

表1 3种胶料参数对比				
项 目	Neo-Hookean	Yeoh		
	C_{10}	C_{10}	C_{20}	C_{30}
K01				
单轴拉伸	0.785 5	1.007 0	-0.789 3	0.511 2
剪切	0.812 5	0.978 5	-0.941 8	0.839 0
K02				
单轴拉伸	0.495 1	0.556 6	-0.330 4	0.222 1
剪切	0.662 8	0.808 0	-0.956 3	0.986 7
K03				
单轴拉伸	0.412 6	0.524 9	-0.392 4	0.265 4
剪切	0.514 4	0.572 5	-0.502 0	0.495 0

材料超弹性,显然用剪切模式得到的Yeoh参数进行仿真计算得到的结果不同。

3 结语

研究了橡胶材料剪切模式进行动态应变测

试的方法,并以3种胶料为例进行了测试分析,表明温度是橡胶材料性能的关键因子;通过相同材料多次测试,说明测试过程中会出现Payne效应和Mullins效应,可通过测试多次的方法消除Mullins效应的影响;根据剪切模式受力方式推导了几种超弹性本构模型公式,并与单轴拉伸数据拟合结果进行了对比。

参考文献:

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Analysis of Rubber Material by Simple Shear Test

FU Xinhua¹, JIANG Xiaofeng¹, FANG Zijun¹, WANG Ruoyun², DENG Caixia¹

(1. Triangle Tire Co., Ltd, Weihai 264200, China; 2. Beijing University of Chemical Technology, Beijing 100029, China)

Abstract: In this paper, strain sweep test of rubber compound by using dynamic shearing was discussed, and the test result indicated that temperature was a key factor influencing the rubber material properties. The results of several tests of the same material showed Payne effect and Mullins effect. The influence of Mullins effect could be eliminated by multiple testing. Several hyperelastic constitutive model equations were derived based on shear force mode, and compared with the modeling results from uniaxial tension data.

Key words: rubber; viscoelastic behavior; simple shear; hyperelastic behavior

大陆推出新TerrainContact A/T轮胎

中图分类号:TQ336.1;F27 文献标志码:D

美国《现代轮胎经销商》(www.moderntiredealer.com)2016年7月12日报道:

大陆轮胎美洲公司选择在美国宾夕法尼亚州法明顿推出其TerrainContact A/T轮胎(见图1)。该轻型载重轮胎专为拥有豪华越野性能的皮卡和SUV车型设计。

该轮胎的特点是开放、醒目的胎面花纹,花纹采用噪声阻断设计,将推出35个规格:轮辋直径最大至559 mm(22英寸)的20个公制规格及轮辋直径最大至508 mm(20英寸)的15个轻载(LT)规格。公制规格范围为265/75TR16到285/45HR22 XL。



图1 TerrainContact A/T轮胎

首个大陆品牌LT规格的范围为LT245/75R16 到LT285/60R20。所有规格产品均享有96 600 km(60 000英里)胎面磨损担保。

大陆公司称,该轮胎预计2016年秋季面市。

(吴秀兰摘译 赵敏校)