

Concrete

- ▶ "Concreting the environment"
- ▶ Exposed concrete
 - Internal composite structure hidden
 - Surface's texture = formwork

- ▶ Formwork and concrete texture

Concrete

► Concrete material

- Cement
- Water
- Aggregates (fine and coarse)

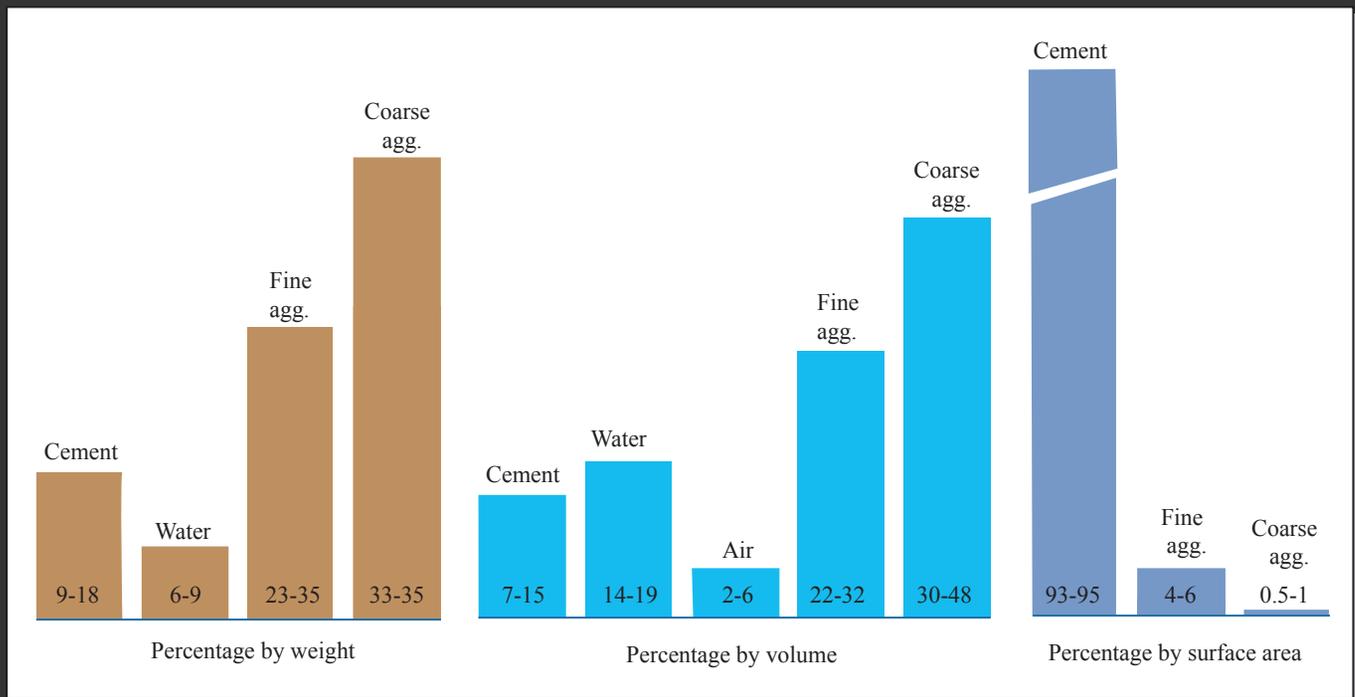


Image by MIT OCW.

▶ Concrete material

▪ Cement

- Extraction and breaking-down
- Mixing and crushing, drying → dust
- Heating → clinker
- Grinding, sometimes adding of mineral substances

Concrete

► Reinforced Concrete

- Concrete for compression, steel for tension
- Steel at maximal bending moments
- Compacting

