

CHAPTER V

CONCLUSION AND SUGGESTION

5.1 Conclusion

Mechanical and physical properties of LLDPE/LDPE/HDPE blown films have been studied. When LDPE was kept constant at 15% by weight and HDPE content was varied up to 30% by weight, Young's modulus (Stiffness) of the blown films increased but nearly all other properties decreased. In addition, haze and initial seal temperature of the blown films also increased with increasing HDPE content. This was due to the inferior orientation in transverse direction and superior crystallinity of HDPE. The blown films with HDPE content 15% by weight exhibited the most suitable ones according to the stiffness and haze of the blown films. When HDPE was kept constant at 15% by weight and LDPE content was varied up to 25% by weight, haze and initial seal temperature of the blown films decreased with increasing LDPE content but most mechanical properties became inferior.

Another consequence of the results is that the blown films containing m-LLDPE mostly exhibited better mechanical properties while the blown films containing zn-LLDPE exhibited less haze.

From the study on the non-isothermal melt-crystallization and melting behavior of LLDPE/LDPE/HDPE blown films, it indicated that increasing HDPE content caused

an increase in the crystallinity and Young's modulus but the decrease in clarity of the blown films.

5.2 Suggestion for further study

1. To investigate the mechanical and physical properties of LLDPE/LDPE/HDPE blown films using m-LLDPE and HDPE 15% by weight with film thickness less than 75 micron.

2. To determine the parameters, for example, blow up ratio, cooling rate, quench height and film line speed that affect the mechanical property and clarity of LLDPE/LDPE/HDPE blown film.