|  |  |
| --- | --- |
|  | STAVITELSKÁ ANGLIČTINA |
|  |
|  | Lenka HruškováJindřiška Šulistová |
| České Budějovice 2012 |
|  | C:\Dropbox\vste\projekty\e-lerning\corporate_design\logolink VŠTE.jpg |
|  |  |

|  |
| --- |
| „Tato publikace je spolufinancována z Evropského sociálního fondu a státního rozpočtu České republiky“ |
| Vznik této publikace byl podmíněn konzultacemi pedagogů z partnerské Střední průmyslové školy strojní a stavební, Tábor |
| Recenzovali: Mgr. Karim Sidibe Jan Verboon1. vydání Vydala: Vysoká škola technická a ekonomická v Českých Budějovicích, Okružní 10, 370 01 České Budějovice roku 2012© Mgr. Lenka Hrušková, Ph.D., Mgr. Jindřiška Šulistová, 2012**ISBN 978-80-87278-51-2****Text neprošel redakční úpravou.** |

**Obsah**

[**1. CIVIL ENGINEERING AND ITS BRANCHES** 4](#_Toc316836424)

[Grammar: 5](#_Toc316836425)

[Civil Engineering and Its Branches 8](#_Toc316836426)

[**2. BUILDING MATERIALS AND THEIR PROPERTIES** 10](#_Toc316836427)

[Grammar: 12](#_Toc316836428)

[Building Materials and their Properties 15](#_Toc316836429)

[**3. ARCHITECTURE** 17](#_Toc316836430)

[Grammar: 18](#_Toc316836431)

[Architecture 21](#_Toc316836432)

[**4. BUILDING MANGEMENT** 22](#_Toc316836433)

[Grammar: 23](#_Toc316836434)

[Building Management 25](#_Toc316836435)

[**5. ENERGY- EFFICIENT HOUSES** 27](#_Toc316836436)

[Grammar: 29](#_Toc316836437)

[Energy-Efficient Houses 32](#_Toc316836438)

[**6. BUILDING SITE – CONSTRUCTION** 34](#_Toc316836439)

[Grammar: 35](#_Toc316836440)

[Building Site - Construction 37](#_Toc316836441)

[**KEY:** 39](#_Toc316836442)

[Key 1 39](#_Toc316836443)

[Key 2 42](#_Toc316836444)

[Key 3 45](#_Toc316836445)

[Key 4 48](#_Toc316836446)

[Key 5 51](#_Toc316836447)

[Key 6 54](#_Toc316836448)

[**Literature:** 56](#_Toc316836449)

# **1. CIVIL ENGINEERING AND ITS BRANCHES**

**-** Civil engineering is a professional engineering discipline and it is the oldest discipline after military engineering

- It deals with the design, construction and maintenance of the physically and naturally built environment

- Civil engineering branches are:

* Environmental Engineering – it treats chemical, biological and thermal waste; it concentrates on e.g. water purification, waste water and solid waste treatment, air pollution, hazardous waste management and deals with the gathering of information on possible environmental consequences of proposed actions
* Geotechnical Engineering – this branch is based on knowledge from geology, material science, mechanics and hydraulics; it focuses on economical foundations, retaining walls as well as similar structure designs
* Structural Engineering – is concerned with the structural design and structural analysis of buildings ( bridges, towers, tunnels); next, it identifies the kind of loads acting on structures and it takes into account strength, stiffness and stability of the structures
* Transportation Engineering – the main emphasis is placed on moving people and goods efficiently; it also pays attention to design, construction and maintenance of transportation infrastructure (streets, roads, rail systems, airports, ports and mass transit / public transport)
* Municipal Engineering – this branch of civil engineering deals with municipal infrastructure; it designs, constructs and maintains pavements, water supply networks, sewers, street lighting, municipal solid waste management, public parks, bicycle paths and focuses on the coordination of these infrastructure networks and services
* Water Resource Engineering - it concerns collection and management of water; the branch is connected to hydrology, environmental science, meteorology, geology, resource management; it is closely related to the design of pipelines, water supply network, drainage facilities and canals
* Material Engineering - this branch deals with various kinds of materials, such as concrete, asphalt concrete, and metals; its attention is drawn to increasing importance of aluminium, steel, polymers and carbon fibres
* Coastal Engineering - the main task of this branch is to manage the coastal areas; it also focuses on flood defence and erosion
* Construction Engineering - it provides planning and execution of the designs from transportation, site development, hydraulic, environmental, structural and geotechnical engineers; it plays a role in business in drafting and reviewing contracts, evaluating logistical operations, and monitoring prices of supplies
* Surveying – it is the process by which a surveyor measures certain dimensions that generally occur on the Earth’s surface; land surveying is used for a boundary establishing and subdivision plans; construction surveying includes existing condition survey, verification of the structure location during construction and an as-built survey verifying that a project has been build the way it was designed

**Sources**

[**http://en.wikipedia.org/wiki/Civil\_engineering**](http://en.wikipedia.org/wiki/Civil_engineering)**, 23/6/2011**

## Grammar:

Present simple, Present continuous.

**Vocabulary**

Civil engineering stavební inženýrství

Maintenance údržba

Distinguish rozlišit

Break into zde rozdělit

Municipal engineering městské inženýství

Take place zaujímat pozici

Design náplánovat, projektovat; návrh, plán

Level úroveň

Owner majitel

Resource zdroj

**1. Match the expressions on the left with correct definitions on the right.**

|  |  |
| --- | --- |
| Civil engineering | It uses the knowledge of geology, material science, mechanics and hydraulics. |
| Environmental engineering | It designs, constructs and maintains transportation infrastructure (streets, roads, rail systems, airports, ports and mass transit). |
| Geotechnical engineering | It is concerned with collection and management of water. |
| Structural engineering | A process whereby a surveyor measures certain dimensions occurring on the Earth´s surface. |
| Transportation engineering | It deals with the design, construction, and maintenance of the physical and naturally built environment  |
| Municipal engineering | It manages coastal areas. |
| Water resource engineering | It deals with materials such as concrete, asphalt concrete, metals. |
| Material engineering | It deals with planning and execution of the designs from transportation, site development, hydraulic, environmental, structural and geotechnical engineers. |
| Coastal engineering | It focuses on municipal infrastructure.  |
| Construction engineering | It treats chemical, biological and thermal waste. |
| Surveying | It deals with structural design and structural analysis of buildings (bridges, towers, tunnels). |

**2. Decide whether the sentences below are correct or incorrect. If the sentence is correct, write OK, if they are incorrect, rewrite them.**

1. He is always losing his keys. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2. Mr Fudge always comes to work on time. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

3. Listen! Somebody sings your favourite song.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

4. When she visits Krakow, she usually stays at her aunt’s.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

5. Mr and Mrs Poirot are on holiday. They stay in a marvellous Turkish hotel with delicious cuisine.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

6. He is regularly working in the garden every morning but this morning he goes shopping.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

7. What do you do? I’m cutting the pictures out of this newspaper.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

8. He is wanting to finish the book.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**3. Transform the following sentences in the present simple into the present continuous.**

1. They often go to the cinema. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2. Phillip doesn’t usually read books. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

3. Does Hubert mow the grass every Friday? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

4. They give a birthday party every year. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

5. His doctor is always busy in the afternoon. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

6. The builders don’t work late evenings. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

## Civil Engineering and Its Branches

Civil engineering is a professional engineering discipline that deals with the design, construction, and maintenance of the physical and naturally built environment, including works like bridges, roads, canals, dams and buildings.

