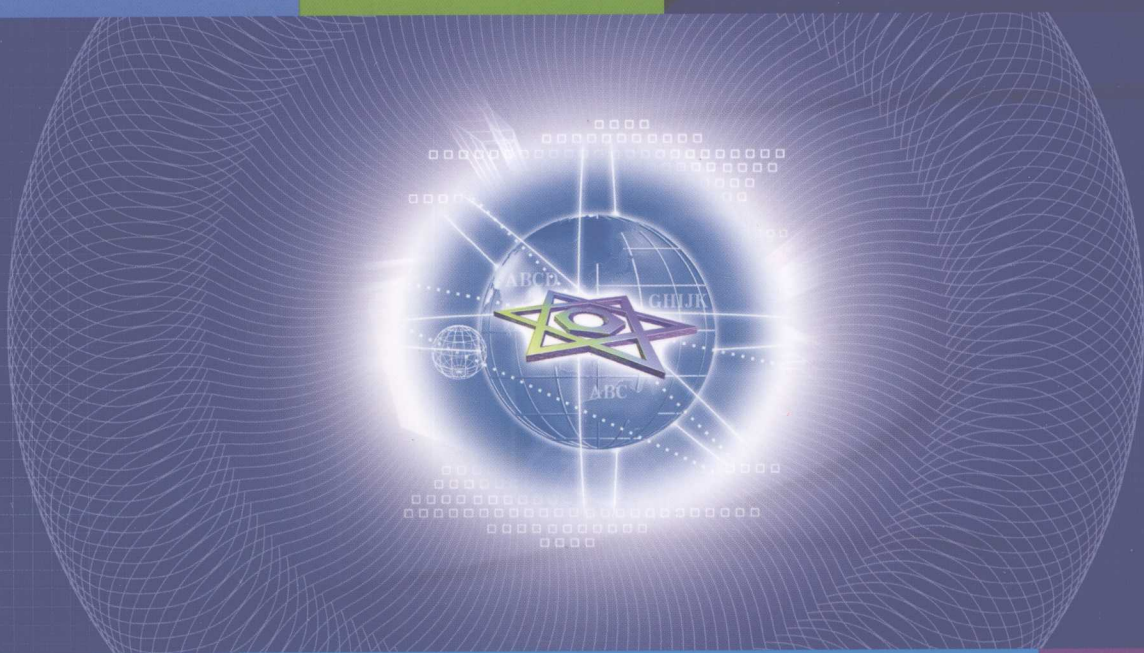




21世纪高职高专规划教材·机电类

模具专业英语教程

主 编 叶久新 童长清



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内 容 简 介

本书共分8章,分别为“模具概论”、“模具材料简介”、“冷冲压工艺及模具”、“塑料成型工艺及模具”、“锻造工艺及模具”、“普通机械加工与特种加工”、“计算机在模具设计与制造中的应用”、“模具的报价与合同”。内容精炼,选材新颖;所有课文和图例均附有参考译文,旨在提高模具专业学生阅读、翻译模具专业方面的英文资料及参与模具外贸洽谈的能力。

本书可作为高职、高专“模具设计与制造”专业以及本科“材料成型与控制工程”专业的教材,也可作为各类模具技术培训教材,还可供企业从事模具设计、制造以及模具外贸的人员参考。

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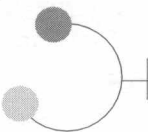
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前言

《模具专业英语——设计、报价、结算》及《模具专业英语全程导学》（全译本）先后由机械工业出版社和湖南科技出版社出版发行，受到了广大读者的欢迎与好评。也不断有读者来电、来信，表达了希望一书在手便能自学模具英语的愿望。为此，我们在以上两书的基础上编写了这本《模具专业英语教程》。

