英语学习

英语翻译技巧(25)

涂学忠
(化工部北京橡胶工业研究设计院 100039)

5 Coating of Textile Fabrics

5.1 INTRODUCTION

Coating of textile fabrics is an extremely important aspect of technology. Fabric reinforcements of many kinds are used in a wide variety of products performing a number of important functions (including structural load bearing)①.

The processing of fabrics has become increasingly complex with the advent of synthetic fibres, for it is necessary to treat them chemically in order to achieve a bond to the rubber and to obtain the full advantage of their reinforcement possibilities②. The use of cotton, which was for many years the only suitable fabric available for rubber strengthening, presented little problem, owing to the inherent structure of the fibres providing a good mechanical key to the polymer mass③.

The synthetic fibres were studied by rubber manufacturers initially as reinforcement for pneumatic tyres, and thus most of the basic research studies have been by this section of the industry. The first rayon tyre cords were produced in 1923. Du Pont started to manufacture high-tenacity rayon, Cordura, in 1933, and Courtaulds produced Tenasco in 1936. In 1947, nylon cords were first used. The next synthetic fibre to be used was polyester in 1962, and, most recently, glass fibre tyre cords have been used in a new range of tyres in N. America.

5.2 ADHESION OF RUBBER TO TEXTILE SUBSTRATES

Cotton presents little difficulty in securing adhesion, whether the rubber is applied from solvent dispersion or latex, or by calendering or frictioning④. The degree of adhesion of rubber to the textile depends both on specific adhesion of the two materials and on the geometrical structure of the latter. The phenomenon is very complex; adhesion depends greatly on the detailed characteristics of the fibre, yarn, weave, and polymer used. Specific adhesion arises from intermolecular attraction between the polymer and fibre or fibre coating; mechanical adhesion is determined by the geometrical structure which permits interlocking through the fabric interstices of the rubber mass.

生	词
coating	覆胶,挂胶,贴胶
textile	纺织物
fabric reinforcement	织物增强材料
mechanical key	物理键
pneumatic tyre	充气轮胎
cotton	棉
rayon	人造丝
cord	帘线
high-tenacity	高强力
nylon	尼龙
latex	胶乳
solvent	溶剂

frictioning	擦胶
geometrical	几何的
fibre	纤维
yarn	纱线
weave	织物
intermolecular	分子间的
attraction	引力
fabric interstice	布眼

译　文

5　织物覆胶

5.1　引言

织物覆胶是加工工艺中非常重要的一个方面。许多织物增强材料用于各种各样的产品，起着多种重要作用(包括结构承载)①。

随着合成纤维的出现，织物加工愈来愈复杂，因为要使合成纤维与橡胶粘着和获得用其增强的全部优点，必须对合成纤维进行化学处理②。在过去许多年中，棉织物是唯一可得到的增强橡胶的适宜织物。用棉织物几乎没有问题，因为棉纤维的特有结构向聚合物提供了良好的物理键③。

开始橡胶加工厂是把合成纤维作为充气轮胎的增强材料进行研究的，因此大多数基础研究都是由轮胎部门搞的。最早的人造丝轮胎帘线是 1923 年生产的。杜邦公司于 1933 年开始生产高强力人造丝 Cordura，Courtaulds 公司于 1936 年生产了 Tenasco。1947 年尼龙帘线首次投用。下一种合成纤维便是 1962 年投入使用的聚酯，最近玻璃纤维轮胎帘线已在北美新轮胎系列中得到了应用。

5.2　橡胶与织物衬底的粘合

不管用胶浆或胶乳涂胶，还是用压延机贴胶或擦胶，棉织物与橡胶的粘合都没有什么问题④。橡胶和织物的粘合强度既取决于这两种材料的粘合特性，也取决于织物的几何结构，这种现象十分复杂；粘合强度主要取决于所用纤维、纱线、织物和聚合物的详细特性，粘合特性是由聚合物和纤维或纤维涂层分子间的引力造成的；物理粘合力取决于几何结构，该结构应能使橡胶基质透过布眼互相粘着在一起。

注：①“performing……”为现在分词短语作状语。

②“for it is……”引出的是原因状语从句，其中“it”是先行词，而“to treat them……”这一不定式短语是此从句的主语；“in order to achieve……”和“to obtain”这两个不定式短语是状语。

③“providing a good mechanical key to the polymer mass”是现在分词短语作定语，修饰“the inherent structure of the fibres”，译成汉语时可把“owing to”引出的介词短语作为独立句子处理。

④此句中第 1 个“or”将“solvent dispersion”和“latex”并列起来，第 3 个“or”将“calendering”和“frictioning”并列起来，中间的第 2 个“or”是与前面“whether”连用的连词，作“不管……还是……”解。

英译汉常见错误实例

This very small degree of shrinking is mainly radial, but, more importantly, it is constant providing the following conditions are met: the compounds are regular; the profile comes out without tension; the temperature distribution is correct; and the profile is free from bubbles.

误：这种轻度的收缩多为子午胎，但更重要的是，这种情况仍能保持如下条件：胶料均匀、胎面无张力、温度分布合理、无气泡。

正：这种轻度的收缩主要是径向收缩，但更重要的是，只要能满足如下条件，即胶料均匀、胎面挤出后无张力、无气泡、温度分布合理，这种收缩则是稳定不变的。

注：①此句中“radial”不是“子午胎”而是“径向的”。