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Tear Strength and Dynamic Cutting Resistance of NR/SBR Blends

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Abstract: The influence of the blending ratio of natural rubber (NR)/styrene-butadiene rubber (SBR) on the trouser tear strength and dynamic cutting resistance of the blends was studied. It was found that with the increase of the amount of SBR, the tear mechanism showed a transition from stick-slip tearing or knotty tearing to steady tearing, the peak value of tear force decreased and the bottom value increased. When the continuous phase was NR, the compound showed long-range tearing characteristic, the crack tip was relatively hard to be broken and the tear energy under dynamic loading was high. On the other hand, when the continuous phase was SBR, the crack growth rate was low, the crack tip was prone to be broken and the tear energy was relatively low. It was also found that the compound having a higher bottom value of tear force usually possessed lower tearing energy under dynamic loading.

Keywords: natural rubber; styrene-butadiene rubber; blend; trouser type test piece; tear strength; dynamic cutting resistance

信息·资讯

益阳橡机高效节能串联式密炼机获奖

由益阳橡胶塑料机械集团有限公司自主开发的国内首套高效节能串联式密炼机日前获得由中国化工集团颁发的中国化工科学技术二等奖。

近年来,该公司努力使产品向更加节能、降耗、环保方向发展,在一步法炼胶设备研发上迈出了积极的步伐,成功研制出具有自主知识产权的国内首台高效节能串联式密炼机。该

机填补了国内空白,是目前国内乃至国际领先的炼胶设备。首台样机由2台密炼机上、下串联而成。相对于传统的密炼机,该密炼机生产效率可提高50%以上,节电60%以上,极大提高了胶料的分散性和均匀性,从而显著延长了轮胎使用寿命,同时还减少厂房投资和设备投资约30%。

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