



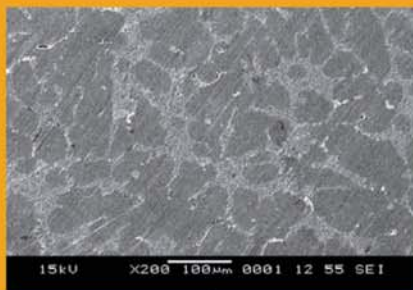
NOVEL OF BINARY METAL-NON METAL MATERIAL FOR STAIR FLOWER PRODUCT (NOVEL Al-PP FOR STAIR FLOWER PRODUCT)

Inventors :

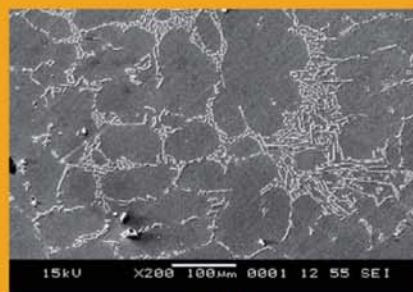
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Al



Al-PP

INTRODUCTION

Material for aluminium product usually made from aluminium scrap. Nowadays, the price of aluminium scrap is increased. The idea is how to minimize the cost of production via minimize the weight of the product without changing the form or the shape of product.

Binary aluminium and metal alloys are common and plenty. In this research, the idea is to combine aluminium with non metal polypropylene. In this case polypropylene was selected because of its low density, and low melting temperature compare with aluminium. However, combining aluminium with polypropylene as alloys is unexplored off. This concept is simple and never been attempted before due to the thermal instability and degradation of polypropylene. The product aluminium-polypropylene is then tested to study its mechanical properties.

MAKING PROCESS



ADVANTAGES

1. Light weight compare to aluminium products without change of shape and dimension.
2. Low density, increase hardness.
3. Cheap and low production cost.
4. Ease of processing.
5. Better handling.
6. Better finishing surface.

Mechanical Properties & Production Cost

| Material | HV | Weight | Price |
|----------|-------|--------|-------|
| Pure Al | 47.83 | 390g | RM24 |
| Al - PP | 70.87 | 400g | RM22 |



Pure Al



Al-PP