

UNIVERSITI TEKNOLOGI MARA

**RECYCLING OF EPDM WASTE: EFFECT OF
RECYCLED EPDM (R-EPDM) LOADING TO
MECHANICAL AND CHARACTERIZATION
PROPERTIES OF PP/R-EPDM BLENDS**

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Final year project proposal submitted in fulfillment of the requirement of the
degree of **Degree of Bachelor of Sciences (Hons.) Polymer Technology**

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AUTHOR'S DECLARATION

I declare that the work in this proposal was carried out originally with my own work otherwise indicated or acknowledged as a reference work.

I, hereby, acknowledge that I have been supplied with the Academic Rules and Regulations for Post Graduate, Universiti Teknologi Mara regulating the conduct of my study and research.

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ABSTRACT

In this work, thermoplastic elastomers (TPE) were produced based on polypropylene (PP) and recycled ethylene propylene diene monomer (R-EPDM) through the internal mixer. The effect of addition amount of filler loading of recycled ethylene propylene diene monomer (R-EPDM) filled polypropylene composite was studied on the tensile test, impact test and characterization of final composite. For sample preparation, five sample with different R-EPDM loading 0%, 10%, 20%, 30% and 40% were prepared. For the mechanical properties result, the highest tensile strength and Young's Modulus show at 0% of R-EPDM loading and the highest elongation at break show at 20% of R-EPDM filler loading. The addition of R-EPDM loading decreased the tensile strength and the Young's Modulus, but the elongation at break showed significant improvement.