

# Komparasi Analisis Properti Mekanik Kuat Lentur Balok Bekisting Polimer HDPE Castellated dengan Buakan Lingkaran dan Tanpa Buakan = Comparison of Mechanical Properties Analysis of Flexural Strength in HDPE Polymer Castellated Beams with Circular Openings and Solid Sections

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## Abstrak

Bekisting yang merupakan penyumbang limbah konstruksi terbesar, dan sampah plastik di Indonesia yang terus meningkat tiap tahunnya memerlukan solusi penanganan yang tepat. Dapat digunakan limbah plastik jenis HDPE (High-Density Polyethylene) di Indonesia sebagai bahan baku untuk produk bekisting. Pada penelitian ini akan dilakukan perbandingan analisa properti mekanik kuat lentur balok bekisting HDPE dengan tambahan metode DIC (Digital Image Correlation) dengan pemodelan numerik menggunakan ABAQUS. Hasil dari penelitian ini diharapkan dapat memberikan solusi alternatif bahan bekisting dari HDPE yang kuat dan lebih ramah lingkungan.

.....Formwork, which is one of the largest contributors to construction waste, and plastic waste in Indonesia, which continues to increase every year, require appropriate handling solutions. HDPE (High-Density Polyethylene) waste in Indonesia can be used as raw material for formwork products. This study will compare the mechanical properties, specifically the flexural strength of HDPE formwork beams, using the Digital Image Correlation (DIC) method and numerical modeling with ABAQUS. The results of this study are expected to provide an alternative solution for formwork materials from HDPE that are strong and more environmentally friendly.