

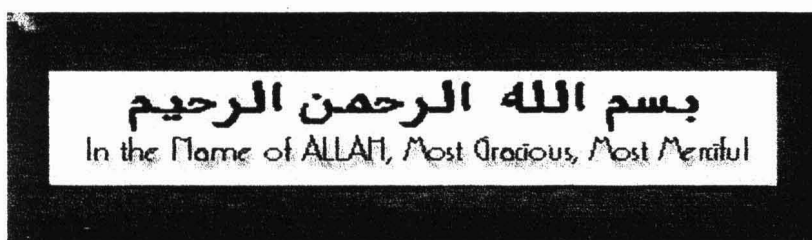
**INTEGRITY AND INSULATION OF TIMBER STUD  
PARTITION WITH FIRE RETARDANT TREATMENT ON  
MERANTI SARANG PUNAI (*Shorea parvifolia*) PLYWOOD  
AS FACING MATERIAL**

By

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**Final Project Paper Submitted to Partial Fulfilment for the Diploma in  
Wood Industries, Faculty of Applied Science,  
Universiti Teknologi MARA**

**April 2007**



First and foremost, I would like to express my greatest gratitude to Allah S.W.T. for giving me the strength, courage and time without which this final thesis could not be completed.

Secondly, I would like to express my special thanks to all of my lecturers for the priceless knowledge that helps me in making this final thesis possible. To my lovely advisor, Puan Efi, your guidance and support had always keeps me in the right track. To my WTE 307's lecturer, Prof. Madya Dr. Jamaludin Bin Kasim for his best guidance during this thesis is being done.

I would also like to record my special appreciation to all staffs of Fire Protection Laboratory in FRIM, En Shahrul, En Suhaimi, Kak Yan En Rosidi and En Fuaz for their help hands during the lab test is being conduct. Especially to my advisor during my practical training, Encik Zaihan Jalaluddin, your generosity and hospitality shall not be forgotten.

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**Abstract**

Non-load bearing timber stud partition using treated MSP plywood as the facing material has been subjected to a test in accordance with BS 476: Part 20: 1987 to determine its fire resistance performance. This study explored how simultaneous treatment of Monoammonium phosphate (MAP) and Diammonium Phosphate (DAP) for plywood from Meranti Sarang Punai (*Shorea parvifolia*) influenced the properties such as fire resistant. The overall size of the treated MSP plywood partition was built within a masonry brick wall. Each treated MSP plywood panel of 900 mm high by 810 mm wide by 18 mm thick was fixed on both sides to a vertical Tembusu or Penaga timber stud of sectional size 810 mm and 795 mm high by 50 mm wide by 50 mm thick. The treated MSP plywood panel were predrilled and fixed to the frame with nominal nails at 300 mm centres to centres. The wall cavity between the boards was than filled with 50mm thick rockwool namely Fibertex of stated density 100 kg/m<sup>3</sup>. As result, MSP plywood treated with DAP shows failure in terms of Integrity during 116<sup>th</sup> minutes of period test while MAP shows failure also in terms of Integrity during 109<sup>th</sup> minutes of period test.