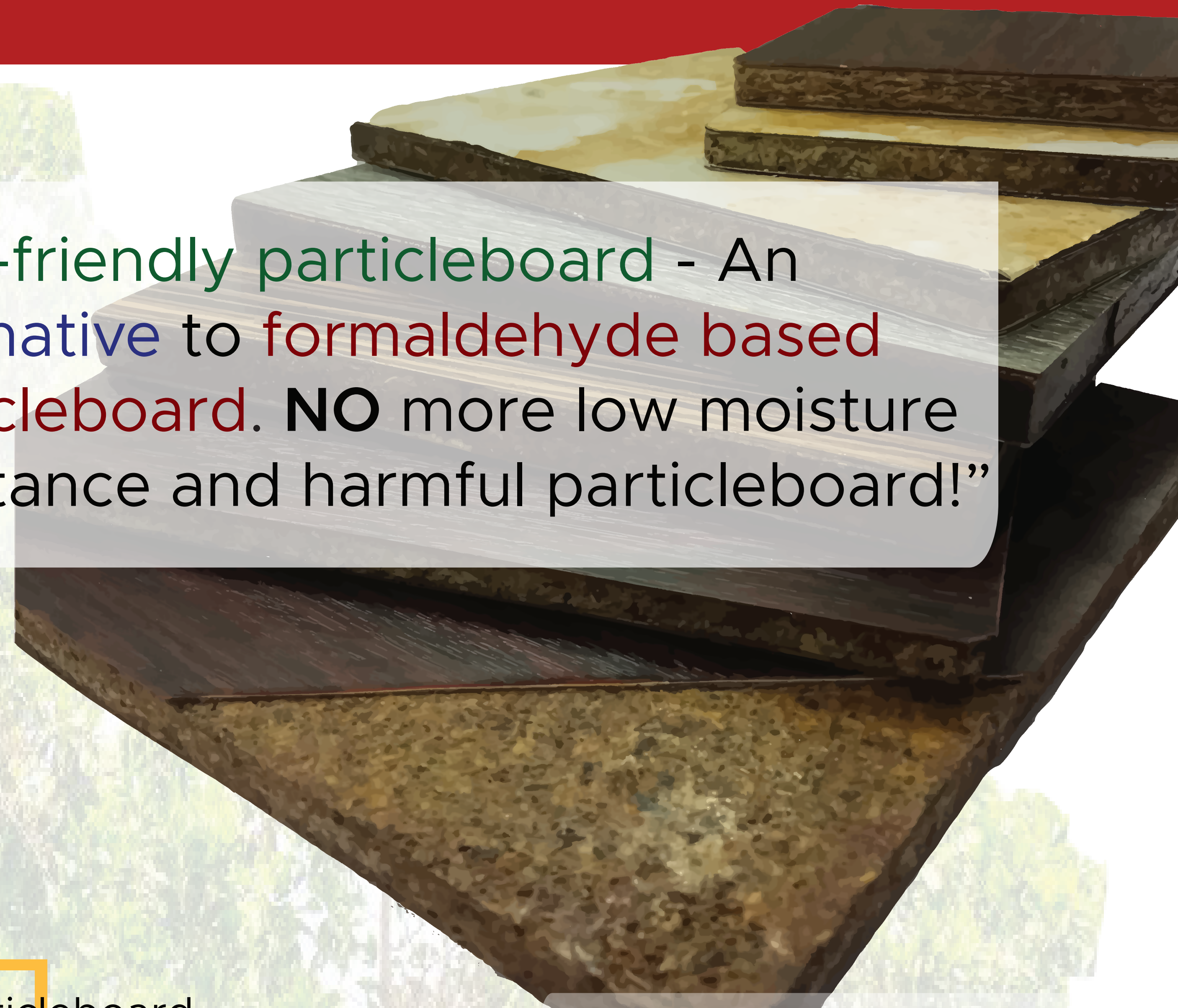


SUSTAINABLE OF PARTICLEBOARD FROM AGRO-WASTE AND NATURAL OIL BASED POLYURETHANE ADHESIVE FOR ECO FURNITURE CONSUMER PRODUCTS



Ts Dr Mohd Nazif Bin Mohd Baharuddin

“Eco-friendly particleboard - An alternative to formaldehyde based particleboard. **NO** more low moisture resistance and harmful particleboard!”



