

E n g l i s h f o r

B u i l d i n g a n d

建筑工程英语

English for Building and
Construction Engineering

主编 戴明元

副主编 罗忠明 邓冬至 吕颖

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高等教育出版社

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内容提要

本书是高等职业教育建筑类专业英语教材。全书共10个单元，以建筑施工为主线，内容涉及现场管理、基础施工、框架结构、屋面工程、围护结构、室外工程、水电安装、室内装饰、园林绿化等。每个单元围绕一个主题，由两部分组成，包括工作场景会话、专业知识概述、阅读理解等。每部分配有插图、专项练习，突出职业能力培养，侧重建筑施工环境下的语言交际能力的培养。本书选材新颖，编排独特，实用性强，能满足建筑行业一线施工及管理的实际需要。

本书可供高等职业院校及成人院校建筑专业的学生使用，也可供应用型本科院校建筑类专业学生及涉外建筑工程管理人员使用。

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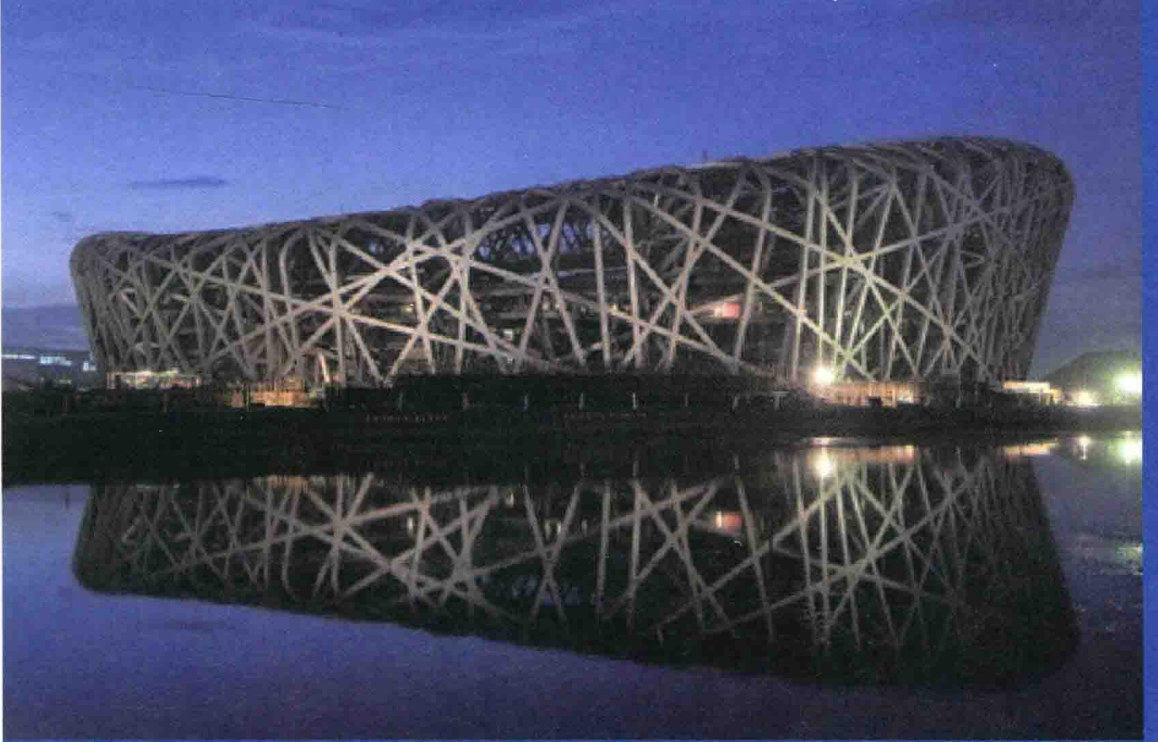
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Unit One



Concept of Building and Construction Engineering

Learning Objectives

After learning this unit, you will be able to

- ▶ write a site report according to the workplace conversation;
- ▶ describe drawings and documents used on site;
- ▶ list the constituent parts of a building;
- ▶ explain building elements and their function;
- ▶ use the correct terminology in the description of building.

