaker II : Prof. Dr. Ir. Dodi Nandika, MSc <i>Water level management in Indonesia's wetland plantation forest to reduce subterranean termites infestation: case in Acacia crassicarpa plantation</i>	Prof. Dr. Ir. Yayan Masjaya, MSc
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 IWoRS 2016	
19.00-21.00	Banquet	

DAFTAR PESERTA PRESENTASI MAKALAH

BIDANG ILMU
RUANG : WOOD PHYSICS
: BANDA NAIRA 1

NO	KODE ABSTRAK	WAKTU	NAMA	JUDUL
Moderator : Evalina Herawati				
1.	A2-01	13.00-13.40	Haruna Aiso	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 Jabor, Sengon, and Teak Woods From Plantation Forest
3.	A2-03		Tomy Lisyanto	Heat Treatment on Colour Change and Durability of Perhutani Superior Teak (<i>Tectonia Grandis</i> L.F)
4.	A2-04		Wahyu Hidayat	Heat Treatment of Okin Wood (Ocotea Quercifolia Gabunensis): 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		Ivalina Herawati	Physical, Mechanical and Bolt Bearing Strength Properties Of Maranti and Kapur Wood
8.	A2-08	11.50-14.30	Tun-Gi 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		Opu Alfan G	Studies of Nanostructure and MOE of Kumea and Agathis in South of Sulawesi
10.	A2-10		Trina Priadi	The Durability, Treatability and Drying Properties of Gantri Wood (<i>Glycosigap spheeropus</i> Schum) from Sekabumi
11.	A2-11		Susilo Budi Husodo	Natural Wood Color in The Arlik Mountain District Area
12.	A2-12		Istiq Rahayu	Physical and Mechanical Properties of Impregnated Sengon by Nano Particle
		15.20-15.30		DISKUSI
Moderator : Trina 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 measure of elasticity which depends on their wood species. Many studies reported that wood-cell angle and size have also influenced the mechanical properties of wood. This study aims to evaluate the effect of treatment factors such as NaOH and water on dimensions, crystallite length and crystallite width of larch wood species in terms of Saponification. Further of study is to examine the influence of impregnation by NaOH. In this study, the measurement of NaOH to hardwood and softwood were used standard method. By using XRD, many of the test specimen from impregnated NaOH testings were used as samples for specific gravity analysis, size of C₆₀, C₇₀ and C₈₀ and the heterostructure analysis. Standardized the measurement of NaOH using Langmuir formula and crystallite dimensions were using Scherrer formula. The result of this study showed that the correlation between saponification with NaOH was conducted in low and high temperature wood. NaOH only influenced specific gravity but also surface structure flexible and the size of crystallite affect density similar to the mechanical properties of wood.

Keywords : Hardwood; Softwood; NaOH; Crystallite Dimension; Flexural Strength