Glossary

ENVELOPE:

The building envelope refers to the exterior façade, and is comprised of opaque components and fenestration systems. Opaque components include walls, roofs, slabs on grade (in touch with ground), basement walls, and opaque doors.

THERMAL STORAGE / THERMAL CAPACITY:

Thermal capacity is the measure of the amount of energy required to raise the temperature of a layer of material, it is a product of density multiplied by specific heat and volume of the construction layer. The main effect of heat storage within the building structure is to moderate fluctuation in the indoor temperature.

CONDUCTANCE:

Conductivity (K) is defined as the rate of heat flow through a unit area of unit thickness of the material, by a unit temperature difference between the two sides. The unit is W/mK (Watt per metre - degree Kelvin).

WALLS-INSULATION:

Thermal insulation is of great value when a building requires mechanical heating or cooling insulation helps reduce the spaceconditioning loads. Location of insulation and its optimum thickness are important. In hot climate, insulation is placed on the outer face (facing exterior) of the wall so that thermal mass of the wall is likely coupled with the external source and strongly coupled with the interior (Bansal, Hauser, Minke 1994).

WINDOW WALL RATIO (WWR)

Window Wall Ratio is the ratio of vertical fenestration area to gross exterior wall area. Gross exterior wall area is measured horizontally from the exterior surface; it is measured vertically from the top of the floor to the bottom of the roof.

INSULATION

The first set of mandatory requirements addresses the proper installation and protection of insulation materials. It is recommended that insulation materials be installed according to the manufacturer‘s recommendations and in a manner that will achieve the rated insulation

R-value. Compressing the insulation reduces the effective R-value and the thermal performance of the construction assembly.