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1. ELASTOMERS

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I. INTRODUCTION

The function of this chapter is to review the classification of elastomers currently available, their basic properties, availability and consumption, and to summarize rubber compounding in order to provide a background on the materials generally used to prepare commercial products.

II. HISTORICAL BACKGROUND

Although rubber has been in use since the 1840s, it was not until the 1900s that the growth occurred to the extent where rubber is a major commodity today. Table I gives a brief summary on the development of the various elastomers.

It is evident that:

1. 99% of natural rubber has been supplied by various plantations during the past sixty years, and this will probably continue to be the major source of natural rubber, with perhaps a small amount supplied by other sources (*i.e.*, Guayule).
2. Other than the thermoplastic elastomers, few types or classes of elastomers have been developed since the introduction of hydrogenated nitriles in the 1980's. However, there have been modifications of the existing elastomers to produce some interesting properties.
3. NR latex still represents about 10% of the total NR produced. There has been little or no increase in the use of synthetic latexes as replacement for NR latex for many uses.