Structure / Envelope

Structure / Envelope

How to choose a structure type?

Think about the relationship between architecture and structure

Think about the material suited for your design

No relationship

Structure defines architecture


No relationship


No relationship


Structure shapes architecture

Structure shapes architecture

Non form active

Semi form active

Form active

Non form active

- Ease of use

- Limited in design possibilities

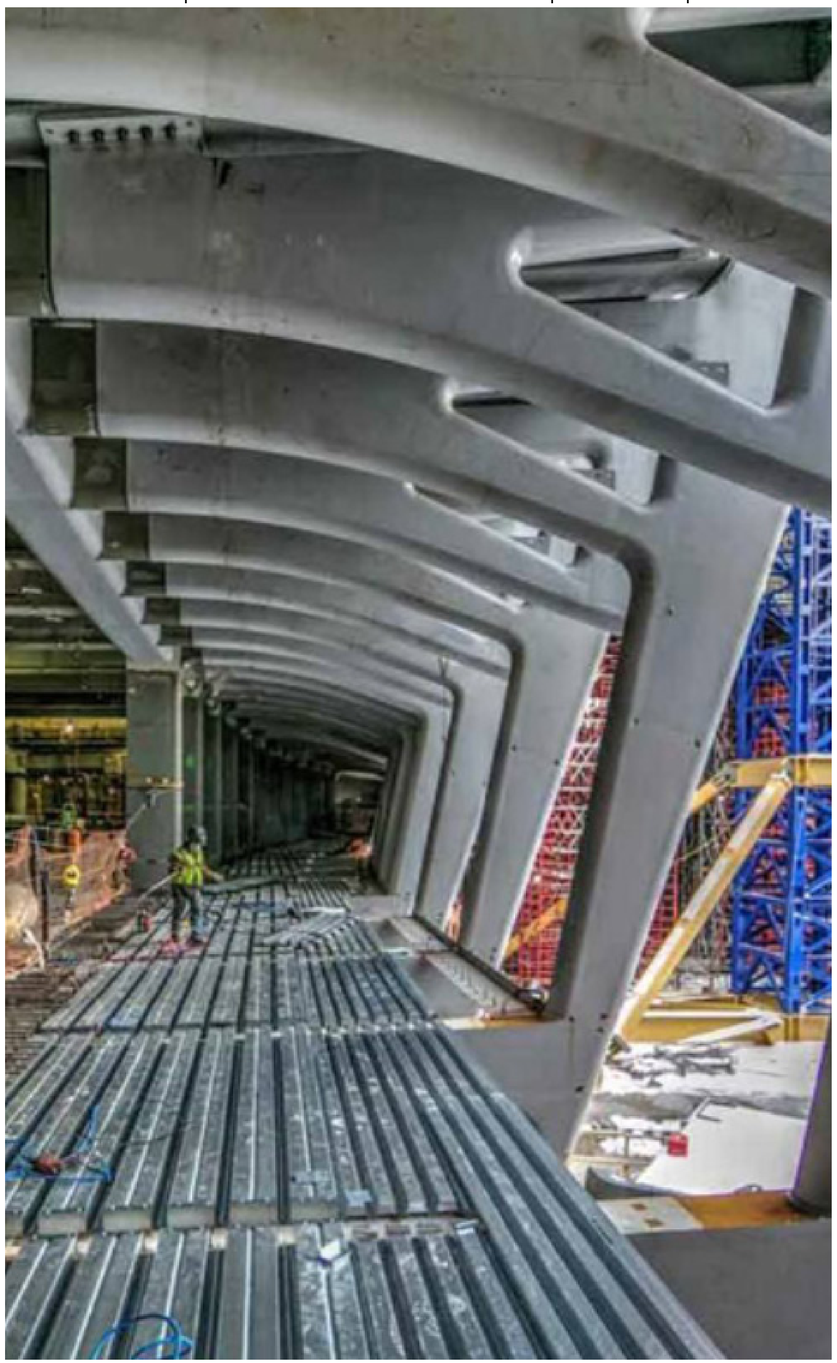
- Ex: Post and Beams, Load bearing walls

