Section Nine

Thermal Insulation Requirements

Article (2/63): Buildings Design.

The engineering bases shall be observed while setting the design for the building and selecting the materials involved in its external surface, which aim at reducing the quantity of heat conveyed from outside the building into it as detailed below:

a. External Walls & Roofs.

Materials resistant to head and thermal insulations available locally must be used in the components of the external roofs and walls, so that the heat conveyance coefficient may not exceed the following values:

Ceilings: U=0.44W/m.K. (0.078 Btu/h.ft)
Walls: U=0.57 W/m.K. (0.1 Btu/h.ft)

b. Glass Surfaces (Below 40%).

If the rate of glass surfaces area ranges between 10% - 40% of the building total walls area, then the double heat reflecting glass must be used, so that the heat conveyance coefficient may not exceed the following values:

Heat conveyance coefficient	U=3.18 W/k
Total coefficient of sun heat	0.50
Shadow coefficient	0.43

c. Glass Surfaces (Over 40%).

If the rate of glass surfaces area exceeded 40% of the external walls area, then the treble reflecting glass must be used, so as the head conveyance coefficient may not exceed the following values:

Heat conveyance coefficient	U=3.18 W/m.k
Total coefficient of sun heat	0.50
Shadow coefficient	0.43

d. Aluminum Works.