

عنوان مقاله:

Evaluation of Biodevulcanized Waste Ground Tire in Revulcanization Process

محل انتشار:

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خلاصه مقاله:

Waste ground tires were treated by two strains of *Thiobacillus ferrooxidans* (PTCC 1646 and DSMZ583) and by a consortium obtained from a hot water spring with high sulfur content (S-Sarein) in order to devulcanize the ground tire. The processes were made in 3 l flasks at 30 °C for the pure cultures and 50 °C for S-Sarein for 20 days. The increase of sulfate in the media and decrease of sulfur in all ground tire samples indicated the desulfurization process. The samples were then blended with other tire ingredients in order to investigate their physical and thermo-mechanical properties. The results showed that most properties of the samples were enhanced compared to the blanks. The tensile strength, modulus, tear resistance and the rheological behavior were improved in the compound containing waste tire treated by PTCC 1646. Whereas, the elongation at break was best improved in the compound sample containing waste tire devulcanized by DSMZ 583.

کلمات کلیدی:

Devulcanization Thermo-mechanical Properties Microorganism Recycling

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