Budownictwo po angielsku - Foundations / fundamenty

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Angielski w budownictwie od dzisiaj zmienia trochę sw□j styl. Mamy nadzieję, że na lepsze!

Sprawdź nową wersję- dzisiaj foundations czyli fundamenty.

A foundation is a structure that transfers loads to the earth. Foundations are generally broken into two categories: shallow foundations and deep foundations
Footing types Shallow foundations

Shallow foundations, often called footings, are usually embedded about a meter or so into soil. One common type is the spread footing which consists of strips or pads of concrete (or other materials) which extend below the frost line and transfer the weight from walls and columns to the soil or bedrock.

Another common type of shallow foundation is the slab-on-grade foundation where the weight of the building is transferred to the soil through a concrete slab placed at the surface. Slab-on-grade foundations can be reinforced mat slabs, which range from 25Â cm to several meters thick, depending on the size of the building, or post-tensioned slabs, which are typically at least 20Â cm for houses, and thicker for heavier structures. Deep foundations

A deep foundation is used to transfer a load from a structure through an upper weak layer of soil to a stronger deeper layer of soil. There are different types of deep footings including impact driven piles, drilled shafts, caissons, helical piles, and earth stabilized columns. The naming conventions for different types of footings vary between different engineers. Historically, piles were wood, later steel, reinforced concrete, and pre-tensioned concrete. Monopile foundation

A monopile foundation is a type of deep foundation which uses a single, generally large-diameter, structural element embedded into the earth to support all the loads (weight, wind, etc.) of a large above-surface structure.

A large number of monopile footings have been utilized in recent years for economically constructing fixed-bottom offshore wind farms in shallow-water subsea locations. For example, a single wind farm off the coast of England went online in 2008 with over 100 turbines, each mounted on a 4.7-meter-diameter monopile footing in ocean depths up to 18 meters of water.

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Shallow foundations of a house versus the deep foundations of a Skyscraper.

Â Design

Footings are designed to have an adequate load capacity with limited settlement by a geotechnical engineer, and the footing itself is designed structurally by a structural engineer.
Inadequate foundations in muddy soils below sea level caused these houses in the Netherlands to subside.

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The primary design concerns are settlement and bearing capacity. When considering settlement, total settlement and differential settlement is normally considered. Differential settlement is when one part of a foundation settles more than another part. This can cause problems to the structure the foundation is supporting. It is necessary that a foundation not be loaded beyond its bearing capacity or the foundation will "fail".

Other design considerations include scour and frost heave. Scour is when flowing water removes supporting soil from around a footing (like a pier supporting a bridge over a river). Frost heave occurs when water in the ground freezes to form ice lenses.

Changes in soil moisture can cause expansive clay to swell and shrink. This swelling can vary across the footing due to seasonal changes or the effects of vegetation removing moisture. The variation in swell can cause the soil to distort, cracking the structure over it. This is a particular problem for house footings in semi-arid climates such as South Australia, Southwestern US, Turkey, Israel, Iran and South Africa where wet winters are followed by hot dry summers. Raft slabs with inherent stiffness have been developed in Australia with capabilities to resist this movement.

When structures are built in areas of permafrost, special consideration must be given to the thermal effect the structure will have on the permafrost. Generally, the structure is designed in a way that tries to prevent the permafrost from melting.

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Abutment- przycz□łek

Clay- glina

Collapsing- zawalenie się

Compact- zagęszczać, ubijać

Consistency- konsystencja, gęstość, zawartość

Density- gęstość

Diaphragm Wall- ścianka szczelna

Drill- wiercić

Dump- usypisko, hałda, zwała, wysypisko śmieci

Embankment- wał nasyp

Enclose- otaczać

End-bering pile- pal stojący

Excavate- wykopać

Excavations- wykopy

Footing- podstawa fundamentowa

Formwork- deskowanie, szalowanie

Foundation- Fundament

Friction pile- pal wiszący

Geofabric drains- dreny z geowł□kniny

Grinding- odwierty

Groundbreaking- rozpoczęcie wykop□w pod fundament

Hammer- uderzać młotkiem, młot

Head-bended hydroinsulation- Hydroizolacja zgrzewalna

Imbed- osadzać w podłożu

Inject- wstrzykiwać

Jet grouting- iniekcja strumieniowa

Landslide- osunięcie się ziemi

Leakage- przeciek, przeciekanie

Mat- płyta fundamentowa

Pad foundation- stopa fundamentowa

Pile foundation- fundament palowy

Piling- palowanie, ściana palowa

Plug- zaczopować, zatkać

Raft- płyta fundamentowa, fundament palowy

Ram- ubijać

Retaining Wall- ściana oporowa

Rock sidle- osunięcie się skał

Seal- uszczelniać

Seepage- przesiąkanie

Settilng- osiadanie

Shallow foundation â□□ fundament bezpośredni

Shot-crete- torkret, beton natryskiwany

Slurry Wall- ścianka szczelinowa

Slurry- zawiesina iłowa

Stablilize- stabilizować, utwardzać

Strip footing- ława fundamentowa

Swamp- bagno

Temporary steel tower- stalowa podpora montażowa (np. przy metodzie podstropowej)

Trench- r□w, wykop

Uplift pressure- wyp□r, parcie od dołu

Wide toe raft- płyta fundamentowa ze stopą