Civil engineering is the oldest engineering discipline after military engineering and it was defined to distinguish non-military engineering from military engineering. It is traditionally broken down into several sub-disciplines including environmental engineering, geotechnical engineering, structural engineering, transportation engineering, municipal or urban engineering, water resources engineering, materials engineering, coastal engineering, surveying, and construction engineering. Civil engineering takes place on all levels: in the public sector from municipal through to national governments, and in the private sector from individual home owners through to international companies. [[1]](#footnote-1)

**Questions**

1) What kind of discipline is civil engineering?

2) Which is the oldest engineering discipline?

3) What are the civil engineering sub-disciplines?

4) Which sectors use civil engineering?

**Answers**

1) Civil engineering is a professional engineering discipline.

2) Military engineering is the oldest engineering discipline.

3) The sub-disciplines include environmental engineering, geotechnical engineering, structural engineering, transportation engineering, municipal or urban engineering, water resources engineering, materials engineering, coastal engineering, surveying, and construction engineering.

4) Civil engineering is used both within the public and private sectors.

# **2. BUILDING MATERIALS AND THEIR PROPERTIES**

- Building materials are any materials which can be used for a construction purpose; they can be divided into natural materials, such as clay, sand, wood, rock and man-made materials, e.g. concrete

- There will only be a few examples representing both groups which are mentioned in the paragraph above

* Fabric - it been revived with the development of tensile architecture and synthetic fabrics and it is widely used among nomadic groups, e.g. two well-known types include the conical teepee and the circular yurt

[[2]](#footnote-2)

* Rock - it is considered the longest lasting material available, it is a dense material and it also offers protection; on the other hand this material has its drawbacks, too, such as its weight and the fact that it is not very easy to keep warm

[[3]](#footnote-3)

* Thatch – it is one of the oldest building materials known; grass has good insulating properties and is easily harvested; in Netherlands, many new buildings have thatched roofs

[[4]](#footnote-4)

* Ice – this material was used by the Inuits for igloos; in northern areas, many ice hotels has been built as a tourist attraction

[[5]](#footnote-5)

* Concrete – it is a composite building material (made from an aggregate and a binder); its most common form is: Portland cement concrete; the reinforced concrete is strengthened using steel rods / bars

[[6]](#footnote-6)

**Sources:**

[**http://www.squidoo.com/stay-in-a-yurt**](http://www.squidoo.com/stay-in-a-yurt)**, 28/9/11**

[**http://en.wikipedia.org/wiki/Building\_material**](http://en.wikipedia.org/wiki/Building_material)**, 28/9/11**

[**http://www.google.cz/imgres?q=thatch+roof&hl=cs&gbv=2&tbm=isch&tbnid=rz898nvWXG60dM:&imgrefurl=http://thatch.org/timber.htm&docid=tNVmDVN9PFa88M&w=572&h=397&ei=jnKDTrHLMc3xsga42cWBDg&zoom=1&iact=hc&vpx=547&vpy=98&dur=3672&hovh=187&hovw=270&tx=159&ty=172&page=1&tbnh=109&tbnw=145&start=0&ndsp=10&ved=1t:429,r:3,s:0&biw=1024&bih=437**](http://www.google.cz/imgres?q=thatch+roof&hl=cs&gbv=2&tbm=isch&tbnid=rz898nvWXG60dM:&imgrefurl=http://thatch.org/timber.htm&docid=tNVmDVN9PFa88M&w=572&h=397&ei=jnKDTrHLMc3xsga42cWBDg&zoom=1&iact=hc&vpx=547&vpy=98&dur=3672&hovh=187&hovw=270&tx=159&ty=172&page=1&tbnh=109&tbnw=145&start=0&ndsp=10&ved=1t:429,r:3,s:0&biw=1024&bih=437)**; 28/9/11**

[**http://www.google.cz/imgres?q=ice+hotel+sweden&hl=cs&gbv=2&tbm=isch&tbnid=6SrZnn9FsmP8kM:&imgrefurl=http://english.sina.com/life/p/2009/0111/210694.html&docid=lwZUXeJQQ-Rj7M&w=450&h=299&ei=S3WDTv7XMY\_ItAaMvtH1DQ&zoom=1&iact=hc&vpx=705&vpy=103&dur=2812&hovh=183&hovw=276&tx=203&ty=130&page=4&tbnh=95&tbnw=124&start=35&ndsp=12&ved=1t:429,r:11,s:35&biw=1024&bih=437**](http://www.google.cz/imgres?q=ice+hotel+sweden&hl=cs&gbv=2&tbm=isch&tbnid=6SrZnn9FsmP8kM:&imgrefurl=http://english.sina.com/life/p/2009/0111/210694.html&docid=lwZUXeJQQ-Rj7M&w=450&h=299&ei=S3WDTv7XMY_ItAaMvtH1DQ&zoom=1&iact=hc&vpx=705&vpy=103&dur=2812&hovh=183&hovw=276&tx=203&ty=130&page=4&tbnh=95&tbnw=124&start=35&ndsp=12&ved=1t:429,r:11,s:35&biw=1024&bih=437)**, 28/9/11**

## **Grammar**:

Passive voice

**Vocabulary**

Purpose účel

Establish zřídit, založit, vybudovat

Carpentry tesařina

Plumbing instalatérství

Cob house lepenice

Sod drn, trávník

Drawback nevýhoda

Harvest sklizet (úrodu), sklizeň

Dense hustý

Binder pojidlo

**1. Write synonyms for the following expressions. If needed, use a dictionary.**

Manufacture

Natural substances

A building

A type

Many

**2. Write antonyms for the following expressions. If needed, use a dictionary.**

Known

Weight

Drawback

Northern

Man-made

**3. Transform the following sentences into the passive voice.**

1. Jane lost her purse a year ago.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2. Fire demolished that famous theatre.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

3. IKEA sells cheap furniture.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

4. A robber has robbed a bank.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

5. Many office employees use a computer for their job.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

6. The builders constructed a new town hall in a short time.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

7. We must correct mistakes.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

8. They sent the postcard from Greece.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**4. Translate.**

1. Sklenice byla rozbita rozzuřeným mladíkem.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2. Na nádraží je zakázáno kouřit.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

3. V knihovně se nesmí jíst.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

4. Ten stůl je vyroben ze dřeva.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

5. K čemu se používá toto kladivo?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

6. Mnoho zaměstnanců bylo přijato do nové stavební firmy.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

7. Byl sledován před pěti lety.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

8. Jak se vyslovuje *chameleon?*

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

## Building Materials and their Properties

**Building material** is any material which is used for a construction purpose. Many natural substances, such as clay, sand, wood and rocks, even twigs and leaves have been used to construct buildings. Apart from natural materials, many man-made products are in use, some more and some less synthetic. The manufacture of building materials is an established industry in many countries and the use of these materials is typically divided into specific trades, such as carpentry, plumbing, roofing and insulation work. They provide the make-up of habitats and structures including homes.