Semi form active

- More flexible than non form active

- Larger spans

- Ex: Space frames, Portal frame, Trusses



Form active

- Very large spans

- Distinctive shapes

- ex: Domes, Tents, Tensile structure and shells

Most of your projects will be a combination of these methods

Material

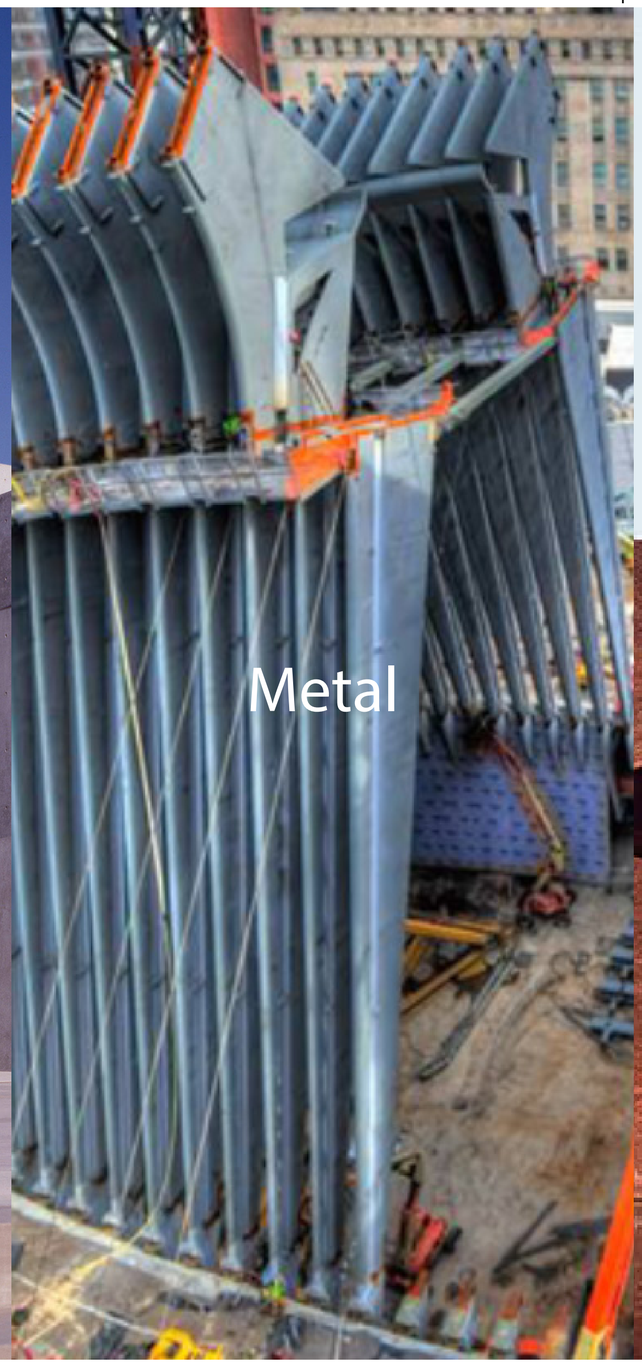
Material

Timber
Concrete
Metal
Masonry

Glass
Adobe


Timber


Concrete


Metal


Masonry

Structure / **Envelope**

Load-bearing

Non-load-bearing

Load Bearing

Stone

Masonry

Stud Walls

Non Load Bearing

Infill stud wall

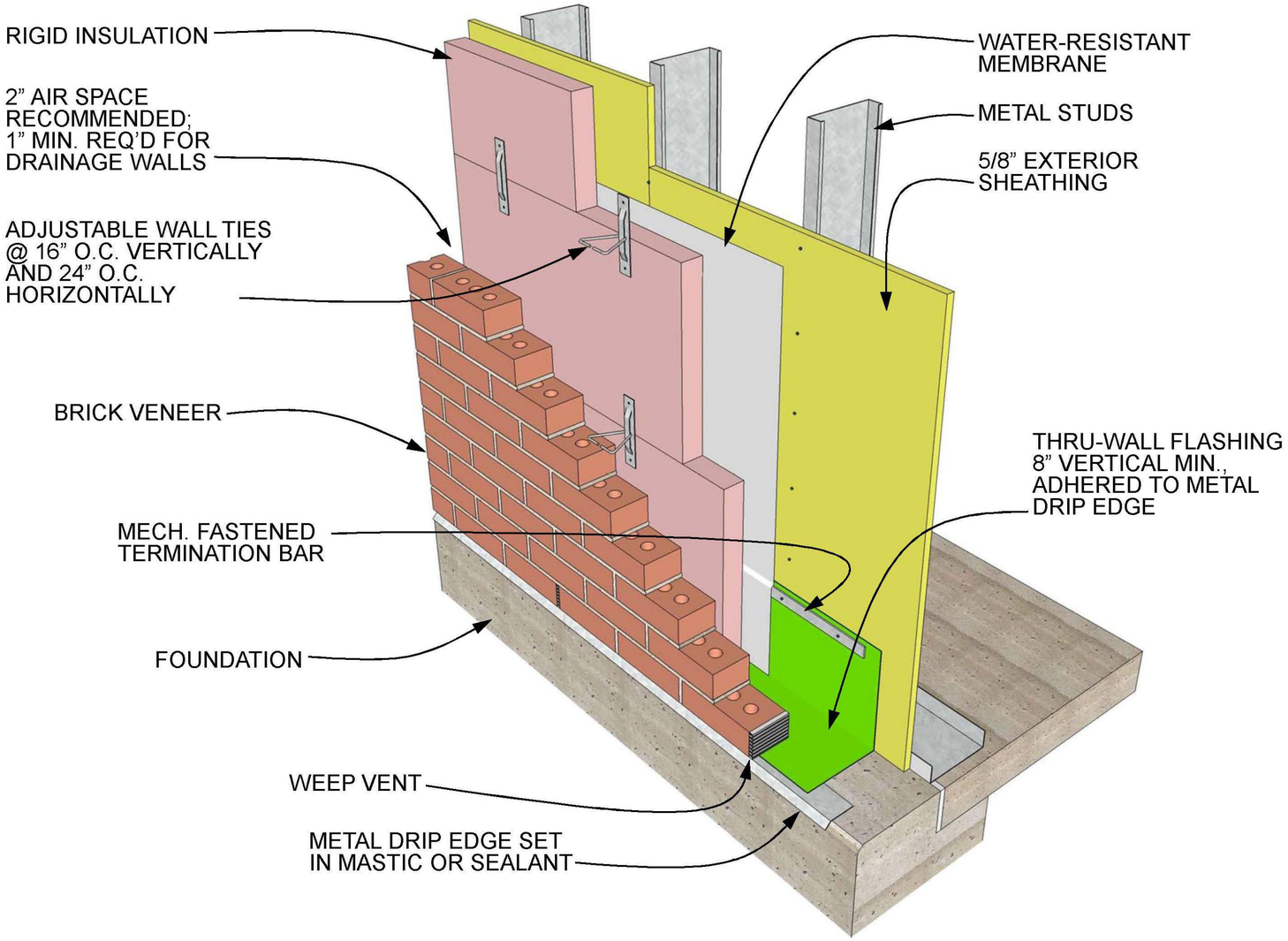
Window wall

Curtain wall

