Introduction to Polymeric Composites with Rice Hulls

Description: There are many types of materials being used for composites, but polymers have played a major part as composite materials due to their versatility and seemingly endless possibilities. Constant research and development has enabled polymers to establish themselves as an essential part of daily life by replacing traditional materials over the years.

Polymer composites with biomasses have been the trend for some time now, with wood plastic composites (WPC) probably the most common. However, a new and exciting field of polymer composites are opening up: polymeric composites with rice hulls. These composites will have better properties than current polymer composites and provide a wider range of end applications from domestic to industrial to building construction. Also, their ability to achieve aesthetically pleasing finishes similar to natural wood veneers and better structural strength will provide an ideal substitute for natural wood. Moreover, these composites can be made available in pellet forms and can be used in injection moulding and other plastic processes to replace traditional resins at lower cost.

The author has over 40 years’ hands-on experience in local and international industrial fields. After much research on this subject, he presents sound practical knowledge on all aspects of polymeric composites with rice hulls. This book imparts detailed and valuable information from the basics of selecting the right processing machinery and raw materials to production technology for resin pellets and end products as well as the vast possibilities of end applications (including building construction). The exciting applications of products made from these polymeric composites with rice hulls as ideal substitutes for natural wood will evoke great interest and help ease current global environmental concerns.

This book will be an ideal source of information for resin-pellet manufacturers, processors and end users as well as enhance research in this field.

About the Author...

After his academic career at the University of Sri Lanka, Chris Defonseka pursued a career in plastics technology, specializing in polyurethane and expandable polystyrene foams. He has trained and worked at some of the largest chemical companies in the world such as ICI, Bayer AG, BASF, Huls AG, Hoechst AG, CIBA Geigy, BP Chemicals, Canon, R.H. Windsor in Europe, India, Switzerland, Germany, Singapore and Malaysia.

His creative expertise enabled him to design and fabricate - Styrofoam boxes for transport of human eyes for the first time in the world, a coating machine for artificial leather, a small plant for EPS products manufacture and a complete foaming and cutting system for flexible polyurethane foams. Also pioneered the manufacture of flexible PU foam in Sri Lanka.

Currently he is a consultant to CESO, a Canadian international agency, in addition to being a technical writer to local plastics magazines

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