Part One

Section A Workplace Conversation

Professional Words and Expressions

contractor [kən'træktə(r)]	n.	承包商, 承包方, 承包人
client ['klaɪənt]	n.	雇主, 发包方, 发包人
commencement [kə'mensmənt]	n.	开始
deliver [dɪ'lɪvə(r)]	v.	提交
architect ['ɑ:kɪtekt]	n.	建筑师
instruction [ɪn'strʌkʃn]	n.	指令
elevation [ˌelɪ'veɪʃn]	n.	立面图
section ['sekʃn]	n.	剖面图
specification [ˌspesɪfɪ'keɪʃn]	n.	规范; 技术说明书
professional [prə'feʃənl]	adj.	专业的
engineering [ˌendʒɪ'nɪərɪŋ]	n.	工程
letter of acceptance		中标函
performance security		履约担保
access to the site		进入现场
take over		接收
quality control		质量控制

In building industry, the usual arrangements are that the contractor constructs the works in accordance with a design provided by the employer (client) or by his representative,

the engineer. The contractor gets paid for the work he performs and the employer gets the work he is paying for. Before the commencement of the work, the contractor is required to submit several documents.



I. Listen to the conversation and fill in the blanks with what you hear.

(Gorge—Client; Lucas—Contractor; Lucy—Architect)

Gorge: Hi, Mr. Lucas, congratulations! Your company is awarded the 1) _____ for the project. This is the letter of acceptance.

Lucas: Oh, thank you, Gorge! We are so pleased to 2) _____.

Gorge: Before you commence the work, you will have to deliver the performance security to us, and 3) _____.

Lucas: Yes, we will.

Gorge: And you will have to submit a detailed program which indicates the time for 4) _____.

Lucas: Sure, we will do that. May I ask when we will have the access to the site?

Gorge: The Architect will give you instruction for the commencement date after we have received your performance security.

Lucas: Oh, that will be all right. When can we get all the drawings?

Gorge: The architect said the plan, the elevation and the 5) _____ drawings were all ready, as well as specifications. You can get them from her office.

Lucas: OK, thank you. I'll talk to the Architect.

Gorge: Hope you will have a good cooperation with the Engineers and I can
6) _____ a perfect work.

Lucas: We are the professional engineering company. 7) _____ is our first
priority in construction. We are sure to complete the work in accordance with the
Engineers' instruction, and 8) _____.



II. Lucas writes a report according to the conversation above.

This morning, the client told me that our company was awarded the contract of the
project. He issued the letter of _____

Section B People Who Work on Site, Drawings and Documents

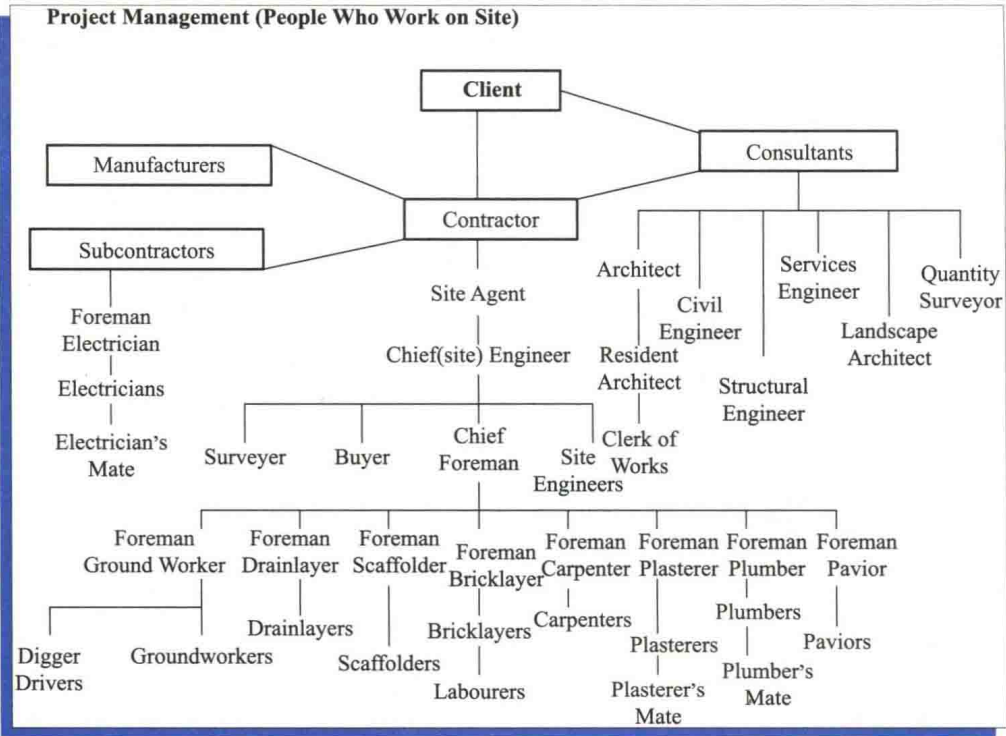
Communication is an essential part of everyday life. However, the ability to communicate is often taken for granted. Can you imagine how frustrating it would be if you were unable to communicate with others? If so, no matter how hard you tried, you just could not get your point across.