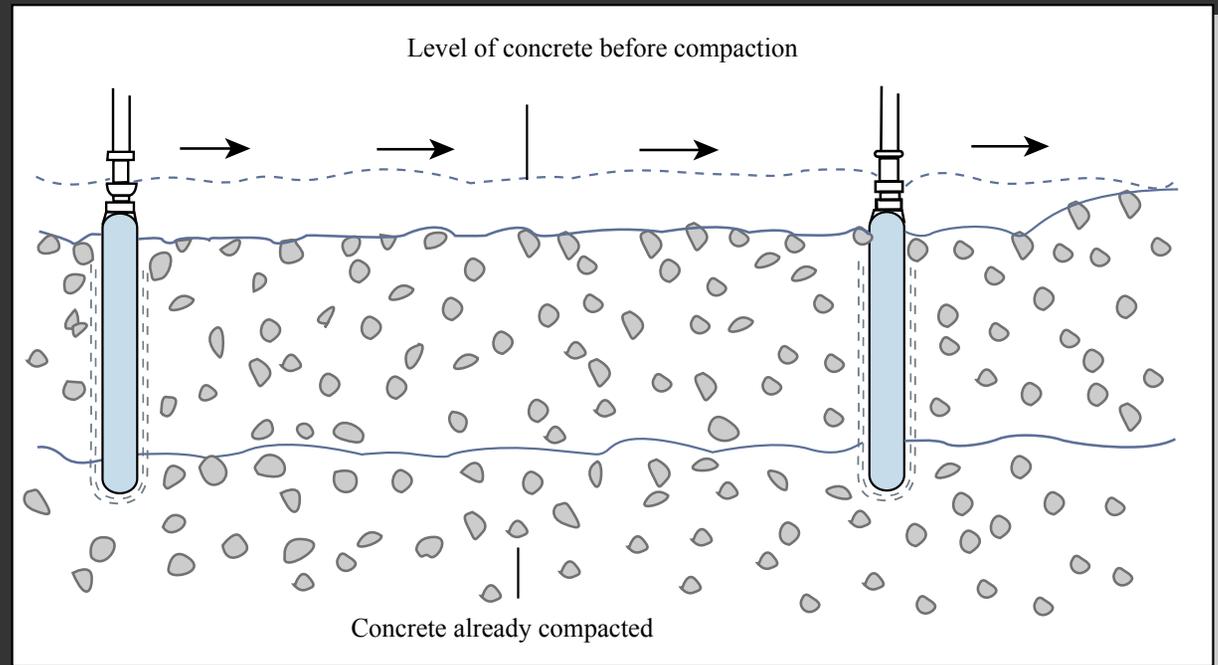
