

Structural studies of composites obtained through of mixture of leather waste and elastomer thermoplastic

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The leather is a material utilized in several applications. However to is commercialized is necessary submit the chemical process, where tanned with basic sulfate of chromium III. After tanned process is necessary wear to obtain desired shapes, but in the final this process is generated a solid waste, called pó de rebaixadeira. This residue is today one more big preoccupation in the world, because is generated 225 kg of residue by ton of leather and 3% this quantity corresponds the chromium III. The byproduct is discarded in landfills which can bring problems to environment because the chromium in the structure can to oxidize to Cr⁶⁺. In order to direct applications, developed composites by mixture of leather waste with thermoplastic elastomers obtained through of mixture of natural rubber with low density polyethylene, creating a new material to be utilized in several technologies areas, like for example the fabrication of machine parts. The mixture of materials was realized in a HAAKE Reometro followed by the process of pressure hot in the temperature of 150°C to molding and vulcanization of elastomeric phase. The composites were characterized by spectroscopy FT-IR to verify the occurrence of chemical interactions between constituents.

Biography

Elton Aparecido Prado dos Reis is graduated in physic from Universidade Estadual Paulista Júlio de Mesquita Filho. Master in Science and Technology from Materials from Program of Postgraduate in Science and Technology of Materials-UNESP. Actually is doctoral student in Science and Technology of Materials from Program of Postgraduate in Science and Technology of Materials. He has experience in polymers, acting in composites, elastomers thermoplastics, natural rubber, low density polyethylene and leather waste.

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