本书集《模具专业英语——设计、报价、结算》和《模具专业英语全程导学》之精华，在重视模具设计与制造的基础上，对内容进行了调整和充实，既有关于模具设计与制造方面的最新资料，又带有全程导学的性质，更有利于帮助模具专业学生及模具企业界的外贸人员提高阅读和翻译有关模具外文资料以及直接参与模具外贸洽谈的能力。

本书本着便于学习的目的，按照课文、生词注解、重难点词汇及句子注释、练习、课文导读及参考译文的顺序，对教材内容进行科学合理的编排。书后附有练习参考答案，为模具专业学生及从业人士更好地学习提供了具体而有效的帮助。

本书由湖南省模具学会理事长、湖南电子科技职业学院机电工程系主任叶久新教授策划、构思，湖南电子科技职业学院基础课部主任童长清教授组织、整理，两人共同主编。担任本书副主编的为：湖南电子科技职业学院龙艳辉、柳姣、黄倩文、刘秀琴，湖南生物机电职业学院张秀玲；同时参与本书编写的还有湖南电子科技职业学院周玉娥、刘娟、童智，娄底职业学院罗正斌，郴州职业技术学院李灶福，怀化职业技术学院张建清等。

由于编者水平有限，错误之处在所难免，敬请读者批评指正。

编者

2008年6月

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Chapter 1

Introduction of Mold

(模具概论)

● 模具专业英语教程

1. ... because the value of the final product on die is often tens of, even hundreds of times

Lesson 1

The Definition and Function of Mold

In modern industrial production, mold is an important technical equipment used in shaping process of material (including metal material and nonmetal material). Meanwhile, it is the “magnifying glass of efficiency and profit” to the raw material and equipment, because the value of the final product on die is often tens of, even hundreds of times as valuable as that of the die itself.

Die industry is the basic industry of national economy, and it is called “the mother of industry”. Every aspect of human life such as clothes, food, housing and transportation is closely connected with die industry. Therefore, the level of die technology has been a significant symbol to measure a country’s developing level of mechanical industry.



Words and Expressions

die [dai]	n. 模型; 模具
efficiency [i'fiʃənsi]	n. 效益, 功效
magnify ['mægnifai]	v. 放大, 扩大
measure ['meʒə]	v. 测量; 衡量
mold [məʊld]	n. 模具; 模型
shape [ʃeip]	v. 使成型; 塑造, 定型
significant [sig'nifikənt]	adj. 重要的; 显著的
symbol ['simbəl]	n. 象征; 标志
transportation [træns'pɔ:t'eɪʃən]	n. 交通; 运输



Notes

1. ... because the value of the final product on die is often tens of, even hundreds of times

as valuable as that of the die itself.

译文：……因为模具生产出的最终产品的价值，往往是模具自身价值的数十倍，乃至上百倍。

解析：tens of, even hundreds of times: 数十倍，乃至上百倍。as + adj. + as: 和……一样。

2. Every aspect of human life such as clothing, food, housing and transportation is closely connected with die industry.

译文：人类的衣、食、住、行诸方面都离不开模具。

解析：be connected with: 和……有联系/关系。be closely connected with: 和……有密切的联系/关系。



Exercise

Fill in the blanks according to the text.

1. In modern industrial production, _____ is important technical equipment used in _____ process of material (including metal material and nonmetal material).
2. Meanwhile, it is the “_____ glass of efficiency and profit” to the raw material and equipment.
3. _____ is the basic industry of national economy, and it is called “the mother of industry”.