Good communication is the ability to make others understand what you are trying to communicate.

Through your work in the building and construction industry you will come in contact with lots of people from many different areas. It is likely that each of these groups will use certain terminology and jargon specific to their area and it is also likely that this language will vary from country to country.

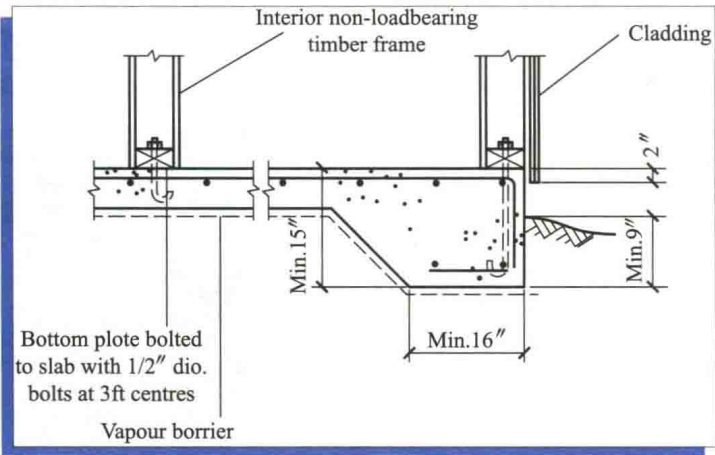
This part aims to provide you with a general knowledge of people who work on site that you are going to get in contact with in building industry, drawings and documents that are available on site.





Drawings and Documents

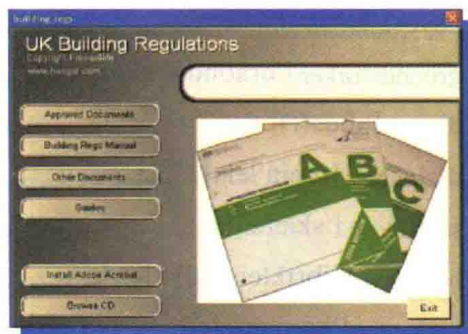
Building drawings are diagrams of what a building will look like when it is finished. They are prepared by an architect, engineer or draftsman, usually for a client, and include all the information necessary for the construction of a building. Builders use annotated (labeled) drawings or sketches to show in close detail the assembly of building material or components. It takes many years of practice and a sound knowledge of building construction to be able to produce these illustrations. It is important that you show the required details clearly and simply and that your drawings are fully annotated. Assembly drawing shows how part of a building



is put together. Component drawing shows a part of a building, such as door and window. Location drawing shows where parts and components of a building are located. Perspective drawing gives a feeling of distance and solidity to the building. Floor plan is the plan of one floor of a building. Site plan or site layout shows the position of

buildings and other parts of a site. Survey drawing is a plan of a site before building starts, showing existing features and levels. Elevation is a drawing of the front, back or side of a building while section is a representation of a part of the building looked at from the side.

There are many written documents you may have to read when you are working on a building site. Bill of quantities lists materials and work required to build a building. Daywork sheet records the work done which is in addition to the contract work. The form of contract is the list of terms and conditions which apply to a contract between a client and a contractor. Insurance policy is a document which lists the terms and conditions of an insurance contract, while insurance premium is a sum of money paid for insurance cover, so that the damage to a building would be compensated by the insurance company. Licence means official permit which is issued by the authority concerned. Program shows the time in which a contractor intends to build a building. Schedule is a list of building components, e.g. door schedule, schedule of sanitary ware. Site minutes are written records of a site meeting. Soil report shows information prepared by an engineer about site ground conditions. Specification is the written description of work to be done.



Item	Quantity	Unit	Rate	Amount	Notes
Excavation	1.00	Cum	1.00	1.00	
Backfill	1.00	Cum	1.00	1.00	
Concrete	1.00	Cum	1.00	1.00	
Reinforcement	1.00	Cum	1.00	1.00	
Formwork	1.00	Cum	1.00	1.00	
Labour	1.00	Cum	1.00	1.00	
Materials	1.00	Cum	1.00	1.00	
Transport	1.00	Cum	1.00	1.00	
Overhead	1.00	Cum	1.00	1.00	
Profit	1.00	Cum	1.00	1.00	
Subtotal				10.00	
Tax				1.00	
Total				11.00	

