CHAPTER IV

CONCLUSIONS

The crack morphology of HDPE consist of a half circular region, patchy region, discontinuous growth bands and fast fracture surface. When HDPE is blended with PET the morphological structure exhibits only a patchy region initiated by the defects in the specimen. In Nylon 6,6, the impacted fracture surface comprised of a mirror region, a hackle lines and the secondary crack.

The impact fracture surface of HDPE was initiated by a half circular region, while the fracture of engineering plastics started with mirror region. This indicated that fracture of HDPE exhibited ductile deformation, but the engineering plastics exhibited brittle mode deformation. The crack of HDPE propagated discontinuous growth bands, while in Nylon 6,6 the crack propagated by hackle lines.

After reprocessing 10 passes HDPE showed a reduction in the width of discontinuous growth bands. The processing operation affected more craze and hackle lines along the crack direction and caused a reduction in size of mirror region. of Nylon 6,6.

In the reprocessed PEI, the hackle region dominated the impact fracture surface. However, this nature was not revealed in the virgin materials.