Advanced Rubber for Engineering and Eco-Efficient Applications

Deprotenization of natural rubber whether in dry rubber or latex form has generated a lot of interest in rubber product manufacturing industry. Since 1974 various attempts have been made to produce deproteinized natural rubber (DPNR) at cost-effective commercial production scales with premium DPNR quality to meet the needs of consumers. The Malaysian Rubber Board (MRB) has been successful in this respect and has developed a new and improved method for its production.

Pureprena is a new generation of Deproteinized Natural Rubber which is currently produced under stringent processing conditions at the Malaysian Rubber Board Experimental Station, Sungai Buloh, Selangor, Malaysia. It is produced by treating fresh natural latex with an industrial enzyme which hydrolyses all naturally-occurring proteins in the latex into water-soluble forms. It contains about 96% rubber hydrocarbons compared about 93% for commercial Standard Malaysian Rubber (SMR) grades. The removal of these non-rubber components confers special attributes to the rubber which enhances its suitability for specialized rubber product applications.

Pureprena is an eco-efficient form of deproteinized natural rubber with distinguished raw rubber properties. This specialty rubber has very low nitrogen, ash and volatile matter contents as well as being light in color.

The importance of this highly purified form of natural rubber is related to engineering applications when compounded using the soluble efficient vulcanization system for manufacturing rubber products. Rubber compounds based on **Pureprena** show low creep and stress relaxation, low water absorption, low compression set and a more consistent modulus when subjected to conditions of variable humidity.

Pureprena is therefore suitable for a niche market where the requirements for such properties are very stringent.

Pureprena is an '**Advanced Rubber for Engineering and Eco-Efficient Applications'.**