Professional Words and Expressions

consultant [kən'sʌltənt]	n.	(顾问) 工程师, 监理工程师
manufacturer [ˌmænju'fæktʃərə(r)]	n.	制造商
subcontractor [ˌsʌbkən'træktə(r)]	n.	分包商
civil ['sɪvl]	adj.	土木的
structural ['strʌktʃərəl]	adj.	结构的
service ['sɜ:vɪs]	n.	设备
landscape ['lændskeɪp]	n.	园林, 景观
electrician [ɪˌlek'trɪʃn]	n.	电工

buyer ['baɪə(r)]	<i>n.</i>	采购员
groundworker ['graʊndwɜ:kə]	<i>n.</i>	挖土方的工人, 铺路工
digger ['dɪgə(r)]	<i>n.</i>	挖掘者, 挖掘机
drainlayer [dreɪn'leɪə]	<i>n.</i>	铺设排水管的工人, 排水管铺设机
scaffolder ['skæfəldə]	<i>n.</i>	架子工
bricklayer ['brɪkleɪə(r)]	<i>n.</i>	砖工
carpenter ['kɑ:pəntə(r)]	<i>n.</i>	木工
plasterer ['plɑ:stərə(r)]	<i>n.</i>	抹灰工
plumber ['plʌmə(r)]	<i>n.</i>	管工, 水暖工
pavior ['peɪvjə]	<i>n.</i>	铺砌工人, 石匠
drawing ['drɔ:ɪŋ]	<i>n.</i>	图纸
diagram ['daɪəgræm]	<i>n.</i>	(示意)图, 计算图表
draftsperson ['dra:ftspə:sən]	<i>n.</i>	绘图员
annotate ['ænəteɪt]	<i>v.</i>	注释, 注解
labeled ['leɪblɪd]	<i>adj.</i>	带有标记的
sketch [sketʃ]	<i>n.</i>	草图, 设计图
assembly [ə'sembli]	<i>n.</i>	装配, 组装; 装配图
component [kəm'pəʊnənt]	<i>n.</i>	零(部)件, 构件
detail ['di:teɪl]	<i>n.</i>	详图, 大样
perspective [pə'spektɪv]	<i>n.</i>	透视图, 远景
layout ['leɪaʊt]	<i>n.</i>	布置, 定位(线), 放样
survey ['sɜ:veɪ]	<i>n.</i>	测量
premium ['pri:miəm]	<i>n.</i>	保险费
resident architect		驻现场建筑师
clerk of works		现场监工员, 工程代表
quantity surveyor		估算师, 概算员
site agent		现场经理, 项目经理

Exercises



I. Answer the following questions.

1. What is good communication?
2. Whom will you come in contact with in the building and construction industry?
3. What are the relations among the client, the consultants and the contractor?

4. What are the relations among the contractor, the subcontractor and the manufacturer?
5. List as many drawings and documents as possible used on the site.



II. Match the following words or phrases with the correct Chinese.

- | | |
|-------------------------|----------|
| 1. bill of quantity | a. 文件 |
| 2. client | b. 立面图 |
| 3. elevation | c. 估算师 |
| 4. layout | d. 雇主 |
| 5. quantity surveyor | e. 土壤报告 |
| 6. floor plan | f. 工程量清单 |
| 7. subcontractor | g. 楼层平面图 |
| 8. letter of acceptance | h. 平面布置 |
| 9. soil report | i. 分包商 |
| 10. document | j. 中标函 |



III. Read the following drawings.

1. Find a proper word or phrase to describe each of the drawings.



1) _____



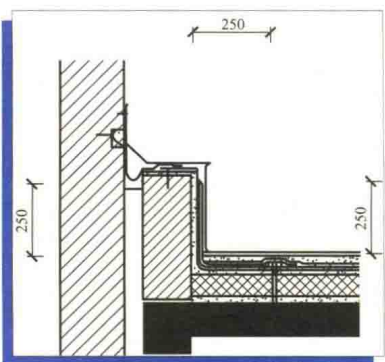
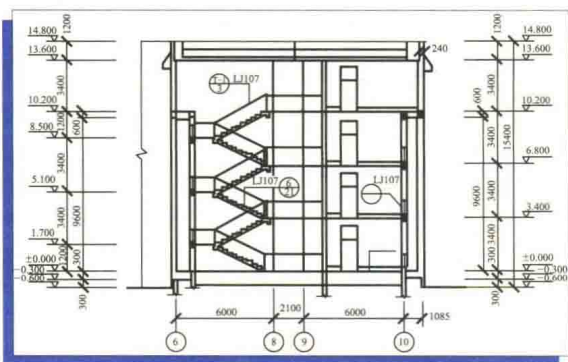
2) _____



3) _____



4) _____



5) _____ 6) _____

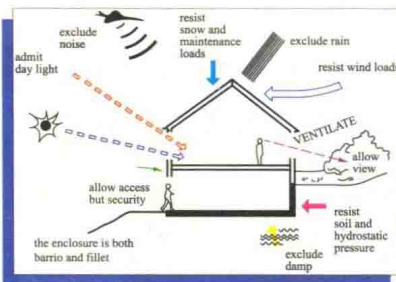
2. Read the drawings again and tell your partners what the function is for each drawing.

