

Construction technology

Performance Analysis

Objective

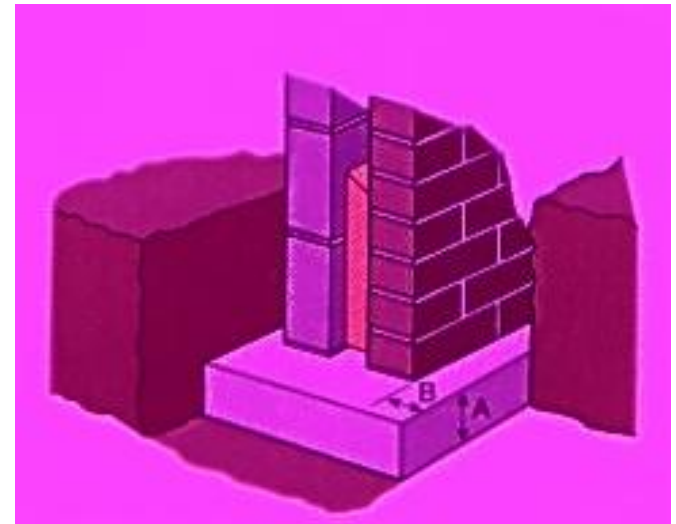
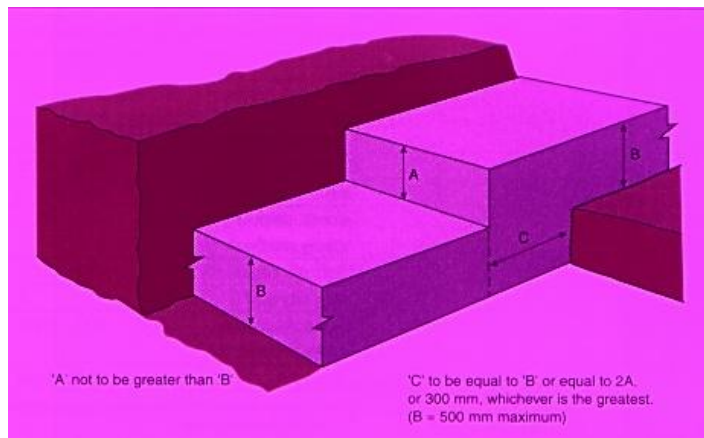
To further develop skills that highlight the effects of the relationships between building technology and other disciplines in the building process



Construction technology

What is the problem regarding technology?

To make a choice



So how do we go about making a choice?

What are the strategies?

Construction technology

- Strategies
 - Experience
 - Construction
 - Scale



Construction technology



Is there an alternative?
If so, can we work with it?

Performance Analysis

How?

Construction technology

Performance analysis
determined by:

- Defining range of functions
- Defining level of achievement
- Determining process of making choice...



Construction technology



- Dynamic process of choice;
 - Evidence
 - Outcome
 - Buildability

Construction technology

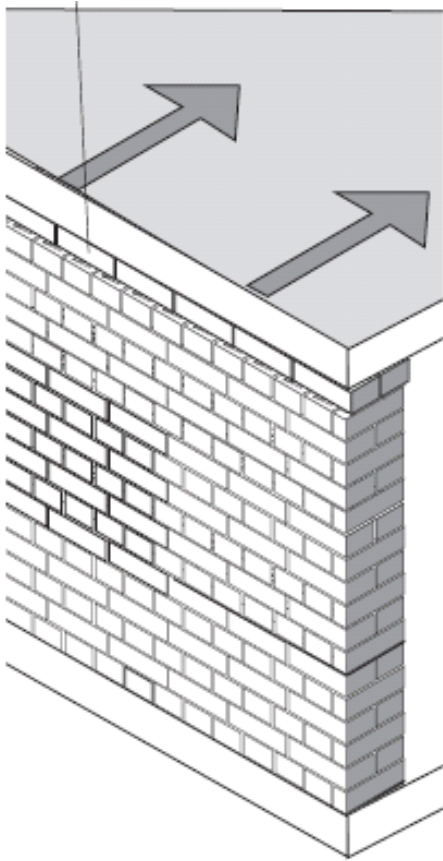
Strength and stability

Strength – ability to resist loads

Stability – ability to resist EXCESSIVE movement



Construction technology



Horizontal displacement
of the top course of a
wall carrying a slab

Construction technology

Durability

Maintaining all other functions over a period of time

- Lifespan
- Environment
- Level of maintenance



Construction technology

Control of the elements

Control is the significant factor here.

Rain

Wind

Snow

Sunlight



Construction technology



Are they sufficient?

Lighting and ventilation



What about legislation?

Construction technology

Thermal performance

- Insulation - value
- Capacity – thermal mass
- Condensation



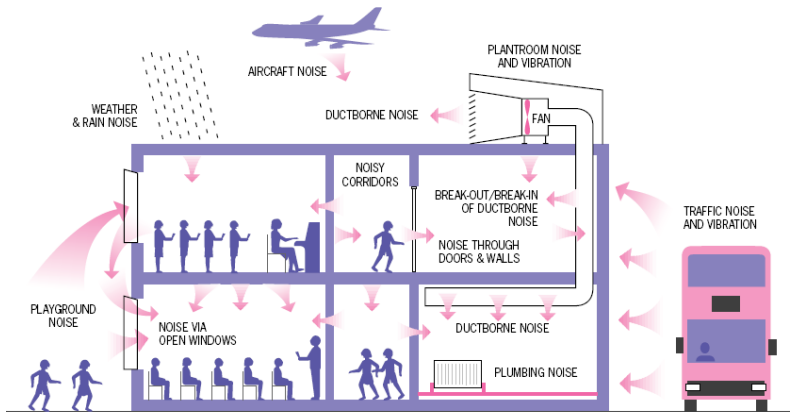
Construction technology

Sound performance

Transmission

– Airborne

– Structure borne



Construction technology

Hygiene and infestation



Consider:

- Health to the occupants
- Health to the building fabric

Construction technology

Fire performance

- Extremely complex – needs expert opinions
- Consider legislation

Important to maintain:

- Stability
- Integrity
- Insulation



Construction technology



Security and privacy

Consider:

- Openings
- Layout
- Material selection
- Access

Construction technology

Aesthetics

Typical issues:

- Comfort
- Pleasure
- Fashion
- Image

Safety too an important factor



Construction technology

Performance analysis

Summary

- Listing not in any order of importance
- The order will only solve one particular challenge
- One PR will dictate dominant feature of need
- Must identify which need

Remember consideration of one PR will dictate others, require consideration of another or more!