课文导读及参考译文

(一) 课文导读

本课对模具进行了定义，并介绍了模具的重要作用。

(二) 课文参考译文

模具的定义和作用

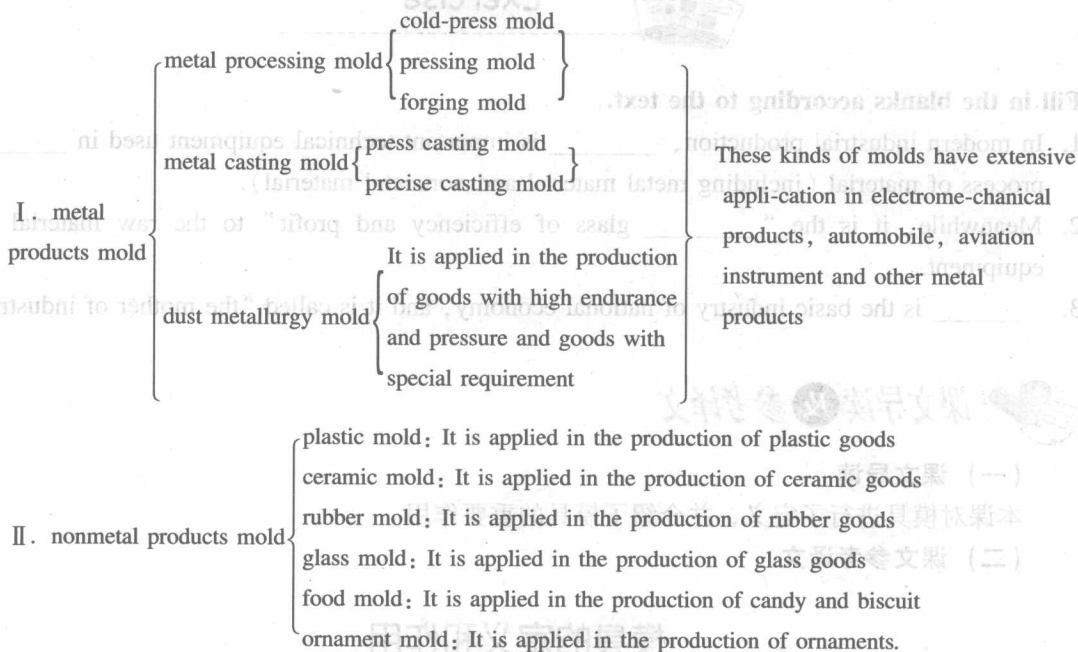
在现代工业生产中，模具是材料（包括金属材料和非金属材料）成型加工的重要工艺装备。同时，它又是原材料及设备的“效益放大器”，因为模具生产出的最终产品的价值，往往是模具自身价值的数十倍，乃至上百倍。

模具工业是国民经济的基础工业，被称为“工业之母”。人类的衣、食、住、行诸方面都离不开模具。所以，模具技术水平的高低已经成为衡量一个国家机械制造业发展水平的重要标志。

Lesson 2

The Classification of Mold

According to the types of raw material, mold can be divided into two main kinds: metal products and nonmetal products.



New

Words and Expressions

ceramics mold [sə'remiks]

陶瓷模具

cold-press mold [kəuldpres]

冷冲模具

food mold [fu:d]	食品模具
forging mold [fɔ:dʒɪŋ]	锻造模具
glass mold [glɑ:s]	玻璃模具
metal product ['metl'prɒdʌkt]	金属制品模具
nonmetal product [nɒn'metl'prɒdʌkt]	非金属制品模具
ornament mold ['ɔ:nəmənt]	装饰模具
plastic mold ['plæstɪk]	塑料模具
precise casting mold [pri'sais]	精密铸造模具
press casting mold [pres'kɑ:stɪŋ]	压力铸造模具
pressing mold [presɪŋ]	挤压模具
rubber mold ['rʌbə]	橡胶模具

Notes

According to the types of raw material, mold can be divided into two main kinds: metal products and nonmetal products.

译文：根据制品所用的原材料种类，模具可分为金属制品模具和非金属制品模具两大类。

解析：according to：依据，按照。be divided into：……被分成……。



Exercise

Fill in the blanks according to the text.

1. According to the types of raw material, mold can be divided into two main kinds: _____ and _____.
2. Metal products mold can be divided into three kinds: _____, _____ and _____.
3. Metal casting mold can be divided into two kinds: _____ and _____.