Part Two

Concept of Building Construction

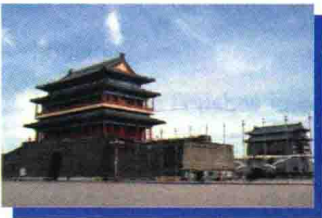
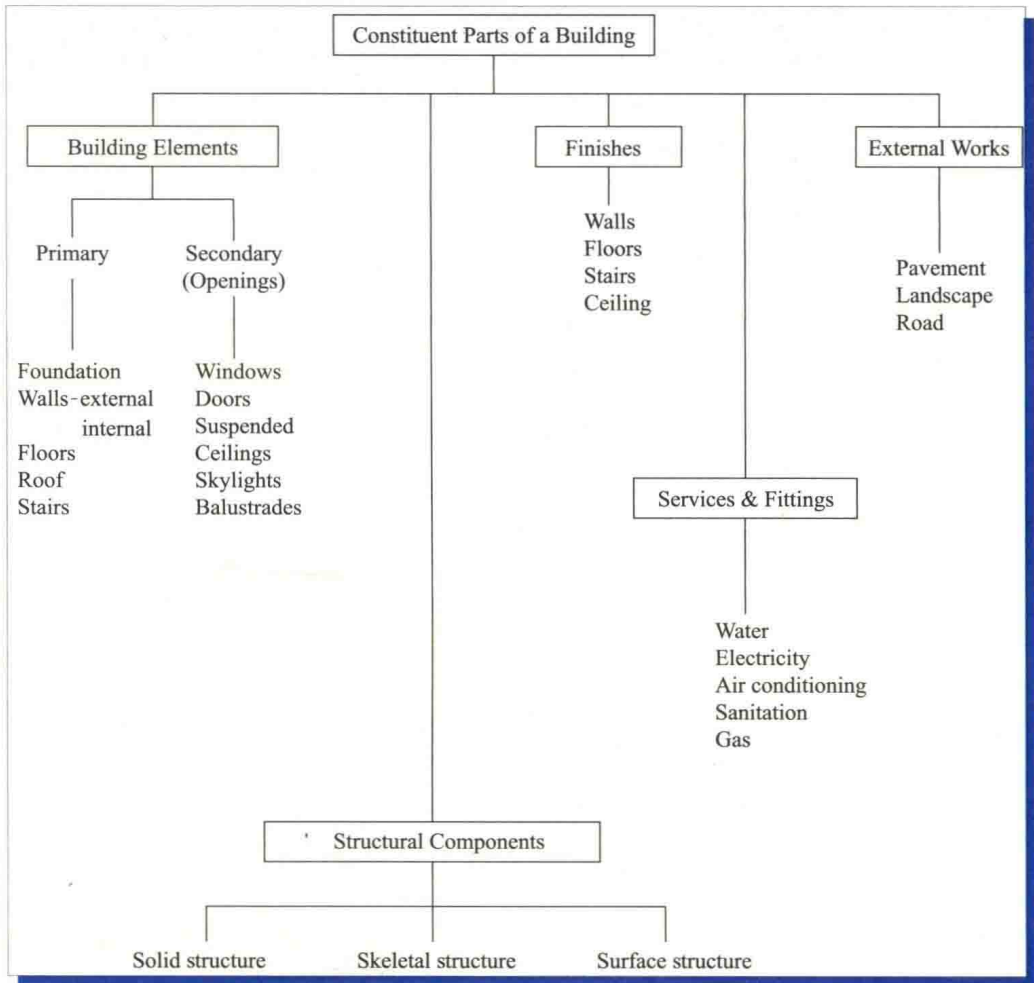


Building Construction involves many trades, operations, products and professions. It deals with the design of the fabric of the buildings and the manner in which it is put together. Therefore, building construction requires the understanding of sciences of materials and structures, environmental sciences, and building economics. Today, as the world's energy sources are deleting and the cost of energy rises, it is becoming even more important to design and construct energy efficient housing.



A building is an enclosure for the benefit of human habitation, work and recreation. It is also an enclosure against cold, heat, wind, rain to give a comfortable internal environment, security for life and possessions. The followings are some basic concepts of building construction:

1. Constituent Parts of a Building



solid structure



skeletal structure



surface structure