



**STUDY ON DIFFERENCE TYPES OF POWDER PROTECTIVE
COATING EFFECT ON MILD STEEL**

**MARZAIMEE BIN ISMAIL
(2000337983)**

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**Faculty of Mechanical Engineering
Universiti Teknologi MARA (UiTM)**

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ABSTRACT

To study the effect of different types of powder protective coating Epoxy (EP), Epoxy-Polyester (MP), Polyester (PSA) on mild steel. The study of the effect is to better understanding the performance of each powder protective coating selected in term of corrosion rate.

One method to obtain the corrosion rat is by using electrochemical impedance Spectroscopy (EIS). The results of the corrosion rate are plotted in Nyquist Plot.

From the result, epoxy-polyester (Hybrid) powder coating shown the best result compared to the others two. From the theory of EIS, purely undamaged coating will show a vertical straight line of the impedance.

In order to prove the results obtain from the EIS analysis of result, salt spray process to the specimen have to be done. And from the result of salt spray process proven that epoxy-polyester (MP) is the best powder protective coating. It also shows less blistering near the scratches area. From the visual inspection the epoxy-polyester (MP) specimen still give best surface and the cross sectional (scratches) open area are less increase compared than others two under the time range of 48 hours, 96 hours and 144 hours.