**Fabric** used for a tent - home of nomadic groups the world over. Two well known types include the conical tepee and the circular yurt.

**Clay** usually means using the cob style, while low clay soil is usually associated with sod building. The other main ingredients include more or less sand/gravel and straw/grasses.

**Rock** is the longest lasting building material available, and is usually readily available. Rock is a very dense material so it gives a lot of protection. Its main draw-back as a material is its weight and that it is hard to keep warm without using large amounts of heating resources.

**Thatch** is one of the oldest known building materials; grass is a good insulator and easily harvested.

**Ice** was used by the Inuit for igloos, but has also been used for ice hotels built as tourist attractions in northern areas.

**Concrete** is a composite building material made from the combination of aggregate and a binder such as cement. The most common form of concrete is Portland cement concrete.[[7]](#footnote-7)

**Questions**

1) What is building material?

2) How is the use of building materials divided?

3) Which building material is known for its long lasting durability?

4) Which material has been used to attract more tourists in northern areas?​

**Answers**

1) Building material is any material which is used for a construction purpose.

2) The use of building materials is divided into specific trades, such as carpentry, plumbing, roofing and insulation work.

3) Rock.

4) Ice.

# **3. ARCHITECTURE**

- The basic meanings of architecture are:

* Science of designing
* Professional services of an architect
* A general term describing buildings
* A style and method of designing and constructing

- Architecture can be divided into:

* Ancient architecture – this era put emphasis on the divine and supernatural (e.g. Egypt, Mesopotamia)
* Asian architecture – the architectural development in Asia differs from the one in Europe; it stresses natural landscapes because of religion: pantheistic religion
* Islamic architecture – it is dated from 7th century of Common Era (CE), it mixes the architecture styles of the Ancient Middle East and Byzantium
* Medieval architecture – a major feature of this time was that craftsmen formed guilds to organize their trade mainly related to ecclesiastical buildings; buildings were not often attributed to specific individuals and the names of architects remain frequently unknown
* Renaissance architecture – it placed emphasis on the role of the individual in society and buildings were ascribed to the specific architects (Michelangelo, Alberti); in this era there was still no distinction between architect, artist and engineer
* Early modern and industrial age architecture – the architecture and engineering began to separate; new materials and technology appeared and were used; there was the rise of a so-called gentleman architect (he dealt with wealthy clients only); it was also the time of the Industrial revolution which enabled mass production and consumption
* Modernism – this style points out beauty in simplicity of construction; a rise of the profession of industrial design beings; this style is represented by Bauhaus school (e.g. Mies van der Rohe, Marcel Breuer) as well as by Organic architecture (e.g. Frank Lloyd Wright)
* Architecture today – nowadays, architecture requires a team of specialist professionals; a profession of a design architect is separated from a project architect; contemporary architecture focuses mainly on architectural sustainability

**Sources:**

[**http://en.wikipedia.org/wiki/Architecture**](http://en.wikipedia.org/wiki/Architecture)**, 28/9/2011**

## Grammar:

Use of past simple and present perfect

**Vocabulary**

Science věda

Erect vybudovat

In connection ve spojení, v souvislosti

Site staveniště

Ambience prostředí, atmosféra

Consideration ohled, zřetel, zvážení, uvážení

Require požadovat

Costs cena, finanční náklady

Estimate hustý

Drawing rýsování, kresba, nákres

**1. Write the plural for the expressions below.**

|  |  |
| --- | --- |
| wider |  |
| It requires |  |
| material |  |
| costs |  |
| process |  |
| group |  |
| both |  |
| technology |  |
| may |  |
| activity |  |

**2. Write past simple and past participle for the verbs below.**

|  |  |  |
| --- | --- | --- |
| **Basic form** | **Past simple** | **Past participle** |
| come |  |  |
| can |  |  |
| be |  |  |
| have |  |  |
| write |  |  |
| know |  |  |
| understand |  |  |
| sing |  |  |
| wear |  |  |
| take |  |  |
| learn |  |  |
| show |  |  |
| see |  |  |
| read |  |  |
| choose |  |  |
| go |  |  |
| shout |  |  |
| think |  |  |
| find |  |  |
| speak |  |  |

**3. Decide whether the sentences below are correct or not. Correct the ones which contain a mistake.**

1. Jane lost her purse a year ago.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2. Agatha Christie has written many exciting criminal stories. What a pity she is dead.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

3. They have had a lot of meetings with construction companies this week.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

4. Mary and John have been going out for about ten years before they got married.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

5. Have you done any work in the garden today?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

6. The builders constructed a new town hall recently.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

7. The staff just came from the canteen.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

8. They didn’t sent the postcard from Greece last July.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

## Architecture

**Architecture** can mean:

* The art and science of designing and erecting buildings and other physical structures.
* The practice of an architect, where architecture means to offer professional services in connection with the design and construction of a building, or a group of buildings and the space within the site surrounding the buildings, that have as their principal purpose human occupancy.
* A general term to describe buildings and other structures.
* A style and method of design and construction of buildings and other physical structures.

A wider definition may cover all design activity, from the macro-level (urban design, landscape architecture) to the micro-level (construction details and furniture). Architecture is both the process and product of planning, designing and constructing form, space and ambience that reflect functional, technical, social, environmental, and aesthetic considerations. It requires the creative manipulation and coordination of material, technology, light and shadow. Architecture also includes the pragmatic aspects of realizing buildings and structures, including scheduling, cost estimation and construction administration. As documentation produced by architects, typically drawings, plans and technical specifications, architecture defines the structure and/or behaviour of a building.[[8]](#footnote-8)

**Questions**

1) How many meanings of architecture are given in this article?

2) What designs are expressed at a macro-level?

3) Can architecture be a process as well as a product?

4) Name two examples of architectural documentation.

**Answers**

1) Five (plus a wider definition).

2) Urban design, landscape architecture.

3) Yes.

