英语学习

英语翻译技巧(33)

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1.4 TYRE CONSTRUCTIONS

Figs 1, 2 and 3 illustrate the three basic well-established tyre constructions①.

1.4.1 Standard Diagonal Ply Tyre Construction

It will be seen (Fig. 1)that the internal structure comprises layers of cords, normally two or four in number which run diagonally from bead to bead, with adjacent layers assembled at opposite bias (The operation of coating with rubber compound has been outlined in Section 8.5)②. Each layer of rubbered cord is known as a ply. It will be noted that the outer edges of the plies are interlocked around the steel wire bead coils in order that reorientation of the casing angles, during the vulcanisation process, will take place in a controlled manner. It is imperative that individual cords are evenly tensioned in the finished product, in order to contain tyre growth, obtain the optimum structural performance, and achieve an acceptable level of uniformity③.

1.4.2 Belted Bias Tyre Construction

Again the casing plies are cut at an angle approximating to that used for standard diagonal ply tyres and are assembled together in a similar manner to produce a balanced and uniformly tensioned structure (Fig. 2)④.

The fundamental difference in the construction is that the plies are surmounted by two or more layers of rubbered cord material, cut at a lower angle than the carcass plies⑤. These are in the form of circumferential strips extending across the full width of the crown area of the tyre, and fitted with an opposed bias relationship to the casing plies, and to each other⑥. These form a restraining belt which raises the modulus of the tread area, thereby controlling the inflated tread profile and also reducing tread pattern movement.

In N. America, where this construction is rapidly replacing the diagonal ply tyre, glass fibre is widely used for belt components.

生 词

well-established	非常确实的
diagonal ply tyre	斜交轮胎
diagonally	斜向地,对角地
bead	胎圈
rubbered cord	挂胶帘布
interlock	互锁,固定
steel wire bead coil	钢丝圈
reorientation	重新定位
casing angle	胎体帘布角度
tension	拉伸,张力
tyre growth	轮胎胀大
uniformity	均匀性
belted bias tyre	带束斜交轮胎
crown area	胎冠区
modulus	定伸应力,模量

inflated	充气后的
tread pattern	胎面花纹

译　文

1.4　轮胎结构

图 1,2 和 3 非常真实地说明了 3 种基本的轮胎结构(图 1,2 和 3 略)①。

1.4.1　普通斜交轮胎结构

从图 1(略)可以看出,内部结构包括通常是 2 层或 4 层于两个胎圈之间对角排列的帘布,相邻的帘布层是交叉贴合在一起的(8.5节概述了挂胶工序)②。每层挂了胶的帘布叫作一层帘布层。要注意,帘布层的外边是包绕胎圈后固定到帘布层上的,以便胎体帘布角度在硫化过程中以一受控方式重新定位。为了抑制轮胎膨胀,获得最佳结构性能和合格的均匀性,成品轮胎中每根帘线受力都必须相等③。

1.4.2　带束斜交轮胎结构

胎体帘布也是按照接近普通斜交轮胎所用的裁断角裁断的,而且用类似方法成型,得出一个平衡的受力均匀的结构(图 2 略)④。

结构上的主要区别在于其胎体帘布层上有两层或多层裁断角度小于胎体帘布的挂胶帘布⑤。这些挂胶帘布为环筒形,与胎冠部位同宽,与胎体帘布交叉排列,其本身之间也互相交叉⑥。这些挂胶帘布形成了起箍紧作用的带束层,它提高了胎面部位的定伸应力,从而控制了胎面轮廓胀大,同时还减少了胎面花纹块移动。

这种结构的轮胎在北美正迅速取代斜交轮胎,而玻璃纤维被广泛用于带束层。

注:①"well-established"原文中为定语,译文中将之作为状语处理。

②"two or four in number"是补充说明"layers of cords"的,可看作同位语;"from bead to bead"意为"从一个胎圈到另一个胎圈",可译为"在两个胎圈之间";而"with adjacent layers assembled at opposite bias"为带介词的分词独立结构,"assembled"前省略了"being"。

③"that"引出的是主语从句,"it"是先行词;"in order to "后面三个动词不定式短语"to contain…","obtain…"和"achieve…"是并列成分,作目的状语。

④"are cut"和"are assembled"是并列的谓语动词;"approximating to that used for standard diagonal ply tyres"为现在分词短语作后置定语修饰前面的"angle"。

⑤"cut at a lower angle than the carcass plies"为过去分词短语作后置定语,修饰"layers of rubbered cord material"。

⑥"extending across … tyre"和"fitted with…to each other",分别为现在分词短语和过去分词短语作后置定语修饰"circumferential strips";"to the casing plies, and to each other"都是"opposed bias relationship"要求的介词宾语。

国内消息

延长热水泵轴承寿命的措施

洛阳轮胎厂第五分厂除氧站所用热水泵在运转中的最大问题是轴承早期损坏,其运转使用寿命一般不超过 100h,且在被迫停运检修中检修强度大、费用高(据统计,仅更换轴承,零件费用每月即达 2500 元之多)。现就造成轴承损坏的原因进行分析并提出相应的解决办法。

从结构上分析,造成轴承损坏的原因有两个:一是轴向力大于轴承的承受力。该泵主要是靠叶轮对称布置来减小轴向力的,但在连续运行中,总的轴向力还是趋向低压侧方向(向左)。泵轴的一端使用的是一个 42610 型轴承,主要用来承受径向力,另一端使用的是两个 36310 型轴承,它们采用对装装配方式(见图 1),主要承受来自左、右两个方向的轴向力。当轴向力超过单个轴承向左方向的承受力时,将会导致轴承损坏,而这种对装方