

CHAPTER V

CONCLUSIONS AND SUGGESTIONS FOR FUTURE RESEARCH

Conclusions

From the results and discussion presented previously, the following conclusions can be drawn :

1. The work has shown that it is possible to produce the effective nonwoven fabrics from waste silk.
2. It is found that the silk nonwoven fabrics blended with polyester binder fibers are softer and better in appearance than that blended with polyolefin binder fibers.
3. It is difficult to produce the silk nonwoven fabrics at areal density less than 60 g/m^2 , because it would be encountered processing problems, and web can not be uniformly formed.
4. In this study, the silk nonwoven fabrics containing 25-30% of polyester binder fibers have moderate strength and softness that could be compared to the disposable nonwoven products in the market.

Suggestions

1. It could be interesting in further researches to use cross-laid web forming process for producing webs in order to improve strength in cross-machine direction. Because in this study, the use of roller carding machine provides the parallel-laid webs which have high strength in machine direction but strength in cross-machine direction is far below the acceptable range.

2. In bonding process, a use of needlepunching process together with thermalbonding technique may improve strength in both machine and cross-machine directions.

3. More details on actual values of binder fiber contents, and effects of temperature and time in thermalbonding process should be explored in order to achieve the accurated results.

4. some other basic mechanical properties, such as bursting strength, bending modulus, flexural rigidity, abrasion resistance and absorbency should be investigated. These informations would be very useful to evaluated fabric properties for wider potential applications.

5. Further careful studies in the suitable polyester binder fiber contents between 25-30% should be conducted in order that conclusive verification of binder contents canbe achieved.