NOVELTIES

- New formulation of particleboard
- Natural based materials
- High mechanical performance
- Low cost
- High water resistance

COMMERCIAL POTENTIAL

- Furniture industries -
- Flooring industries -
- Kitchen appliances -

APPLICATIONS

- Furniture
- Flooring
- Kitchen ware
- Ornament

BENEFITS

- Costs less
- Sustainable & Green
- Eco-friendly
- Improves health
- Saves environment

PUBLICATIONS

1. Physical Properties of Homogeneous Particleboard based on Acacia and Polyurethane Adhesive (IJEAT, Volume-8, Issue-6, Aug 2019, 3382 - 3387) - Scopus
2. Application of Taguchi Method in optimizing fabrication of composite panel for Particleboard (IJEAT Volume-8, Issue-4, Nov 2019, 10981 - 10986) - Scopus
3. The making of particleboard from palm oil fiber and dust wood with epoxy as a resins (IJEAT Volume-8, Issue-4, Nov 2019, 11016 - 11019) - Scopus

PERFORMANCE

- Excellent mechanical properties
- Very low water absorption
- **EXCEED** the minimum requirements of Malaysian Standard (MS) and Japanese International Standard (JIS)

METHODOLOGY



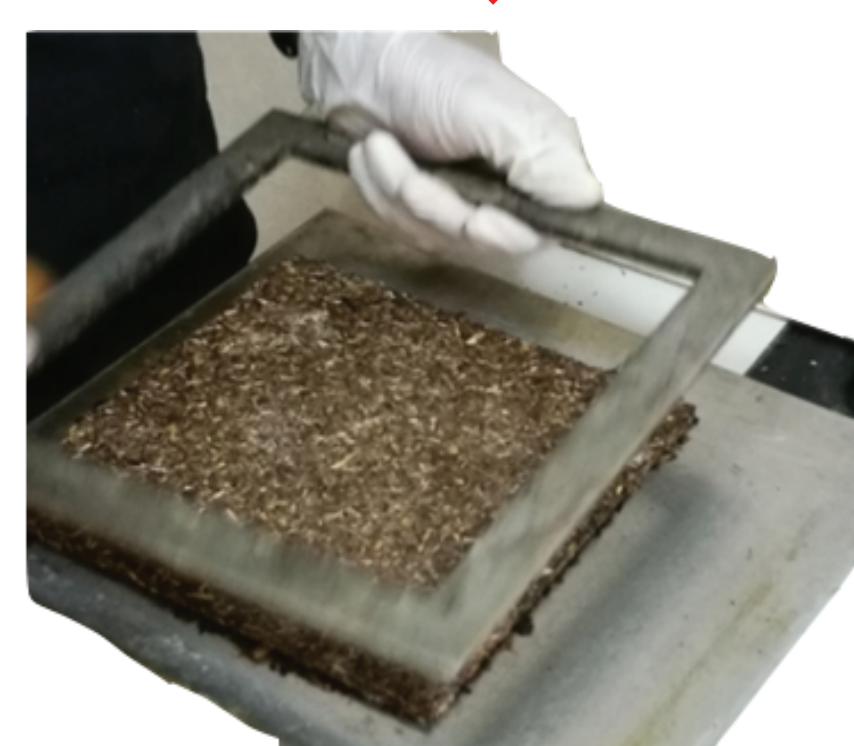
Preparation of Acacia waste particle & Palm Oil based Polyurethane Adhesive



Blending Process



Hot Press Process



De-moulding



Specimens for testing

COLLABORATION



Decorative layer

Acacia based Particleboard

Balance layer

Floor Laminating Design