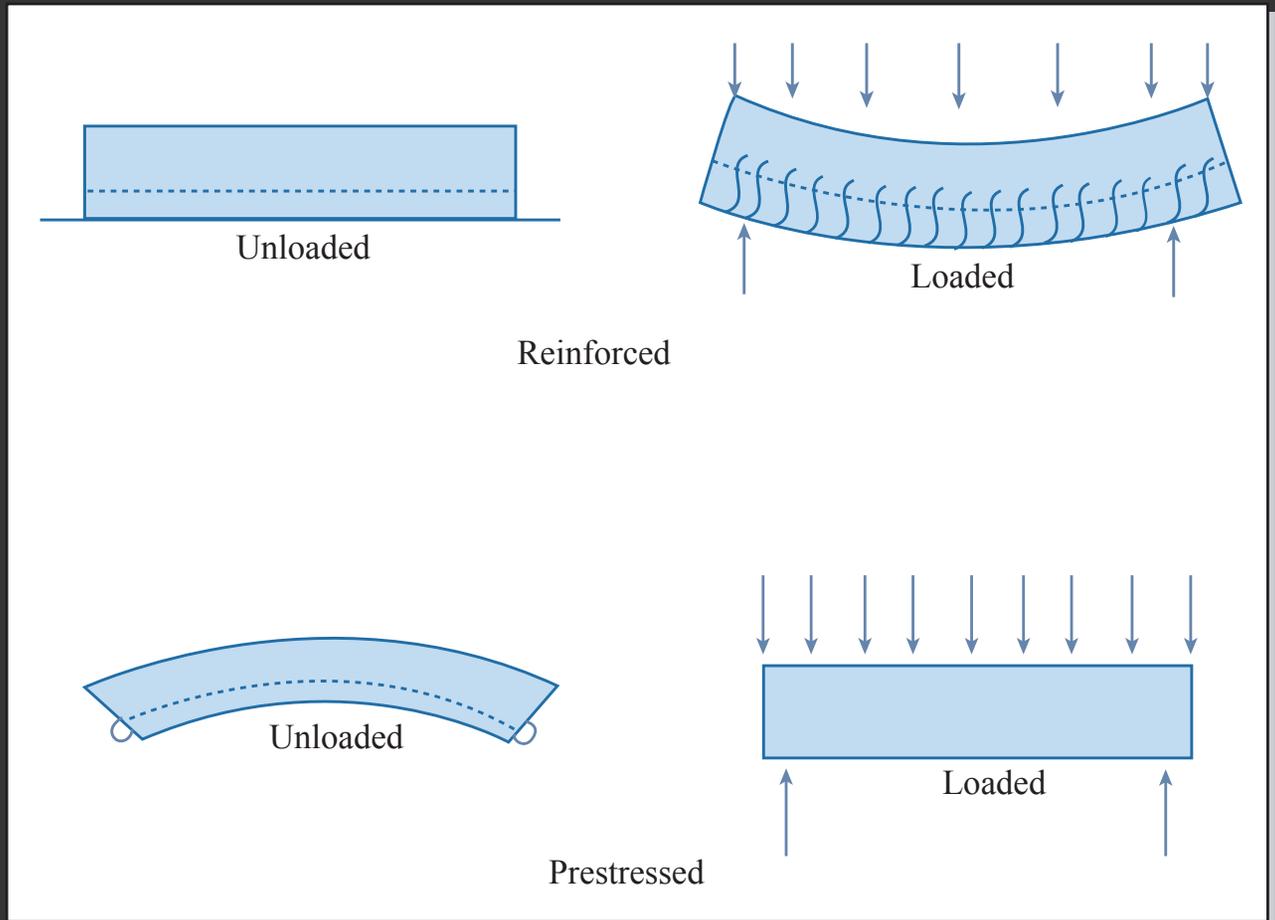


