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INFLUENCE OF PROCESSING PARAMETERS ON THE PROPERTIES OF PET REGRANULATES

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The influence of residence time in solid state polycondensation (SSP) tower on the mechanical properties and intrinsic viscosity of the PET regranulates produced on the extrusion Recostar 65 line and SSP viscotec reactor (both from Starlinger – Austria) has been shown in this paper. It has been shown that every 1 hour residence time in the reactor increase the intrinsic viscosity of 0,011. The tensile tests have shown that average values of the maximum tensile strength and Young's modulus increase with increasing the intrinsic viscosity while the average elongation of the samples decreases. The work has shown also that moisture in the output material can be lower than 50ppm (after 8 hours residence time) and the AA (acetaldehyde) content is lower than 1 ppm. The research has shown that post consumer regranulates (PCR) PET produced from polyesters wastes have very good mechanical properties. Increasing intrinsic viscosity and decontamination of PCR PET pellets give the possibility of obtaining the material for direct food contact with EFSA and FDA compliance. The research confirmed also that machinery and technology actually used, gives us the possibility of producing the high quality packaging materials from polyester's wastes.