课文导读及参考译文

(一) 课文导读

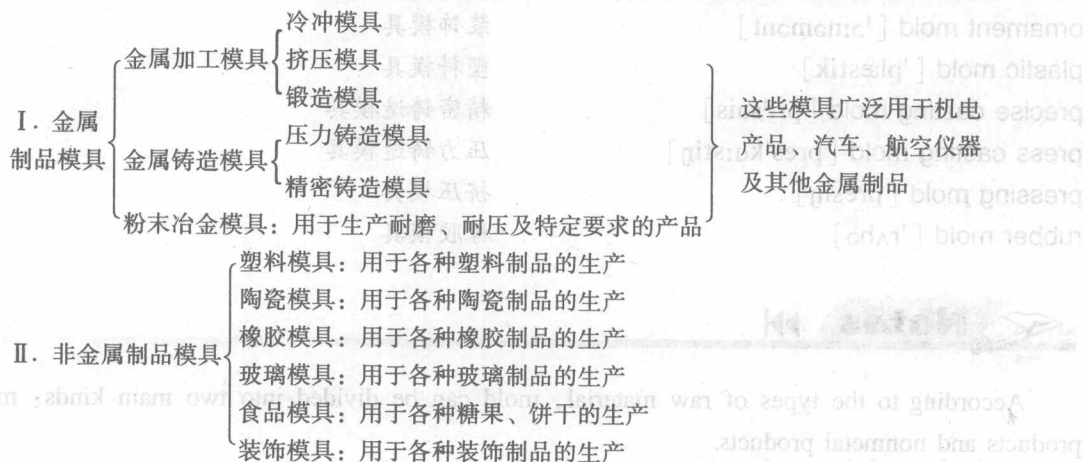
本课对模具进行了分类，根据制品所用原材料把模具分为金属和非金属模具两大类，并对这两大类进行了细分。



(二) 课文参考译文

模具的分类

根据制品所用的原材料种类，模具可分为金属制品模具和非金属制品模具两大类：



Exercise



Fill in the blanks according to the text.

1. According to the types of raw material, mold can be divided into two main kinds: _____ and _____.

2. Metal products mold can be divided into three kinds: _____, _____ and _____.

3. Metal casting mold can be divided into two kinds: _____ and _____.

Chapter 2

Introduction of Mold Material

(模具材料简介)

● 模具专业英语教程

Lesson 3

Steels

Steels (first made in China and Japan around 600—800 AC) are generally divided into the categories of carbon steels and alloy steels (including tool steels).

Carbon Steels

Carbon steels are used extensively in tool construction. Carbon steels are those steels which only contain iron and carbon, and small amounts of other alloying elements. Carbon steels are the most common and least expensive type of steels used for tools. The three principal types of carbon steels used for tooling are low carbon, medium carbon, and high carbon steels. Low carbon steel contains between 0.05% and 0.3% carbon. Medium carbon steel contains between 0.3% and 0.7% carbon. And high carbon steel contains between 0.7% and 1.5% carbon. As the carbon content is increased in carbon steel, the strength, toughness, and hardness also increase when the metal is heat treated.

Low carbon steels are soft, tough steels that are easily machined and welded. Due to their low carbon content, these steels cannot be hardened except by case hardening. Low carbon steels are well suited for the following applications: tool bodies, handles, die shoes, and similar situations where strength and wear resistance are not required.

Medium carbon steels are used where greater strength and toughness are required. Since medium carbon steels have a higher carbon content they can be heat treated to make parts such as studs, pins, axles, and nuts. Steels in this group are more expensive as well as more difficult to machine and weld than low carbon steels.

High carbon steels are the most hardenable type of carbon steel and are used frequently for parts where wear resistance is an important factor. Other applications where high carbon steels are well suited include drill bushings, locators, and wear pads. Since the carbon content of these steels is so high, parts made from high carbon steel are normally difficult to machine and weld.