Image by MIT OCW.

► Concrete building elements

■ Beams



Concrete

► Concrete building elements

- Beams
- Columns
- Arches
- Slabs

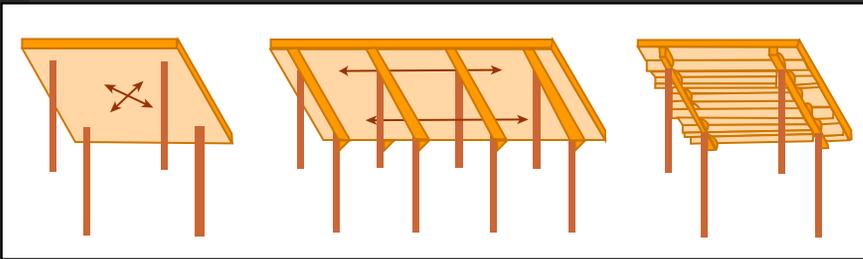


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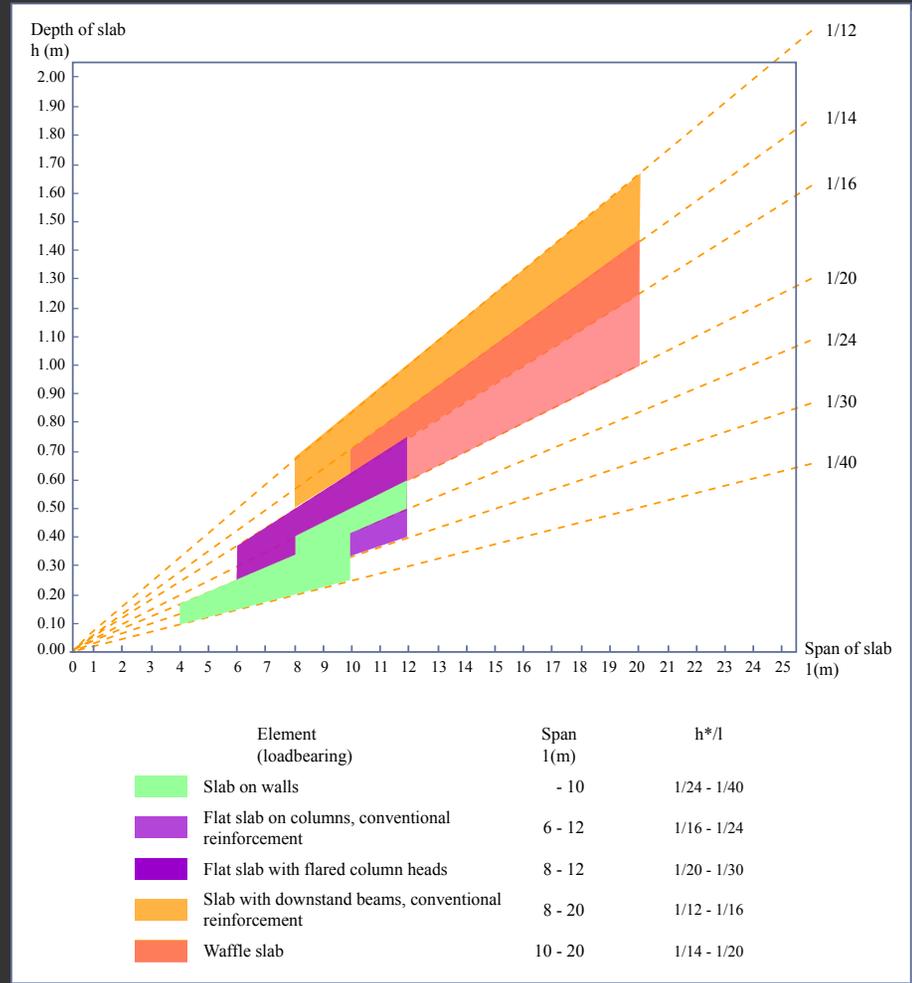


Image by MIT OCW.

Concrete

► Concrete building elements

- Beams
- Columns
- Arches
- Slabs
- Plates

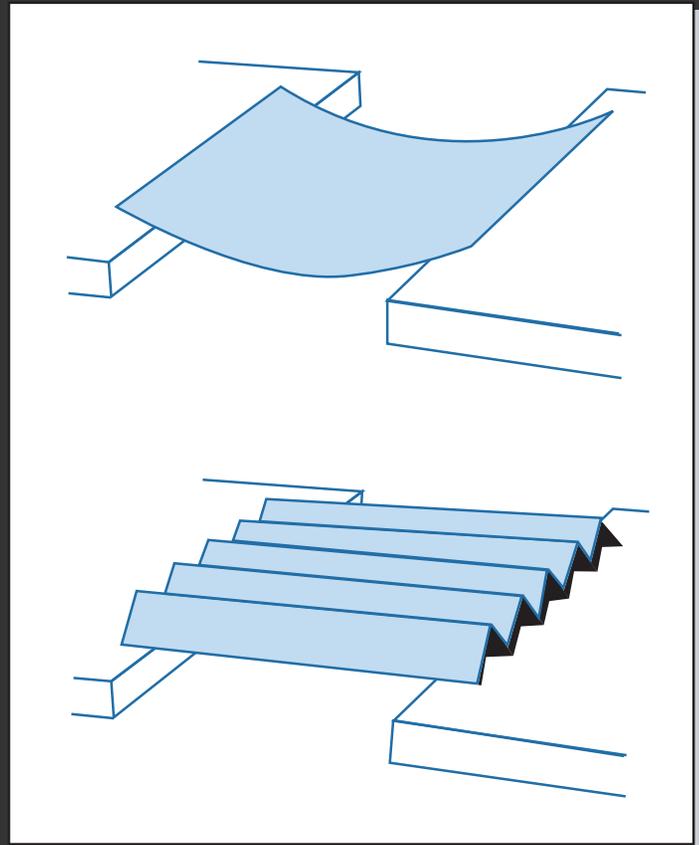


Image by MIT OCW.

▶ Concrete building elements

- Beams
- Columns
- Arches
- Slabs
- Plates
- Shells

- ▶ Main reference for lecture contents:
 - "Constructing Architecture" by Deplazes: pp. 56-76
- ▶ Additional readings relevant to lecture topics:
 - "Fundamentals of Building Construction" by Allen:
&
 - "Building Construction Illustrated" by Ching & Adams:
chapters on concrete