

Design of Hydraulic Vulcanizing Machine with Side Plate for Radial Truck Tire

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Abstract: The design of LLY-B1665 × 4580 × 2A hydraulic vulcanizing machine with side plate for radial truck tire was described. The vulcanizing machine was mainly composed of the mainframe machine, tire loading and unloading system, hydraulic system, electrical control system, and pipe and valve components. The side plate unit was independent from the mainframe machine. The four cylinders were evenly distributed in the circumferential direction, and operations such as clamping, pressing, mold driving, robot hand manipulation and running of central machine were driven by the cylinders. In addition, the hydraulic system with suitable and economical power was designed.

Keywords: hydraulic tire vulcanizing machine; side plate; radial truck tire

信息·资讯

胎面胶硬度与磨耗量具有补偿效应

在泰国举行的第20届国际声与振动学术会议大会上,香港理工大学公布一项研究结果:胎面胶的硬度与磨耗量在轮胎使用寿命期内彼此具有补偿效应。

这项名为轮胎硬度和花纹深度对轮胎/道路噪声的影响的研究采用横滨橡胶公司2007年生产的同一批次的4条轮胎,对不同胎面胶硬度和花纹深度的轮胎噪声进行测试。测试是在压实的沥青跑道和多孔疏松的沥青跑道上进行的。

结果显示:随着胎面胶日益变硬,轮胎的滚动噪声增大,但花纹深度减小可部分抵消这种影响,从而降低滚动噪声,其效果还取决于车辆的

行驶速度和路面状况。在压实的沥青路面上,行驶速度为 $50 \text{ km} \cdot \text{h}^{-1}$ 时,胎面胶硬度增大,轮胎滚动噪声增大。在多孔路面上观察到了相似的结果,但是行驶速度为 $50 \text{ km} \cdot \text{h}^{-1}$ 时,轮胎滚动噪声与花纹深度没有明显的相关性。

根据这项研究,在压实的沥青路面上,轮胎滚动噪声频率最高达到1000 Hz,胎面胶硬度对噪声频率的影响不大,而花纹深度对噪声频率的影响相当大。在多孔路面上,滚动噪声频率最高达到800 Hz,胎面胶硬度对噪声频率的影响十分明显,而花纹深度却未对频率产生重大影响。

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