

Advanced Materials Research Group

project summary

Project Title	Al-based amorphous alloy coatings for corrosion resistance
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Project Summary	<p>My research project is on Al-based amorphous alloy coatings for corrosion resistance. Al-Transition Metal (TM)-Rare Earth (RE) amorphous alloys have good glass forming abilities and favourable corrosion resistance, and are expected to be a novel coating material to replace the conventional coatings on high-strength aeronautic aluminium alloys such as AA2024.</p> <p>In my project, the amorphous alloy was prepared using various techniques, such as wedge mould casting, laser surface melting and large area electron beam surface melting. The cooling rates and microstructures of the alloy under different processes were investigated. The corrosion behaviour of the alloy with different microstructures was also tested using electrochemical technique. The aim of this work is to understand the process-microstructure-property relationship of Al-based glass forming alloy.</p>