4) Drawings, plans and technical specifications.

# **4. BUILDING MANGEMENT**

- Building management deals with the Supervision of hard and soft services of a built structure

- Another task of building management is to make sure that security, health and safety and maintenance are on a satisfactory level

- Soft services include cleaning, landscaping, security and human-sourced services

- Hard services relate to physical, structural services such as fire alarm systems, lifts

- The sub-branches of building management are residential and commercial

 A/ Residential building management covers supervising of the following staff:

* A team of porters / security officers
* Cleaners
* Electrical and mechanical contractors
* A team of administrative staff

B/ Commercial building management – the building manager who is involved in the sales aspect and ensures that the office space is let at all times

- Buildings consist of commercial units and offices; the usual tenants are various companies

- In building management the terms freeholders and leaseholders are in a close connection

- Freeholders are the developers

- They own the freehold of the development (communal areas, land site)

- Leaseholders are flat occupiers who can be the investors, too

- They have the full responsibility for the apartment maintenance

- The leaseholders have to pay an annual service charge

**Sources**

[**http://en.wikipedia.org/wiki/Building\_management**](http://en.wikipedia.org/wiki/Building_management)**,26/6/11**

## Grammar:

Expressing the future

**Vocabulary**

Facility zařízení, vybavení, příslušenství

Supervise dohlížet

Hard services služby technického charakteru

Soft services netechnické služby

Ensure zajistit, zaručit, postarat se

Satisfactory uspokojující

Residential bytový

Relate vztahovat se k

Landscaping terénní úpravy

Depend on záviset, záležet

**1. Translate the following offers, spontaneous decisions, event and consequence predictions and wishes/requests.**

1. Jestli máš málo času, udělám za tebe tu prezentaci projektu.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2. Zavřeš dveře, prosím?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

3. Neposílej ten email. Budeš toho litovat.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

4. Nemám co dělat. Vezmu psa na procházku.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

5. Budu každé ráno vstávat brzy.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

6. Jsem si jistá, že se Ti Madrid bude líbit.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

7. Musím se učit, jinak nesložím certifikát B1.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

8. Ztratil jste se? Pomohu vám.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**2. What are you going to do in the situations below?**

1. There is a huge winter sale on in Oxford Street.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2. You have lost your passport while travelling.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

3. It is a terribly hot summer.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

4. You have passed the school leaving examination.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

5. You have bought a new flat.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

6. You have just found hair in your meal in a very expensive restaurant.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

7. You have got a brown rat as a birthday present.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

8. You have won some money.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**3. Write your plans for the following times using the present continuous.**

1. This afternoon

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2. Tonight

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

3. Tomorrow morning

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

4. This weekend

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

5. Next Friday

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

## Building Management

Building management (in the UK) is a discipline that comes under the umbrella of facility management. A building manager supervises the hard and soft services of a built structure, ensuring that the security, health and safety, and maintenance of the built structure are in place to a satisfactory level. There are essentially two types of building manager positions: residential and commercial. Hard services usually relate to physical, structural services such as fire alarm systems, lifts and so on whereas soft services include cleaning, landscaping, security and suchlike human-sourced services.

In a residential environment, a building manager will typically supervise a team of porters or security officers, cleaners, electrical and mechanical contractors and depending on the size of the development, a team of administrative staff.[[9]](#footnote-9)

**Questions**

1) What does a building manager do?

2) What a building manager need to ensure?

3) What are soft services?

4) What does a building manager do in a residential environment?

**Answers**

1) A building manager supervises the hard and soft services of a built structure

2) They need to make sure that the security, health and safety, and maintenance of the built structure are in place to a satisfactory level

3) Soft services include cleaning, landscaping, security and suchlike human-sourced services.

4) In a residential environment, a building manager will typically supervise a team of porters or security officers, cleaners, electrical and mechanical contractors and sometimes a team of administrative staff.

# **5. ENERGY- EFFICIENT HOUSES**

- Energy efficient houses are buildings which usually ensure very low energy consumption and subsequently low expenses as well

- Advantages of this kind of constructions are:

* More stable temperature
* Indoor humidity is better controlled
* Drafts are reduced
* Reduced moisture
* Houses are very quiet

- On the other hand, the houses have certain drawbacks, too:

* The initial costs are higher
* Longer building period (in comparison to a conventional house)
* Special training and experience with these systems is required both for contractors and builders

Before starting a project one should pay attention to careful evaluation of the building site as well as the climate conditons. Design and orientation are important factors, too. The building is shielded by a so-called thermal envelope which includes wall and roof assemblies, insulation, windows, doors and vapour retarders.

Here are the two examples of Eco-friendly homes:

**Project: Caterpillar House
Location:** [Carmel, Calif.](http://realestate.yahoo.com/California/Carmel/homes-for-sale)
**Architect:** Feldman Architecture
**Builder:** Groza Construction

|  |
| --- |
| http://l.yimg.com/a/i/us/re/gr2/caterpillar2_v2.jpg |
| The Caterpillar House in Carmel, CAPhoto: [Joe Fletcher Photography](http://www.joefletcherphoto.com/)[[10]](#footnote-10) |

**Project: GO Home
Location:** [Belfast, Maine](http://realestate.yahoo.com/Maine/Belfast/homes-for-sale)
**Cost:** $150 per square foot
**Architect:** GO Logic Homes
**Builder:** GO Logic Homes

|  |
| --- |
| http://l.yimg.com/a/i/us/re/gr2/gohome1_green_v2.jpg |
| The GO Home in Belfast, Maine.Photo: Trent Bell Photography.[[11]](#footnote-11) |

**Sources**

[**http://www.baufritz.com/uk/**](http://www.baufritz.com/uk/)**, 27/6/11**

[**http://www.pueblo.gsa.gov/cic\_text/housing/energy-eff/energy.html**](http://www.pueblo.gsa.gov/cic_text/housing/energy-eff/energy.html)**, 11/8/11**

[**http://realestate.yahoo.com/promo/5-green-homes-that-won-gold.html**](http://realestate.yahoo.com/promo/5-green-homes-that-won-gold.html)**, 27/9/11**

## Grammar:

Modal verbs

**Vocabulary**

Energy-efficient energeticky usporný

Frame konstrukce, rám

Prefabricated montovaný

Inhabitant obyvatel

Timber stavební dřevo

Tailored dělaný, jako ušitý

Prime hlavní

Allergy-sufferer ten, kdo trpí alergií

Book an appointment domluvit si schůzku

Sensual smyslový

**1. Fill in the negative form and a periphrastic structure for the modal verbs in the table below**

|  |  |  |
| --- | --- | --- |
| **Verb** | **Simple Present - negative** | **Periphrasis** |
| Can |  |  |
| Must |  |  |
| Have to |  |  |
| May |  |  |
| Shall |  |  |
| Should\* |  |  |

