

FUTURE OUTLOOK

The blends of acrylonitrile butadiene rubber/poly(ethylene-co-vinyl acetate) (NBR/EVA) have been characterised using various techniques. The studies revealed that NBR/EVA blends exhibit micro heterogeneity. Heterophase polymer blends are usually characterised by high interfacial tension and poor adhesion between the phases. The performance of heterogeneous mixtures can further be improved by the addition of a suitable compatibiliser.

1. **Compatibilisation studies**

NBR/EVA blends can be compatibilised either by physical or reactive method. In physical compatibilisation a third component (e.g., block or graft copolymer, low molecular weight materials) which is miscible with the two phases could be added. In reactive compatibilisation covalent bonds are introduced between the blend components. The compatibiliser may locate at the blend interface or may present in the bulk. It is expected that the addition of compatibiliser will reduce the interfacial tension and increase the interfacial thickness. Location of the copolymer, interfacial tension and interfacial thickness can be evaluated by various sophisticated techniques. The effect of compatibilisation on the morphology and properties can also be investigated.

2. Electrical property measurements

Usually polymers are used as insulators. The electrical property measurements of a material are important as far as its insulation applications are concerned. These include measurements of volume resistivity, dielectric strength, dielectric constant and loss factor. The evaluation of electrical properties of NBR/EVA blends is worth attempting.

3. Fabrication of useful products

The applications of NBR/EVA blends are envisaged in such items as cable insulants, gaskets, seals, hoses and oil resistant materials. Development of products necessitates detailed investigations on this system. These include studies on oil resistance, compression set, electrical properties and various environmental effects. The standard specifications of the products should also be examined.