Storefront

Infill stud wall

Infill stud wall

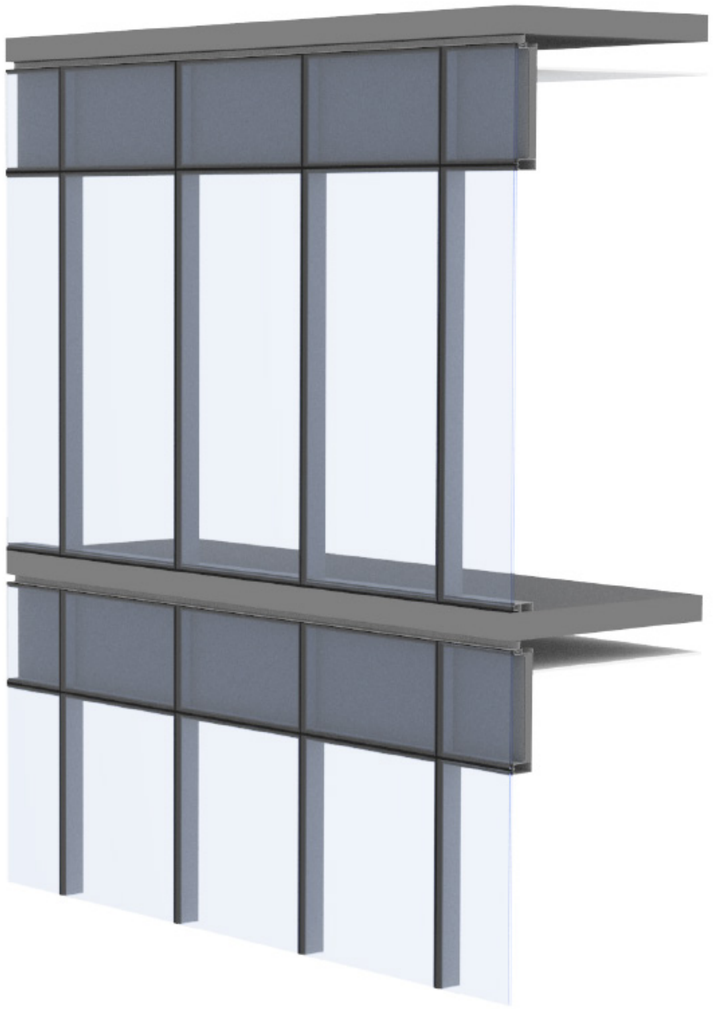


Window wall

Window wall

- Base loaded on slab

- Can be installed from in-side

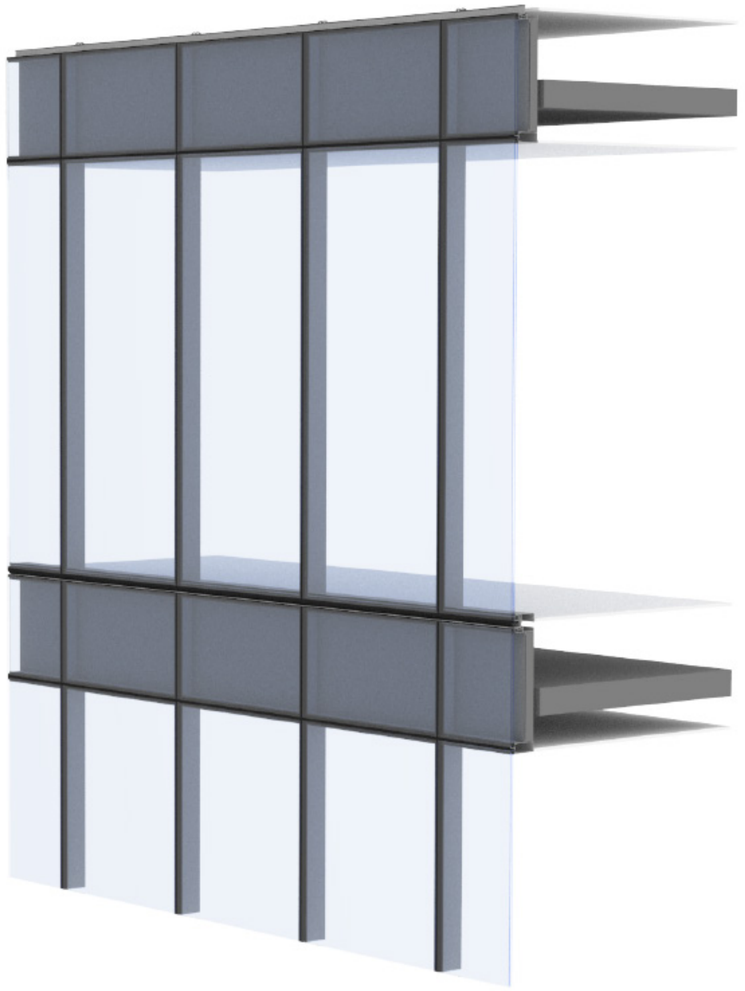


Curtain walls

Curtain walls

- Hung from slab

- Typically used in towers



Storefront