\* zápor v podmiňovacím způsobu

**2. Translate the following sentences.**

1. Můžete připravit snídani?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2. Oni umí dobře jezdit na koni.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

3. Mark nemůže přijet do Čech.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

4. Cožpak nemůžete přijet hned?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

5. Musíš být ve škole v 9:00.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

6. Musím vyzvednout balíček na poště.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

7. Nemusíme tam jet vlakem.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

8. Co musíš dnes udělat?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

9. Nesmíte vstupovat do této místnosti.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

10. Co se zde smí dělat?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

11. Bylo takové horko, že nemohl jít pěšky.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

12. Nemuseli dlouho čekat.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

13. Mám otevřít okno?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

14. Kam máme jít?

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

15. Měl bys být trpělivější.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

16. Neměl bys tolik spěchat.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**3. Write five examples of what people must / needn’t, have to / don’t have to, can / can’t and may / mustn’t, should / shouldn’t do in a restaurant.**

1.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

3.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

4.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

5.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

## Energy-Efficient Houses

The holistically and yet [individually planned wood-frame houses](http://www.baufritz.com/uk/homes/) and [prefabricated timber houses](http://www.baufritz.com/uk/homes/) of BAUFRITZ offer their inhabitants more than just a comfortable home. Above all, living in a [BAUFRITZ](http://www.baufritz.com/uk/baufritz/about-baufritz/) timber house, means living in a [healthy environment](http://www.baufritz.com/uk/why-baufritz/health/). Costs can not only be saved by a timber house design individually tailored to your budget, but also through the [energy-saving construction](http://www.baufritz.com/uk/why-baufritz/innovation/) with its unique [ecological thermal insulation](http://www.baufritz.com/uk/why-baufritz/ecology/) which ensures the [lowest energy consumption](http://www.baufritz.com/uk/why-baufritz/innovation/) (and costs).

A h[ealthy ecological construction](http://www.baufritz.com/uk/why-baufritz/ecology/) is always our prime consideration for all of our wood-frame houses and prefabricated timber houses. According to your wishes, we will create your very own individual [eco-friendly home](http://www.baufritz.com/uk/homes/) with [biological construction](http://www.baufritz.com/uk/why-baufritz/health/) – even [allergy-sufferer friendly](http://www.baufritz.com/uk/why-baufritz/health/).

We gladly provide [personal advice](http://www.baufritz.com/uk/your-home/specifying/) on all aspects regarding wood-frame houses and prefabricated timber houses. Simply book an appointment with us, or visit our [show homes](http://www.baufritz.com/uk/homes/) and **Ideenpark** and see for yourself the high [quality](http://www.baufritz.com/uk/why-baufritz/quality/) and living comfort of our wood-frame houses. Explore our unique [HausSchneiderei](http://www.baufritz.com/uk/your-home/specifying/) in Germany, 87746 Erkheim, and experience a truly sensual way of planning an [individual timber home](http://www.baufritz.com/uk/your-home/). [[12]](#footnote-12)

**Questions**

1) What do houses by Baufritz offer?

2) What does the unique ecological thermal insulation ensure?

3) What is a very important intention of wood-frame houses and prefabricated timber houses?

4) If one is interested in wood-frame houses and prefabricated timber houses and you want to know more, what should one do?

**Answers**

1) They offer comfortable home and living in a healthy environment.

2) It ensures the lowest energy consumption and costs.

3) A very important intention/consideration is a healthy ecological construction.

4) One should book an appointment.

# **6. BUILDING SITE – CONSTRUCTION**

- Building site is a place where something is being built

- Construction is a process which consists of building or assembling the infrastructure of a building

- There are several different professions engaged in building

- **Construction management** is provided by a project manager

- The different jobs are supervised by the following staff:

* Construction manager – is in charge of planning and carving out the project
* Design engineer – works with a team of engineers and designers to develop the conceptual design[[13]](#footnote-13)
* Construction engineer – is a cross between a civil engineer and a construction manager; he deals with the designing, planning, construction and management of infrastructure[[14]](#footnote-14)
* Project architect – responsible for plans

- **Construction planning** involves:

* Scheduling – a time-table of tasks
* Budgeting – it covers the financial part (expenses, savings)
* Construction site safety – deals with injury prevention
* Availability of building material
* Logistics – manages flow of the goods
* Inconvenience to the public caused by construction delays
* Environmental impact – it is an influence on the environment

- **Construction types** can be generally divided into three basic kinds:

* Building construction
* Heavy / civil construction
* Industrial construction

[[15]](#footnote-15)

- **Construction project requirements** include the points below

* A unique team to plan
* Project design
* Project construction
* Project maintenance

**Building construction**

* It is a process of adding structure to a real property
* The vast majority of construction projects are small renovations (addition of a room, a room renovation)

**Sources**

[**http://en.wikipedia.org/wiki/Construction**](http://en.wikipedia.org/wiki/Construction)**, 27/6/11**

[**http://www.macmillandictionary.com/dictionary/british/building-site**](http://www.macmillandictionary.com/dictionary/british/building-site)**, 11/8/11**

[**http://en.wikipedia.org/wiki/Design\_engineer**](http://en.wikipedia.org/wiki/Design_engineer)**, 29/9/11**

[**http://en.wikipedia.org/wiki/Construction\_engineer**](http://en.wikipedia.org/wiki/Construction_engineer)**, 29/9/11**

## Grammar:

Prepositions

**Vocabulary**

Consist of skládat se

Assemble sestavit, smontovat, dát dohromady

Execution provedení

Consider zvážit

Impact dopad

Availability dostupnost

Scheduling plánování

Budgeting sestavování rozpočtu

Vast ohromný, obrovský

Legal considerations právní faktory

**1. Match the expressions on the left with the correct definition on the right.**

|  |  |
| --- | --- |
| Building site | a process of adding structure to a real property |
| Construction | a job that is managed by a project manager  |
| Construction management | demands for a building plan |
| Construction planning | a process consisting of building or assembling the infrastructure |
| Construction project requirements | scheduling which involves e.g. budgeting, planning, construction site safety |
| Building construction | a place where something is being built |

**2. Fill in the prepositions in *italics.***

*of (2x), in, by (2x), for, with, to*

\_\_\_\_\_the fields of architecture and civil engineering, construction is a process that consists of the building or assembling of infrastructure. Normally, the job is managed \_\_\_\_a project manager. \_\_\_\_ the successful execution of a project effective planning is essential. Those involved \_\_\_\_\_\_ the design and execution of the infrastructure must consider the environmental impact \_\_\_\_ the job, the successful scheduling, budgeting, and construction site safety, availability \_\_\_\_ building material, logistics, and inconvenience \_\_\_\_\_ the public caused \_\_\_\_ construction delays.

