

## 英语学习

## 英语翻译技巧(14)

涂学忠

(化工部北京橡胶工业研究设计院 100039)

The Double R Mixer is based on a three-roll mill; after mixing, the compound is forced continuously through a die to form a strip or other finished section<sup>①</sup> at one end of the machine.

The Farrel Continuous Mixer is based on a twin-screw extruder, the screws lying side by side in a single barrel. The first stage is a warming stage for stirp or pellets, followed by a small set of rotors for mixing. The rotors are at the leading end of a pair of screws which force the compound through the barrel and a die to form a profiled strip.

The Transfermix comprises a single-screw working in a barrel (Parshall and Saulino, 1967). The base of the screw helix varies in diameter<sup>②</sup>, while the outer diameter is constant. The change in volume of the screw is off set by a cut - away in the barrel. The volume of the cut-away in the screw plus the volume of the cut-away in the barrel give a constant volume through which the compound must pass<sup>③</sup>. Different contours and pitches of screw are available for different applications, such as mixing compound or warming compound. the objective is to provide an amount of feedback as the rubber progresses from the feed to the discharge of the machine, which results in efficient blending<sup>④</sup>.

## 2. 8 CURRENT DEVELOPMENTS IN MIXING TECHNOLOGY

Internal mixers do not normally produce materials in the right physical form either for storage or for subsequent handling<sup>⑤</sup>. In many instances, the degree of black dispersion obtained is inadequate. Thus internal mixers are

always followed by additional processing equipment; either one or more mills, a tuber slitter, a roller die, or a continuous blender-mixer.

Two mills, especially if one is fitted with a stockblender, assist in improving the dispersion of carbon black. They also enable compound changes to be effected quickly and easily without contaminating one batch by another<sup>⑥</sup>. However, the amount of manual effort required is more than with other systems, and a limitation in throughput arises at around 7000 kg/h. A roller die or tuber slitter, on the other hand, can handle much higher throughputs with much less manual effort, but both suffer from the disadvantage of not improving significantly the black dispersion in the compound.

## 生 词

twin-screw extruder	双螺杆挤出机
barrel	机筒
profiled strip	异形胶条, 压型胶条
screw helix	螺杆螺纹
offset	补偿
cut-away	切除, 开槽
pitch	节距, 螺距
physical form	外形, 形状
handling	加工, 搬运
tuber slitter	压片挤出机
roller die	辊筒口型挤出机
stock blender	捣胶器

## 译 文

Double R Mixer 是在三辊开炼机的基础上研制出来的; 混炼后, 将胶料通过一个口型

连续挤出,使之在机器一端形成胶条或其它断面的半成品<sup>③</sup>。

Farrel Continuous Mixer 是在双螺杆挤出机的基础上研制出来的,螺杆并排放置在同一个机筒里。第一段是胶条或胶粒的预热段,随后便是混炼用的一小组转子。这些转子位于双螺杆的前端,螺杆将胶料通过机筒和口型挤出,形成具有一定断面形状的胶条。

Transfermix 的机筒内有个单螺杆 (Parshall and Saulino, 1967)。螺杆螺纹根径不同<sup>②</sup>,但外径恒定不变。螺杆的体积变化可以通过在机筒上开槽加以补偿。螺杆螺纹槽的容积加上机筒沟槽容积构成的胶料必须通过的空间是恒定的<sup>⑥</sup>。根据不同用途,如混炼胶料或加热胶料,可采用形状和螺距不同的螺杆,其目的是使胶料从机器进料口向排料口前进过程中有一定量的反馈胶,从而提高捣胶效率<sup>④</sup>。

## 2.8 目前混炼工艺的发展概况

通常密炼机生产的胶料的形状既不适于存放,也不适于随后的加工搬运<sup>⑤</sup>。在很多情况下,炭黑达到的分散度不合乎要求。因而密炼机下面总是安装了其它加工设备:或是一台或几台开炼机,或是一台压片挤出机,或是一台带辊筒口型的挤出机或一台连续混炼机。

用两台开炼机,特别是其中有一台装有捣胶装置时,有助于提高炭黑的分散性,还能很快、很容易地变换胶料配方,而且批料之间互不污染<sup>⑥</sup>。但其手工操作比采用其它设备多,最高生产能力为  $7000\text{kg} \cdot \text{h}^{-1}$ 。带辊筒口型的挤出机或压片挤出机则与之相反,产量高得多,而且手工操作少,但这两种机器都有胶料中炭黑分散改进不大的缺点。

注:①“other finished section”直译为“其它成品断面”,因为尚未硫化,故改译为“半成品”,而且为了通顺、符合汉语表达习惯,将“断面”调到前面,译为“其它断面的半成品”。

②原文中“in diameter”为句子的状语,中文句子中转译为主语,而原文中的主语译为定语。

③此处第3个“volume”由“容积”转译为“空间”更为通顺、合理。

④此句中“which”引出的是非限定定语从句,“which”代表前面的整个主从复合句。

⑤“in the right physical form”在原文中为宾语“material”的定语,而否定的是动词“produce”,直译为“密炼机通常不能生产形状适于存放或随后加工搬运的胶料”,改译为译文中现在的句子更符合汉语表达习惯。

⑥此句中“changes”是名词,不是动词,与 compound 一起构成宾语,而“to be effected……”为宾语补语。

## 英译汉常见错误实例

Established practical vulcanizing process apply heat to the outside of the article being cured, and rely to varying extents on conduction of heat to the inside.

误:已建立的实用硫化工艺是在外部加热,依赖不同程度的热传导到制品内部而实现的。

正:现行硫化工艺是在制品外部加热,并在不同程度上靠热向制品的内部传导。

注:①“established……processes”直译不如意译为“现行”更通俗易懂。

②“to varying extents”是 rely 的状语,不是“conduction 的定语”。