- Base loaded

- Typically on ground level

Inside

program
privacy

Outside

wind
views
light
climate

Texture

Material

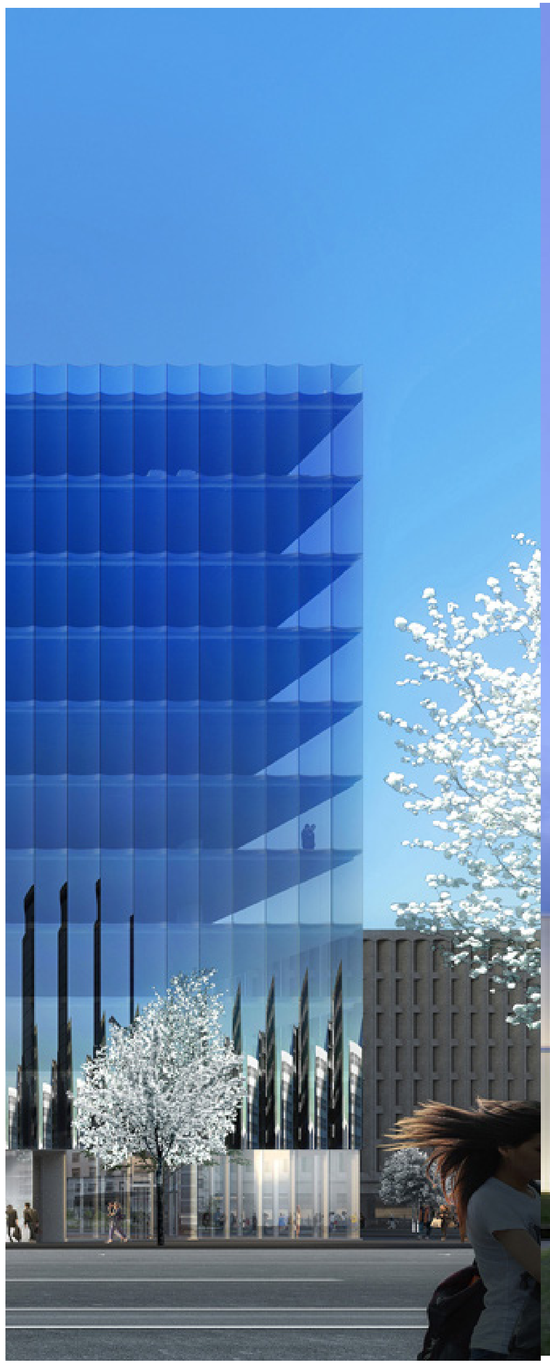
Opacity

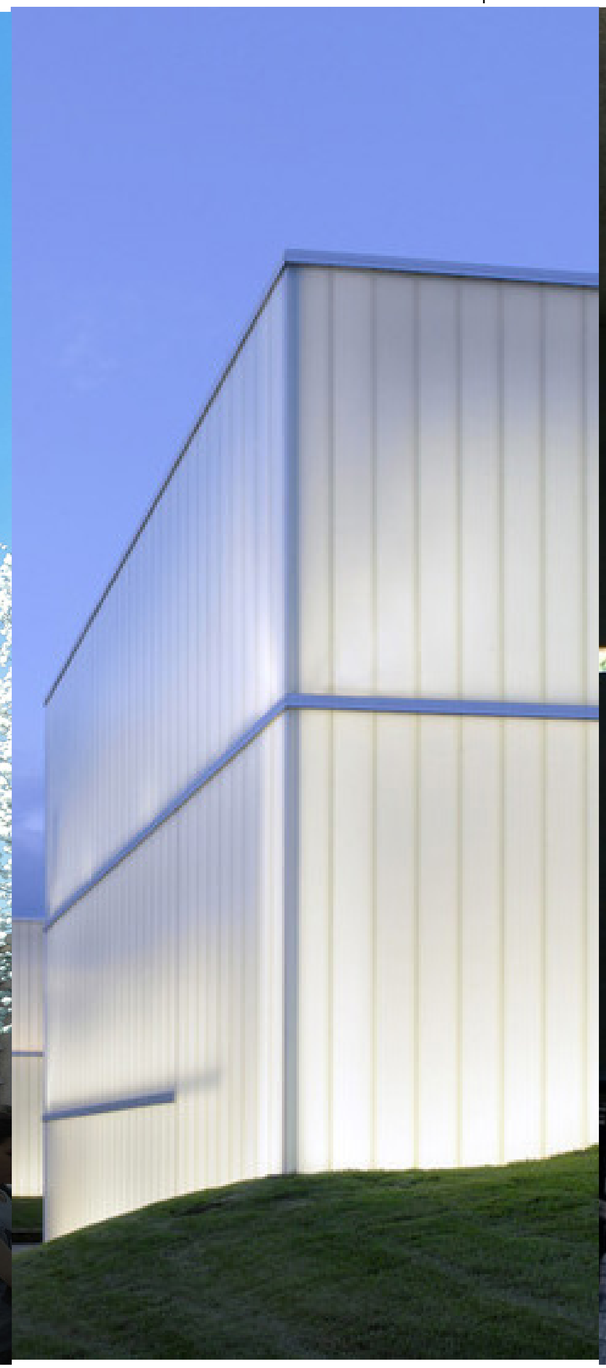
Mass pattern

Texture

Material

Opacity





Mass / Pattern


Texture


Material


Opacity


Mass pattern