Alloy Steels

Alloy steels are basically carbon steels with additional elements added to alter the

characteristics and bring about a predictable change in the mechanical properties of the alloyed metal. Alloy steels are not normally used for most tools due to their increased cost, but some have found favor for special applications. The alloying elements used most often in steels are manganese, nickel, molybdenum, and chromium.

Another type of alloy steel frequently used for tooling applications is stainless steel. Stainless steel is a term used to describe high chromium and nickel-chromium steels. These steels are used for tools which must resist high temperatures and corrosive atmospheres. Some high chromium steels can be hardened by heat treatment and are used where resistance to wear, abrasion, and corrosion are required. Typical applications where a hardenable stainless steel is sometimes preferred are plastic injection molds. Here the high chromium content allows the steel to be highly polished and prevents deterioration of the cavity from heat and corrosion.

New

Words and Expressions

abrasion [ə'breɪʒən]	n.	磨损
alloy steel		合金钢
alter ['ɔ:lteɪ]	v.	改变
axle ['æksl]	n.	轴, 车轴, 轮轴
carbon steel		碳素钢
category ['kætəgəri]	n.	类别, 种类, 范畴
chromium ['krəʊmjəm]	n.	铬
corrosive [kə'reʊsɪv]	adj.	腐蚀的, 蚀坏的; 腐蚀性的
	n.	腐蚀物; 腐蚀剂
deterioration [di'tiəriə'reɪʃən]	n.	变坏; 退化; 堕落
die shoe		模脚
drill bushing		钻套
element ['elɪmənt]	n.	要素, 元素, 成分, 元件
frequently ['fri:kwəntli]	adv.	常常, 频繁地, 经常地
generally ['dʒenərəli]	adv.	一般, 通常, 一般地
handle ['hændl]	n.	柄, 把手; 把柄
	vt.	触摸, 运用, 买卖, 处理, 操作
hardenable	adj.	可硬化的



heat treat	热处理
impart [im'pa:t]	vt. 给予(尤指抽象事物); 传授; 告知; 透露
iron ['aiən]	n. 铁; 熨斗; 坚强; 烙铁; 镣铐
locator [ləu'keitə]	n. 定位器(表示位置之物); 土地
machine [mə'ʃi:n]	n. 机器, 机械
manganese [ˌmæŋɡə'ni:z, ˌmæŋɡəni:z]	n. [化] 锰(元素符号为 Mn)
molybdenum [mə'libdinəm]	n. [化] 钼
nickel ['nikl]	n. [化] 镍, 镍币
nut [nʌt]	n. 螺母, 螺帽
pin [pin]	n. 钉; 销; 栓
polish ['pɒlɪʃ]	n. 磨光; 光泽
	vt. 擦亮; 发亮; 磨光
predictable [pri'diktəb(ə)l]	adj. 可预言的
preferred [pri'fɜ:d]	adj. 首选的
principal ['prinsəp(ə)l, -sip-]	adj. 主要的, 首要的
resist [ri'zɪst]	vt. 抵抗, 反抗, 抗, 忍得住
stud [stʌd]	n. 圆柱头螺栓
wear pad	耐磨垫板
wear resistance	耐磨性
weld [weld]	vt. 焊接
	n. 焊接; 焊缝



Notes

1. Carbon steels are those steels which only contain iron and carbon, and small amounts of other alloying elements. Carbon steels are the most common and least expensive type of steels used for tools.

译文: 碳钢是指那些仅仅由铁和碳以及少量的其他合金元素构成的钢。碳钢是一种最常见的、最廉价的制造工具的钢。

解析: 此句中 which 是关系代词, 引导定语从句, 修饰前面的名词 steels, 并充当定语从句的主语。used for tools 是过去分词短语作后置定语, 修饰中心词 steels, 它也可等同于定语从句 which/that are used for tools.

2. Low carbon steels are well suited for the following applications: tool bodies, handles, die