# <<机电专业英语>>

## 图书基本信息

书名：<<机电专业英语>>

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## 前言

制造业产品在高端领域不能形成很强的竞争力的一个很重要原因是缺少高素质技术工人，这严重制约高技术领域的产业化进程，削弱制造业的竞争力，是制造业大而不强的重要原因。
高素质技术工人应该是既懂技术又懂英语，因为要最大效率地利用好先进的进口设备，技术工人必须懂专业英语，因此，对于高级技工学校的学生来说学好专业英语是非常必要的。
然而目前学校的实际情况是：学生学好专业英语存在诸多困难。
原因之一是学生的英语基础比较差，原因之二是所选的教材太难，不符合学生的实际水平，原因之三是教材在选材上没有紧跟专业的最新进展。
基于此，我们组织了技工院校多年从事专业英语教学的一线教师编写了本书。

本书的大部分文章均选自欧美原版英语教材和国际著名公司网站提供的技术资料。
本书由机械工程技术模块、数控技术模块、电气自动化技术模块三部分组成。
内容主要包括工程制图、Pro／ENGINEER的使用、UG的设计与加工模块、量规、公差与配合、正确开动车床、夹具、磨削加工、注射成型、冲压模具的结构、数控机床的类型及维护和保养、FANUC系统的操作面板、如何编程、特种加工、快速原型制造、万用表及示波器的使用、变压器、直流发电机、步进电机、PLC、电网结构等。
通过本课程的学习将使读者具备阅读专业英语文献的基本技能，帮助读者扩大专业英语词汇量，提高读者在生产实践中充分利用好进口设备的能力。

本书的选材难度尽量贴近读者英语水平，对复杂句子作了详细的语法结构分析和翻译。
在课文内容选择上，本书以实用性和适应性为出发点，即适应当前技工学校高级工班学生的需要，选材时做到篇幅适中、图文并茂。
并针对学生今后要从事的工作，使学生做到学以致用。
本书的每个单元都由课文、生词和短语、注释、练习、阅读材料等部分组成。
阅读材料内容丰富，是对正文的拓展。

## 内容概要

本书由机械工程技术模块、数控技术模块、电气自动化技术模块三部分组成，每个模块含10个单元，每个单元包括课文、生词与短语、注释、练习和阅读材料。
教材内容大部分选自欧美原版英语教材和国际著名公司网站提供的技术资料，所选题材结合技工院校学生实际情况。
本书图文并茂，且对大部分生词标注了音标，同时对复杂句子作了详细的语法结构分析和翻译，有利于提高学生的英语阅读水平。
　　本书可作为技校、技师学院和职业院校机电、数控类专业教材，也适合生产一线工人自学及培训之用。

## 书籍目录

## 章节摘录

All of this relates to the task of setting up and using the horizontal spindle surface grinder.It is atthis point that you start putting together a large number of variables that through your skill andobservation can result in an accurate workpiece.As the operator,you will have more control of theoutcome in surface grinding than in nearly any other portion of the machinist's trade.This is also wherethe wheel selection and preparation：l~ocess are put to the test.　　In surface grinding，it is necessary to reverse one of the more usual principles of machining used inmost of the other chip-making processes.In both turning.and milling for metal cutting volume，the machinist：tries to keep the depth of cut to a maximum,adiusting all,the other variables such as speed sand feeds to match that concept.In surface grinding，the important,thing is to match the actions of work piece speed，crossfeed,and downfeed to keep the grinding action as consistent as possible，while at the same time avoiding damage to the workpiece.The example used in this unit will be in the grinding of a vee block,but before beginning with that，some other generalities about horizontal spindle surface grinding should be considered.　　Starting with a broad surface of a soft steel like AISI 1018，a suitable selection of wheel and grinding variables would be as follows：An aluminum oxide abrasive，of 46 grit sizes in a J bondhardness.The bond itself is vitrified.Tlae wheel speed for vitrified wheels is usually from 5500 to 6500sfpm；the table speed would be 50 to 100 Sfpm.The-crossfeed rate would be 0.050 to 0.500 in.per pass,with a maximum being one.fourth the wheel width.For roughing，the downfeed would be o.003 in。
，andfor finishing，0.001 in.maximum.　　If the salne AISI 1018 material were pack hardened（carburized）to about 55 Rockwell C，how would this change the initial recommendations？
The wheel speed and the table speed would remain the same.The abrasive chosen a.nd the grit size would also remain the same，but the bond selected would beone grade softer,or I bond.The roughing downfeed would change to 0.002 in，and the finishing to0.0005 in.The greatest change in recommendation other than the grade of the wheel would be in the way that the cross feeding is done.Here the recommendation would be 0.025 to 0.250 in with one-tenth of the wheel width taken as a maximum.All of these recommendations are based on a sharp wheel prepared with a dresser that is in good condition.If the dressing is done incorrectly so that the wheel is dulled'it could make the recommendations useless.　　A general observation in horizontal surface grinding is to keep the cross feed travel as large as possible，and the downfeed adjustments matched so that you cannot hear a significant change in grinding wheel speed during the work's traverse under the wheel.This procedure helps to keep，the surface of the wheel parallel to the spindle and avoids excessive dressing，providing the grade and abrasive fiiabilityare correctly matched to the work piece needs.　　……

## 编辑推荐

《机电专业英语》选材合适，注重阅读能力的培养；难易适中，符合多数学生的基础；安排合理，充分体现模块化教学。

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