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Study on Plastication Behavior of Epoxidized trans-1,4-Polyisoprene

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Abstract: The plastication behavior and aging degradation of epoxidized trans-1,4-polyisoprene (ETPI) were investigated by using torque rheometer. The results showed that, as the epoxy content increased, the plastication started earlier. The plastication behavior of ETPI with higher epoxy content showed higher sensitivity to temperature. The side reaction of ETPI occurred during plastication, which produced alcohol and furan ring structure. The side reaction became more severe as the epoxy content increased. In the beginning of the plastication process, the cross-linking reaction occurred at first, and then the cross-linking bonds were broken which reduced the gel content.

Key words: epoxidized trans-1,4-polyisoprene; plastication; aging degradation

曙光院为运-20 大型运输机首飞立新功

中图分类号: TQ336.1; V226+.8 文献标志码: D

日前,我国自主研发的运-20 大型运输机在西安阎良基地进行了首次成功试飞。作为独家配套运-20 大型运输机航空轮胎的参研单位,曙光橡胶工业研究设计院(以下简称曙光院)为发展我国航空轮胎技术再立新功。

运-20 大型运输机是我国自主研发的大型、多用途运输机,可在复杂气象条件下执行各种长距离航空运输任务。运-20 大型运输机最大起飞质量为 220 t,最大运载质量为 66 t,整机技术水平可跻身世界前列。因此飞机对航空轮胎的要求特别严苛,不但在高速、高负荷、耐磨性能和耐冲

击性能等方面提高了技术标准,在轻量化、散热性和耐扎刺性能等方面也提出了更高要求。

曙光院是由原化学工业部于 1971 年组建的全国唯一的特种轮胎研究单位,1999 年 7 月起隶属于中国化工集团公司,是国内特种轮胎专业科研单位、中国航空轮胎行业的领军企业以及重要的航空轮胎产业基地。曙光院化学工业特种轮胎工程技术中心拥有我国自主研发的航空子午线轮胎技术,化学工业特种轮胎质量监督检验中心是国内特种轮胎检验中心和国家试验室。同时该院还是全国航空轮胎标准化技术委员会依托单位、国内航空轮胎国军标和国标的归口单位。

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