

**PROPERTIES OF HDF FOR FLOORING
PRODUCTION: DENSITY, EDGE DENSITY,
INTERNAL BONDING, THICKNESS SWELLING
& MOISTURE CONTENT**

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ABSTRACT

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Since more than 20 years ago, laminated flooring has been used extensively in Europe, and recently, it has gained popularity in many nations worldwide. To develop the value, appearance, and qualities of laminated flooring, this has led to research into and use of the material. The study's goal is to identify the mechanical and physical characteristics of floorboard manufactured from high density fibreboard (HDF). This is done to ensure that the primary raw materials adhered to the standard and had consistent mechanical and physical qualities. HDF used for floorboard manufacture must adhere to the EN standard. The quality of materials and the cost efficiency of production are important factors when it comes to commercializing product to the public market. Batch production is a production method that produce items in bulk at a time. The effect from the bulking practice evaluated. The data from the evaluation analysed to identify the assumption to what caused the effects. Nonetheless, this study was carried out to assist floorboard and HDF manufacturers to have deep knowledge regarding the mechanical and physical properties.

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CHAPTER 1

INTRODUCTION

1.1 Background of the Study

HDF (High Density Fibreboard) or better known as hardboard is a type of engineered wood composite. It is created from wood fibres that are obtained from remains of wood in the form of chips or pulps. HDF is quite similar in comparison to MDF (Medium Density Fibreboard) except it is a lot firmer and denser. It is a suitable composite material for stabilizing laminated flooring and engineered hardwood flooring (Jeff Booth, 2001 – 2021).

In the state of economy these days, most Malaysians are preferring cheaper options for materials to be applied to their home, office, etc. Cheaper does not have to be lower in terms of quality and durability. Solid wood materials or plywood-based materials can somehow burn holes in the pockets of most people living in Malaysia when it comes to applying and maintaining them.

An answer to that, the thriftier and lasting substitutes preferred by most are the use of fibreboards, the HDF and MDF. These two engineered composite materials can be veneered, laminated and painted on one or both sides. HDF is a composite material with a uniform density. The general density of HDF is more than 800 kg/m^3