



# DESIGN FOR THE URBAN MINE

*Utilizing high purity recycled monostreams from household plastic waste for injection moulding*

The company Umincorp (Urban Mining Corp) has developed a technology called magnetic density separation. With this technology they separate mixed plastics that come from household waste and create an output of single type plastic streams with a purity of 99+%. This technique does not only help to increase the quality of recycled plastics, it also helps to make plastic recycling an economically viable business.

Although the need for a more sustainable system for the plastic processing industry has become generally known, common prices and inferior quality have not made recycled plastic a popular material. It is generally known as something that ends up in low-end applications like roadside posts or park benches. Umincorp wants to show that these preconceptions no longer have to be true. For this reason they want to develop their own product that helps to convince potential customers, that Umincorp's material can be used as a valuable resource.

During this graduation project an injection moulded business cardholder has been developed and produced in a 3d printed mould using recycled PP from household waste. The cardholder is a product that can be used on business fairs like the Plastic Recycling Show that Umincorp is attending in April 2019. Next to this, it shows that with the right sorting technologies; coloured, detailed, quality products can be produced by using Umincorp's recycled flakes directly for the injection moulding process.



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