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RESEARCH ON PLASTIC MATERIAL

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AIM OF PROJECT

As we know, the developements of industries based on plastic materials are increased favourly. In many of the established industries, such as automobiles, domestic appliances, building and so on, their inclusion has provided a significant improvement in the performance characteristics of the product. In other case their unique combinations of properties coupled with ease of fabrication has created whole new areas of application or revolutionized the existing industry such as packaging, engineering, medicine, and so on.

By a brief statement above, there are our aims to identify the advantages of the plastics materials. This including the properties, product processing, design procedures, and of course, the types of plastics.

However, our research are based on the general description of the materials, not a specific about such plastics. This because there are a wide range or types of plastics that exhibited a wide range of characteristics.

Finally, we hoped that this research will go long way forward giving a positive confidence in planning to utilize all the advantages inherent in plastics today.

INTRODUCTION

As we know, plastics are the watchword of our everyday environment. Plastics have gained in application and acceptance. In many of industries their inclusion has provided a significant improvement in the performance characteristics of the product.

By the way, before we discuss further about plastics, it is perhaps vital to have a clear understanding of the basic principles of polymer science. This because the terms 'polymer' and 'plastic' are often used as if they are synonymous. But in fact they are not.

POLYMER AND ITS STRUCTURE

The materials like plastic, synthetic rubbers, man-made fibers, films, adhesive, cellular materials, and surface coating are all based on class of chemicals called polymers, distinguished from other types of chemicals by having very long thread-like molecules.

Polymers are organic materials in the sense that the element carbon forms the backbone of their molecular structure. Natural polymer materials apart, all are derived from the fossil fuels, coal and oil.

Plastics manufacturers take materials with small molecules or monomer and polymerize them to make the small molecules join together to form long ones. The products of polymerization are called polymers. The figure 1.1 shown the diagrammatic polymerization of polyethylene.

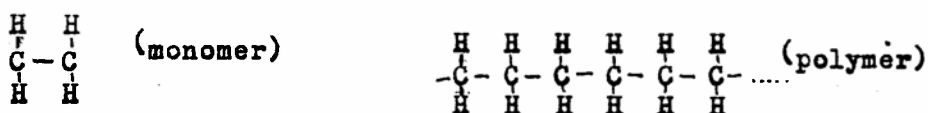


Fig. 1.1 The form of polyethylene