

# 15 Construction

**A** Construction means the **erection** or **assembly** of large structures, primarily those which provide **shelter**, such as commercial and residential buildings. It also includes major works such as ships, aircraft, and public works such as roads, dams, and bridges.

The major elements of a building include:

- the **foundation**, which **supports** the building and gives it **stability**
- the **structure**, which supports all the imposed loads and transmits them to the foundation
- the **exterior walls**, which may or may not be part of the primary supporting structure
- the **interior partitions**, which also may or may not be part of the primary structure
- the **environmental-control** systems, including the **heating, ventilating, air conditioning, lighting, and acoustical** systems
- the **power, water supply, and waste disposal** systems

**B** *Jobs in construction* are many and varied, ranging from architects to painters. However, every building needs a solid *foundation* on which the *structure* can be erected, paying special attention to the *exterior walls* which will need to withstand the elements.

### Jobs in construction

architect • carpenter • electrician • mason • painter  
plasterer • plumber • quantity surveyor • roofer

### The foundations

caisson • deep • mat • pile  
reinforced concrete • shallow • spread footing

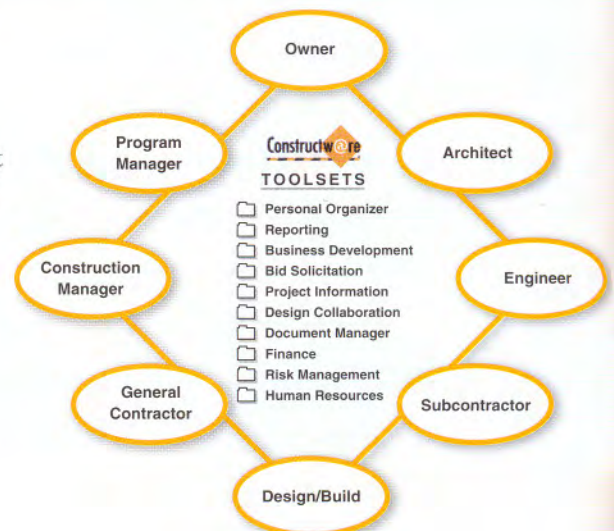
### The structure

beam • bracing connection • column • floor • girder  
rigid connection • roof • truss • wall

### The exterior walls

curtain wall • exterior skin • load-bearing wall • nonload-bearing wall  
roofing felt • sound-deadening material • vapour barrier

**C** Constructware is a US company which provides collaboration solutions to construction companies to help them achieve business success by increasing productivity, improving risk management and reducing costs. Look at the diagram opposite which shows their areas of activity:

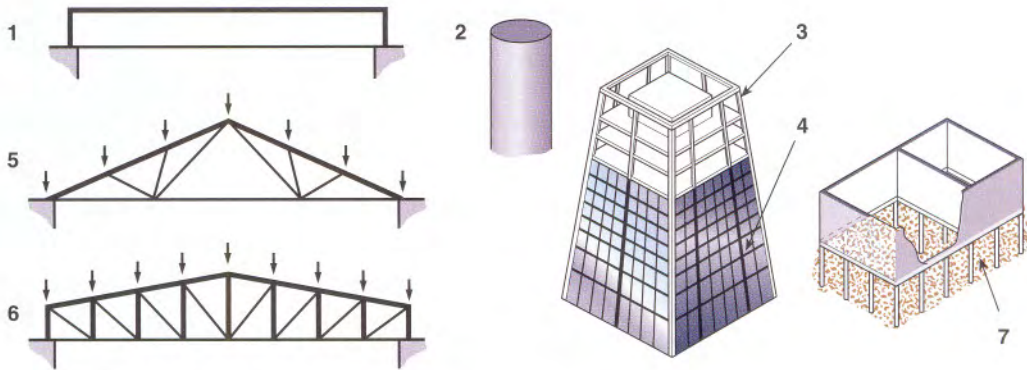


**TASKS**

**1** Choose the correct word in the following sentences.

- 1 A flat roof is usually covered in roofing **felt/skin** for protection against the weather.
- 2 Rooms in a building are divided by interior **supports/partitions**.
- 3 To prevent water entering the cavity of the wall, moisture barriers are used on the external surface and **vapour/insulating** barriers are used on the internal face.
- 4 The **assembly/structure** of a building transfers all the loads acting on the building to the ground.
- 5 The **ventilating/acoustical** system provides fresh air.
- 6 Sound-**deadening/-barrier** material is used to reduce sound passing from one room to another.
- 7 The foundations for a skyscraper building must be **deep/shallow**.
- 8 A **spread footing/caisson piers** is/are used when the soil is weak.

**2** Label the following diagrams using words from the opposite page.



- |               |                 |                     |
|---------------|-----------------|---------------------|
| 1 _____       | 4 _____         | 7 _____ foundations |
| 2 _____       | 5 roof _____    |                     |
| 3 steel _____ | 6 lattice _____ |                     |

**3** Here is part of a text about house building. Complete the text with words from the opposite page.

There are two main methods of building houses. In one, solid walls known as (a) \_\_\_\_\_ walls are constructed. They support the floors and the roof of the building. In the other, a framework of steel, timber or concrete is constructed. The frame can be covered or filled in with lightweight material.

When building a house, the (b) \_\_\_\_\_ first of all examines the site and makes a plan of the size and shape of the plot of land. Next, an (c) \_\_\_\_\_ makes a detailed drawing of the building, and gives information about the materials which are to be used. A (d) \_\_\_\_\_

calculates exactly how much of these materials will be needed for the building. Then, the ground is dug out and the (e) \_\_\_\_\_ laid. During building, (f) \_\_\_\_\_ make the wooden structures, (g) \_\_\_\_\_ cut and place stone, (h) \_\_\_\_\_ construct the roof and (i) \_\_\_\_\_ cover walls and ceilings with plaster. Once the building has been completed, (j) \_\_\_\_\_ lay meters of electrical cable, and (k) \_\_\_\_\_ install pipes for heating and water. Finally (l) \_\_\_\_\_ paint the walls and ceilings of the building.