

**FINAL YEAR PROJECT REPORT**

**“ IMPACT PERFORMANCE OF POLY-MATRIX  
COMPOSITE REINFORCED FOAM”**

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## **Abstract**

This project is a study of characteristic for 3 types of foam that are reinforced with polypropylene and epoxy composite plates or layers subjected to impact test, namely E38, EA38 and P15. E is stand for Polyethylene foam and P stand for Polypropylene foam. This project is the continuation of the previous project that used the aluminium plate as reinforced layer. In this project composite material was chosen as reinforced layer. The main reasons were it's low cost and light.

Three different reinforced thicknesses were used in this study on the impact performance of the foam materials using a Dynatup Falling Weight Machine with round tup. The machine was fully instrumented where the total energy, absorbed energy, max load and displacement could be easily plotted.

During completing this thesis, some study on composite and testing have been done. It is important to ensure the method; material and testing is follow the standard. From the result, found that P15 is most applicable and effective to reinforce with composite layer.

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