



**INSTITUT PENYELIDIKAN PERHUTANAN MALAYSIA**  
**FOREST RESEARCH INSTITUTE MALAYSIA (FRIM)**  
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Portal Rasmi : [www.frim.gov.my](http://www.frim.gov.my)

Your Ref.:  
Our Ref.: FRIM(S).600-5/6/3Jld.11(56)  
Date: 6 June 2024

**CONFIDENTIAL**

Hyperack Sdn Bhd  
No. 40G & MF, Lintang Gelugor  
Off Persiaran Sultan Ibrahim  
41300 Klang, Selangor

(Attn: Ms. Wennie)

**Sir,**

**TEST REPORT : FORMALDEHYDE EMISSION TESTING-JN 117/24**

With reference to your request dated 13<sup>th</sup> May 2024 regarding to the above mentioned matter, I would like to inform you that one (1) set of Particleboard with 1 Side PU 1221-1 has been received on 27<sup>th</sup> May 2024. The test report was prepared according to ISO 12460-5:2015 (*Determination of formaldehyde release – Extraction method called the perforator method*)

**Specifications:**

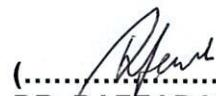
Specification for formaldehyde emission testing (*perforator method*) for fibreboard and particleboard were refer as below:

BS EN 622-1:2003 (Fibreboards – Specifications)		
Table 1 – General requirements at dispatch		
Perforator value	Test method	Requirement
Class E 1	ISO 12460-5	≤8mg/100 g oven dry board
Class E 2		≤30 mg/100 g oven dry board

BS EN 312:2010 (Particleboards – Specifications)		
Table 1 – General requirements at dispatch		
Perforator value	Test method	Requirement
Class E 1	ISO 12460-5	≤8mg/100 g oven dry board
Class E 2		≤20 mg/100 g oven dry board

Thank you

Your sincerely,

  
(.....)  
**DR. Rafeadah Rusli**  
On behalf of  
Director General FRIM

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**TEST REPORT**

Job No.: 117/24	Page 1 of 2
This report consists of 2 pages	
This report is neither a certificate of quality nor an approval certificate. This report is only covers samples supplied by customer to be tested at FRIM. Wood Composite Testing Laboratory (WCTL) is not responsible in selection of samples for testing. This report or any part of it cannot be published or used for any other purposes except with the permission from FRIM.	

**CUSTOMER**

Name and Address : Hyperack Sdn Bhd  
No. 40G & MF, Lintang Gelugor  
Off Persiaran Sultan Ibrahim  
41300 Klang, Selangor

**SAMPLE DESCRIPTION**

WCTL serial number : 2640524  
\*Sample Identity : Particleboard with 1 Side PU 1221-1  
\*Supplier : -  
\*Place, location and state of the board at the time of sampling : -  
\*Manufacturing Date : -  
\*Type of Board : Particleboard (laminated)  
\*Board Thickness (mm) : 9mm  
\*Density (kg/m3) : -  
\*Sampling date : -  
\*Provided by customer : -

Note: The remaining samples will be disposed after testing has been carried out.

**TEST PERFORMED**

Tested for : Formaldehyde determination  
Standard Method : ISO 12460-5:2015 - Determination of formaldehyde release – Extraction method called the perforator method  
Conditioning of test samples : May 29 – June 5, 2024  
Date of samples tested : June 5, 2024

Approved by

Dr. Rafeadah Rusli  
Research Officer  
IKM No: M/3173/5984/11

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**TEST RESULT :**

Conditioning sample : 20.3°C & 69%  
(Temperature & Humidity)  
Extraction time : 120min  
Limit of Quantification : 0.02mg/100g of oven dry board  
Measurement Uncertainty(%) : 8.2

**Formaldehyde Content (perforator method):**

Sample ID	Moisture content at the time of testing (%)	Perforator value (mg/100 g oven dry board)		
		Individual value at each extraction	Mean value	
Particleboard with 1 Side PU 1221-1	8.8	2.5	2.5	<b>2.5</b>



-----END OF REPORT-----

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