**3. Fill in the prepositions: IN, ON, AT**

1. \_\_\_\_work

2. \_\_\_\_September

3. \_\_\_\_the cinema

4. \_\_\_\_the weekend

5.\_\_\_\_ Friday

6. \_\_\_\_Christmas

7. \_\_\_\_6th January

8. \_\_\_\_the butcher’s

9. \_\_\_\_10:15 pm

10. \_\_\_\_Liverpool

11. \_\_\_\_the summer

12. \_\_\_\_railway station

## Building Site - Construction

In the fields of architecture and civil engineering, construction is a process that consists of the building or assembling of infrastructure. Normally, the job is managed by a project manager, and supervised by a construction manager, design, and construction engineer or project architect. For the successful execution of a project effective planning is essential. Those involved with the design and execution of the infrastructure must consider the environmental impact of the job, the successful scheduling, budgeting, construction site safety, availability of building materials, logistics, and the inconvenience to the public caused by construction delays.

In general, there are three types of construction: 1) Building construction, 2) Heavy / civil construction and 3) Industrial construction.

Each type of construction project requires a unique team to plan, design, construct and maintain the project. Building construction is the process of adding structure to real property. The vast majority of building construction projects are small renovations, such as the addition of a room, or the renovation of a bathroom. Often, the owner of the property acts as labourer, paymaster, and design team for the entire project. However, all building construction projects include some elements in common - design, financial, estimating and legal considerations.[[16]](#footnote-16)

**Questions**

1) What does effective planning include?

2) What are the three main types of construction?

3) What do most building construction projects deal with?

4) What elements are common to all building construction?

**Answers**

1) The environmental impact of the job, the successful scheduling, budgeting, construction site safety, availability of building material, logistics, inconvenience to the public caused by construction delays and bidding, etc.

2) Building construction, heavy / civil construction, industrial construction

3) They deal with small renovations, such as the addition of a room, or the renovation of a bathroom.

4) Design, financial, estimating and legal considerations.

# **KEY:**

## gfKey 1

**1. Match the expressions on the left with correct definitions on the right.**

|  |  |
| --- | --- |
| Civil engineering | It deals with the design, construction, and maintenance of the physical and naturally built environment. |
| Environmental engineering | It treats chemical, biological and thermal waste. |
| Geotechnical engineering | It uses the knowledge from geology, material science, mechanics and hydraulics. |
| Structural engineering | It deals with structural design and structural analysis of buildings (bridges, towers, tunnels). |
| Transportation engineering | It designs, constructs and maintains transportation infrastructure (streets, highways, rail systems, airports, ports and mass transit). |
| Municipal engineering | It focuses on municipal infrastructure.  |
| Water resource engineering | It concerns collection and management of water. |
| Material engineering | It deals with ceramics, such as concrete, mix asphalt concrete, metals. |
| Coastal engineering | It manages coastal areas. |
| Construction engineering | It concerns planning and execution of the designs from transportation, site development, hydraulic, environmental, structural and geotechnical engineers. |
| Surveying | A process whereby a surveyor measures certain dimensions occurring on the Earth´s surface. |

**2. Decide whether the sentences below are correct or incorrect. If the sentence is correct, write OK, if they are incorrect, rewrite them.**

1. He is always losing his keys. \_\_\_\_\_\_\_\_\_\_\_\_\_OK\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2. Mr Fudge always comes to work on time. \_\_\_\_\_\_\_\_\_\_\_\_OK\_\_\_\_\_\_\_\_\_\_

3. Listen! Somebody sings your favourite song. Listen! Somebody is singing your favourite song.

4. When she visits Krakow, she usually stays at her aunt’s.\_\_\_\_ OK \_\_\_\_\_\_

5. Mr and Mrs Poirot are on holiday. They stay in a marvellous Turkish hotel with delicious cuisine.

Mr and Mrs Poirot are on holiday. They are staying in a marvellous Turkish hotel with delicious cuisine.

6. He is regularly working in the garden every morning but this morning he goes shopping.

He works in the garden every morning but this morning he is going shopping.

7. What do you do? I’m cutting the pictures out of this newspaper.

What are you doing? I’m cutting the pictures out of this newspaper.

8. He is wanting to finish the book.

He wants to finish the book.

**3. Transform the following sentences in the present simple into the present continuous.**

1. They often go to the cinema.

They are going to the cinema tonight.

2. Phillip doesn’t usually read books.

Phillip isn’t reading now.

3. Does Hubert mow the grass every Friday?

Is Hubert mowing the grass this Friday?

4. They give a birthday party every year.

They are giving a birthday party this year.

5. His doctor is always busy in the afternoon.

His doctor is busy at the moment.

6. The builders don’t work late evenings.

The builders aren’t working late today.

## gfKey 2

**1. Write synonyms for the following expressions. If needed, use a dictionary.**

Manufacture production

Substances materials

A building a construction

A type a kind

Many a lot of

**2. Write antonyms for the following expressions. If needed, use a dictionary.**

Known unknown

Weight height

Drawback advantage

Northern Southern

Man-made natural

**3. Transform the following sentences into the passive voice.**

1. Jane lost her purse a year ago.

The purse was/got lost a year ago.

2. Fire demolished that famous theatre.

That famous theatre was demolished by fire.

3. IKEA sells cheap furniture.

Cheap furniture is sold by IKEA.

4. A robber has robbed a bank.

A bank has been robbed by a robber.

5. Many office employees use a computer for their job.

Computers are used by many office employees for their job.

6. The builders constructed a new town hall in a short time.

A new town hall was constructed in a short time.

7. We must correct mistakes.

Mistakes must be corrected.

8. They sent the postcard from Greece.

The postcard was sent from Greece.

**4. Translate.**

1. Sklenice byla rozbita rozzuřeným madíkem.

The glass was broken by a furious youngster.

2. Na nádraží je zakázáno kouřit.

Smoking is forbidden at the railway station.

3. V knihovně se nesmí jíst.

Eating is not permitted in the library. / It is not permitted to eat in the library. .

4. Ten stůl je vyroben ze dřeva.

The table is made from wood.

5. K čemu se používá toto kladivo?

What is this hammer used for?

6. Mnoho zaměstnanců bylo přijato do nové stavební firmy.

The new building company recruited many employees.

7. Byl sledován před pěti lety.

He was shadowed five years ago.

8. Jak se vyslovuje *chameleon?*

How is the word *chameleon* pronounced?

