

# WHAT IS THE BUILDING ENVELOPE?

The **building envelope** includes the below grade basement walls, foundation and floor slab (although for structural consideration these are considered part of the building's structural system) so that the envelope includes everything that separates the interior of a building from the outdoor environment. The connection of all the nonstructural elements to the building structure is also included. Finally, it is recognized that the exterior envelope plays a major role in determining the aesthetic quality of the building exterior, in its form color, texture and cultural associations.

Building Envelope Systems are many times defined as:

1. **Below Grade** construction
2. **Exterior Walls**, both structural (providing support for the building) and nonstructural (supported by the building structure)
3. **Fenestration**, both windows and metal/glass curtain walls
4. **Roofs**, both low- and steep-slope
5. **Atria**.

The design and operation of the envelope is very complex and many factors have to be evaluated and balanced to ensure the desired levels of thermal, acoustic and visual comfort together with safety, accessibility and aesthetic excellence. The envelope plays a role in almost every building function, either directly or indirectly in its relationship to other building systems.

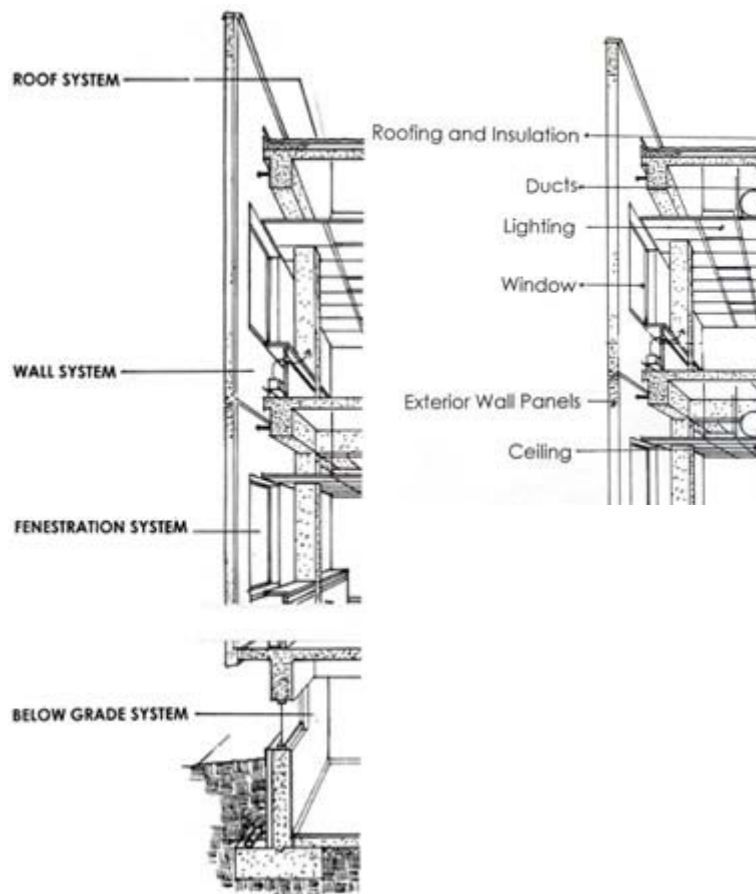


Figure 1. The building envelope systems: *Left*, the 4 systems; *Right*, a portion of the envelope showing some of the other systems that integrate with the envelope.