

CHARTER V

CONCLUSION AND SUGGESTION FOR FURTHER WORK

5.1 Conclusion

In this research , EVA with 28% VA content was employed as the impact modifier for isotactic PP which was found better than that having lower VA content. At 50% EVA in the blend composition, there was the significant improvement of the impact strength of the resulting PP/EVA blend which was, as determined by SEM, due to the EVA dispersed phase formed continuous phase interfaced with the small droplets of EVA which was also with the PP matrix. The increase of the EVA content in the blend composition from 0 to 40% increased the EVA droplet sizes from 0.3 to 0.6 μm . The usage of 2 phr PP-g-MA as the compatibilizer in PP/EVA blend slightly but not clearly improved the impact property. In addition it was found that, blending of EVA with and without 2 phr PP-g-MA compared with other elastomers, its performance as the impact modifier was better than the others except SEBS which at the blending content of 20% showed the better impact improvement of the resulting PP/SEBS blend.

Tensile strength and hardness decreased with the increasing of EVA content in the blend composition. PP-g-MA had no effect on the tensile strength and hardness. Elongation at break increased with the increase of EVA content in the blend composition at 5-40% and it decreased at 50%. The usage of PP-g-MA slightly decreased the elongation at break at low blending EVA ratio of 0-30 % and rapidly decreased at the high blending EVA ratio of 40-50%, especially at the high concentration of PP-g-MA. For miscibility of PP/EVA blends, EVA could be only miscible with amorphous region of PP.

5.2 Suggestion for Further Work

One of possible research work should be carried out is that EVA with higher VA content than 28% may be used to improve the impact property of PP better than SEBS at all blending ratios.