

COMPARISON OF PROPERTIES OF E-SBRs FROM DIFFERENT MANUFACTURERS

Kadeřábková A.¹, Nováková M.¹

¹*UCT Prague, Prague, Czech Republic*

Butadiene-styrene rubber (SBR) is one of the most widely used synthetic rubbers. It is most often used for the production of tires, as well as for the production of soles, adhesives, but also chewing gum. Cold emulsion polymerization production at 5 ° C predominates. This creates rubbers with an optimal ratio of good mechanical properties and price. It is important for tire manufacturers to know the properties of both the rubbers themselves and the vulcanizates made from them. By comparing the same type of rubber from different manufacturers, we find out how much the given properties differ. This can play a crucial role if they are replaced within a specific production process. For comparison, there are 8 samples E-SBR rubbers from 8 manufacturers with the designations 1500 and 1502, differing in color in the raw state, or the type of antioxidant, emulsifier and monomer used (styrene / α -methylstyrene). Determination of viscoelastic properties, molecular weight distribution and glass transition temperature were used to evaluate rubbers. Vulcanization curves of unfilled and filled mixtures were also obtained, and physical and mechanical properties were measured.