

SUPERIOR MECHANICAL PROPERTIES OF RECLAIMED SBR WITH BIMODAL NETWORK

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ABSTRACT

The correlation between the mechanical properties of revulcanized SBR, total and polysulfidic crosslink density, gel fraction of original vulcanizate, ultrasonically devulcanized, and revulcanized rubber is described. Under some processing conditions the tensile strength of revulcanized SBR is found to be much higher than that of the original vulcanizate with elongation at break being practically intact. A model explaining the increase in mechanical properties of revulcanized rubber is proposed.