## gfKey 3

**1. Write the plural from the expressions below**

|  |  |
| --- | --- |
| Wider | x |
| it requires | they require |
| Material | materials |
| Costs | x |
| Process | processes |
| Group | groups |
| Both | x |
| Technology | technologies |
| she may | they may |
| Activity | activities |

**2. Write past simple and past participle for the verbs below.**

|  |  |  |
| --- | --- | --- |
| **Basic form** | **Past simple** | **Past participle** |
| Come | came | come |
| Can | could  | been able to |
| Be | was/were | been |
| Have | had | had |
| Write | wrote | written |
| Know | knew | known |
| Understand | understood | understood |
| Sing | sang | sung |
| Wear | wore | worn |
| Take | took | taken |
| Learn | learned/learnt | learned/learnt |
| Show | showed | shown |
| See | saw | seen |
| Read | read | read |
| Choose | chose | chosen |
| Go | went | gone |
| Shout | shouted | shouted |
| Think | thought | thought |
| Find | found | found |
| Speak | spoke | spoken |

**3. Decide whether the sentences below are correct or not. Correct the ones which contain a mistake.**

1. Jane lost her purse a year ago. OK

2. Agatha Christie has written many exciting criminal stories during her life. What a pity she is dead.

Agatha Christie wrote many exciting criminal stories during her life. What a pity she is dead.

3. They have had a lot of meetings with construction companies this week. OK

4. Mary and John have been going out for about ten years before they got married.

Mary and John were going out for about ten years before they got married.

5. Have you done any work in the garden today? OK

6. The builders constructed a new town hall recently. OK

7. The staff just came from the canteen. OK

8. They didn’t sent the postcard from Greece last July.

They didn’t send the postcard from Greece last July.

## gfKey 4

**1. Translate the following offers, spontaneous decisions, event and consequence predictions and wishes/requests.**

1. Jestli máš málo času, udělám za tebe tu prezentaci projetku.

If you don’t have time, I will prepare the project presentation instead of you.

2. Zavřeš dveře, prosím?

Will you close the door, please?

3. Neposílej ten email. Budeš toho litovat.

Don’t send the email. You will regret it.

4. Nemám co dělat. Vezmu psa na procházku.

I have nothing to do. I will take the dog for a walk.

5. Budu každé ráno vstávat brzy.

I will get up early every morning.

6. Jsem si jistá, že se Ti Madrid bude líbit.

I’m sure you will like Madrid.

7. Musím se učit, jinak nesložím zkoušku B1.

I must study otherwise I won’t pass the B1 exam.

8. Ztratil jste se? Pomohu vám.

Are you lost? I’ll help you.

**2. What are you going to do in the situations below?**

Possible answers

1. There is a huge winter sale on in Oxford Street.

I’m going to get up very early to be the first in the shops.

2. You have lost your passport while travelling.

I’m going to report it at the police station / embassy.

3. It is a terribly hot summer.

I’m going to travel to Norway.

4. You have passed the school leaving examination.

I’m going to celebrate a lot.

5. You have bought a new flat.

I’m going to throw a party.

6. You have just found hair in your meal in a very expensive restaurant.

I’m going to leave the restaurant without paying.

7. You have got a brown rat as a birthday present.

I’m going to give it to my parents. I am scared of brown rats.

8. You have won some money.

I’m going to travel.

**3. Write your plans for the following times using the present continuous.**

Possible answers

1. This afternoon

I’m studying English as my examination is soon.

2. Tonight

I’m partying.

3. Tomorrow morning

I’m flying to Sweden.

4. This weekend

I’m meeting my parents.

5. Next Friday

I’m decorating my sister’s flat.

## gfKey 5

**1. Fill in the negative form and a periphrastic structure for the modal verbs in the table below.**

|  |  |  |
| --- | --- | --- |
| **Verb** | **Simple Present - negative** | **Periphrasis** |
| Can | Can’t/cannot | Be able to |
| Must | Needn’t | Have to |
| Have to | Don’t/doesn’t have to | Have to |
| May | Mustn’t | Be allowed to |
| Shall | Shan’t/shall not | x |
| Should | Shouldn’t/should not (zápor podmiňovacího způsobu) | x |

**2. Translate the following sentences.**

1. Můžete připravit snídani?

Can you prepare/make breakfast, please?

2. Oni umí dobře jezdit na koni.

They can ride a horse very well.

3. Mark nemůže přijet do Čech.

Mark cannot come to the Czech Republic.

4. Cožpak nemůžete přijet hned?

Can’t you come at once?

5. Musíš být ve škole v 9:00.

You have to be at school at 9 am. / You must be at school at 9 am. (záleží na kontextu)

6. Musím vyzvednout balíček na poště.

I have to collect a parcel at the post-office. / I must collect a parcel at the post-office. (záleží na kontextu)

7. Nemusíme tam jet vlakem.

We don’t have to go there by train. / We needn’t go there by train. (záleží na kontextu)

8. Co musíš dnes udělat?

What do you have to do today? / What must you do today? (záleží na kontextu)

9. Nesmíte vstupovat do této místnosti.

You mustn’t enter this room.

10. Co se zde smí dělat?

What are you allowed to do here?

11. Bylo takové horko, že nemohl jít pěšky.

It was so hot/warm that he couldn´t walk.

12. Nemuseli dlouho čekat.

They didn’t have to wait long.

13. Mám otevřít okno?

Shall I open the window?

14. Kam máme jít?

Where shall we go?

15. Měl bys být trpělivější.

You should be more patient.

16. Neměl bys tolik spěchat.

You shouldn’t hurry so much.

**3. Write five examples what people must / needn’t, have to / don’t have to, can / can’t and may / mustn’t, should / shouldn’t do in a restaurant.**

Possible answers

1. People must pay for their meals.

2. People can have celebrations there.

3. People shouldn’t talk too loud.

4. In England, they mustn’t take their pets inside.

5. They don’t have to do washing-up.

## gfKey 6

**1. Match the expressions on the left with the correct definitions on the right.**

|  |  |
| --- | --- |
| Building site | a place where something is being built |
| Construction | a process consisting of building or assembling the infrastructure |
| Construction management | a job is managed by a project manager  |
| Construction planning | building scheduling which involves e.g. budgeting, planning, construction site safety |
| Construction project requirements | demands for a building plan |
| Building construction | a process of adding structure to a real property |

**2. Fill in the prepositions in *italics.***

*of (2x), in, by (2x), for, with, to*

In the fields of architecture and civil engineering, construction is a process that consists of the building or assembling of infrastructure. Normally, the job is managed by a project manager. For the successful execution of a project effective planning is essential. Those involved with the design and execution of the infrastructure must consider the environmental impact of the job, the successful scheduling, budgeting, and construction site safety, availability of building material, logistics, and inconvenience to the public caused by construction delays.

**3. Fill in the prepositions: IN, ON, AT**

1. AT/IN work

2. IN September

3. AT/IN the cinema

4. AT the weekend (A.E. on the weekend)

5. ON Friday

6. AT Christmas

7. ON 6th January

8. AT/IN the butcher’s

9. AT 10:15 pm

10. IN Liverpool

11. IN the summer

12. AT/IN the railway station

# kk**Literature:**

KASÍKOVÁ, S., HORKÁ, H., NIVENOVÁ, R., SEDLÁKOVÁ, V.: English for Civil Engineering. Praha : ČVUT, 2007. 181 s. ISBN 978-80-01-03786-7.

