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COMMERCIALIZATION OF WASTE TYRE USING A SIMPLE RECYCLING PROCESS

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Abstract

The inability of tires to biodegrade harms the environment and the entire ecosystem. Sometimes, discarding or keeping these old tyres in one location can turn them into a breeding ground for germs, insects, and mosquitoes, leading to infectious illnesses. Wood waste is compressed into crumb rubber as a powder using hot pressing. The scrap wood and crumb rubber used to create the wood-rubber composite have good mechanical qualities. After completing the tensile, tear, and thermal testing, it was discovered that the tensile strength is of the commercial material is 7.848 MPa, which is closer to that of virgin rubber (10 MPa). Over 120 N is Known to be the yield/break force. The yield elongation and %age elongation are determined to be close to 180%, similar to those of virgin rubber. In addition to its mechanical characteristics, it exhibits water absorption rates closer to 1 part in a thousand cycles and extremely little chemical erosion, similar to virgin rubber. The manufactured recycled crumb rubber is also suitable for commercial applications, including flooring, sound insulation, heavy-duty performance, and vibration absorption due to the aforementioned qualities.

Key words: commercial material, crumb Rubber, hot pressing, old tyres, recycled

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