MURPHY, R.: English Grammar in Use. Cambridge : Cambridge University Press, 2004. 379 s. ISBN 0-521-53762-2.

PETERS, S., GRÁF, T. Nová cvičebnice anglické gramatiky. Praha : Polyglot, 1998. 437 s. ISBN 80-86195-00-7.

HOLLETT, V.& SYDES, J.: Tech Talk Pre-Intermediate. Oxford : Oxford, 2005. 127 s. **ISBN**: 978-3464246924.

WHITE, L. Engineering. Oxford : Oxford University Press, 2006. 120 s. ISBN 019-438827-6.

[GLENDINNING, E. H. - POHL, A.](http://www.oup.cz/vyhledavani/?q=GLENDINNING%2C+E.+H.+-+POHL%2C+A.) Oxford : Oxford English for Careers: Technology 2, Student’s Book. Oxford University Press, 2008.136 s. ISBN 9780194569538.

HANÁK, M. et al. Architektonický a stavební slovník anglicko-český. Plzeň : FRAUS, 1998. 721 s. ISBN 80-7238-024-9.

ELMAN, J., MICHALÍČEK, V. Anglicko-český technický slovník. Praha : Sabotáles. 2002. 1317 s. ISBN 978-80-85920-92-1.

FRONEK, J. Velký anglicko-český česko-anglický slovník. Voznice : LEDA 2007. 1523 s. ISBN 978-80-7335-114-4.

1. [**http://en.wikipedia.org/wiki/Civil\_engineering**](http://en.wikipedia.org/wiki/Civil_engineering)**, 23/6/2011** [↑](#footnote-ref-1)
2. [**http://www.squidoo.com/stay-in-a-yurt**](http://www.squidoo.com/stay-in-a-yurt)**, 28/9/11** [↑](#footnote-ref-2)
3. [**http://en.wikipedia.org/wiki/Building\_material**](http://en.wikipedia.org/wiki/Building_material)**, 28/9/11** [↑](#footnote-ref-3)
4. [**http://www.google.cz/imgres?q=thatch+roof&hl=cs&gbv=2&tbm=isch&tbnid=rz898nvWXG60dM:&imgrefurl=http://thatch.org/timber.htm&docid=tNVmDVN9PFa88M&w=572&h=397&ei=jnKDTrHLMc3xsga42cWBDg&zoom=1&iact=hc&vpx=547&vpy=98&dur=3672&hovh=187&hovw=270&tx=159&ty=172&page=1&tbnh=109&tbnw=145&start=0&ndsp=10&ved=1t:429,r:3,s:0&biw=1024&bih=437**](http://www.google.cz/imgres?q=thatch+roof&hl=cs&gbv=2&tbm=isch&tbnid=rz898nvWXG60dM:&imgrefurl=http://thatch.org/timber.htm&docid=tNVmDVN9PFa88M&w=572&h=397&ei=jnKDTrHLMc3xsga42cWBDg&zoom=1&iact=hc&vpx=547&vpy=98&dur=3672&hovh=187&hovw=270&tx=159&ty=172&page=1&tbnh=109&tbnw=145&start=0&ndsp=10&ved=1t:429,r:3,s:0&biw=1024&bih=437)**; 28/9/11** [↑](#footnote-ref-4)
5. [**http://www.google.cz/imgres?q=ice+hotel+sweden&hl=cs&gbv=2&tbm=isch&tbnid=6SrZnn9FsmP8kM:&imgrefurl=http://english.sina.com/life/p/2009/0111/210694.html&docid=lwZUXeJQQ-Rj7M&w=450&h=299&ei=S3WDTv7XMY\_ItAaMvtH1DQ&zoom=1&iact=hc&vpx=705&vpy=103&dur=2812&hovh=183&hovw=276&tx=203&ty=130&page=4&tbnh=95&tbnw=124&start=35&ndsp=12&ved=1t:429,r:11,s:35&biw=1024&bih=437**](http://www.google.cz/imgres?q=ice+hotel+sweden&hl=cs&gbv=2&tbm=isch&tbnid=6SrZnn9FsmP8kM:&imgrefurl=http://english.sina.com/life/p/2009/0111/210694.html&docid=lwZUXeJQQ-Rj7M&w=450&h=299&ei=S3WDTv7XMY_ItAaMvtH1DQ&zoom=1&iact=hc&vpx=705&vpy=103&dur=2812&hovh=183&hovw=276&tx=203&ty=130&page=4&tbnh=95&tbnw=124&start=35&ndsp=12&ved=1t:429,r:11,s:35&biw=1024&bih=437)**, 28/9/11** [↑](#footnote-ref-5)
6. [↑](#footnote-ref-6)
7. [**http://en.wikipedia.org/wiki/Building\_material**](http://en.wikipedia.org/wiki/Building_material)**, 23/6/11** [↑](#footnote-ref-7)
8. [**http://en.wikipedia.org/wiki/Architecture**](http://en.wikipedia.org/wiki/Architecture)**, 24/6/11** [↑](#footnote-ref-8)
9. [**http://en.wikipedia.org/wiki/Building\_management**](http://en.wikipedia.org/wiki/Building_management)**, 24/6/11** [↑](#footnote-ref-9)
10. [**http://realestate.yahoo.com/promo/5-green-homes-that-won-gold.html**](http://realestate.yahoo.com/promo/5-green-homes-that-won-gold.html)**, 27/9/11** [↑](#footnote-ref-10)
11. [**http://realestate.yahoo.com/promo/5-green-homes-that-won-gold.html**](http://realestate.yahoo.com/promo/5-green-homes-that-won-gold.html)**, 27/9/11** [↑](#footnote-ref-11)
12. [**http://www.baufritz.com/uk/**](http://www.baufritz.com/uk/)**, 27/6/11** [↑](#footnote-ref-12)
13. [**http://en.wikipedia.org/wiki/Design\_engineer**](http://en.wikipedia.org/wiki/Design_engineer)**, 29/9/11** [↑](#footnote-ref-13)
14. [**http://en.wikipedia.org/wiki/Construction\_engineer**](http://en.wikipedia.org/wiki/Construction_engineer)**, 29/9/11** [↑](#footnote-ref-14)
15. [**http://en.wikipedia.org/wiki/Construction**](http://en.wikipedia.org/wiki/Construction)**, 29/9/11** [↑](#footnote-ref-15)
16. [**http://en.wikipedia.org/wiki/Construction**](http://en.wikipedia.org/wiki/Construction)**, 27/6/11** [↑](#footnote-ref-16)