FAQs

1. What is the need for shading?

- When ambient temperatures are within or above the comfort zone, any ingress of solar radiation will contribute to discomfort. Shading design must prevent this.
- However, at cool times of the year, it may be desirable to allow solar radiation to pass directly into the room, to provide a useful heating effect. This response can be provided either by the shading device moveable or by it being geometrically selective.

2. What are the function of shading?

Solar radiation entering a room can have three effects:

- Radiation absorbed on to room surfaces will lead to an increase in air temperature.
- Solar radiation falling directly on to an occupant will lead to an increase in the mean radiant temperature experienced.
- High intensities of radiation from direct sun or even the diffused sky can cause discomfort glare, or disability glare where an occupant's visual performance will actually be impaired.

The function of shading is to eliminate these three effects.

3. What are the three components of sunlight?

When sunlight hits a pane of glass, it splits into three components –

1. **Reflected**: component from the glazing has no thermal effect on the space behind the glazing.
2. **Absorbed:** component within the glazing itself heats up the glass. Heat is transmitted inwards and outwards by conduction and long wave radiation.

3. **Transmitted**: component of radiation that penetrates through the glass raises the temperature of the surface behind it.

4. **Which climate shading is necessary?**

CLIMATIC ZONE	REQUIREMENT
Hot & Dry	Complete year round shading
Warm & Humid	Complete year round shading but design should be made such that ventilation is not affected.
Temperate	Complete year round shading but only during major sunshine hours
Cold & Cloudy	No shading
Cold & Sunny	Shading during summer months alone
Composite	Shading during summer months alone

5. **Briefly explain about shadow angle**

Shadow angles are formed by sun shading devices or projections on a wall exposed to the sun. Different design of sun shading devices form different shadow angles.

The performance of shading device is specified by two angles :

- Horizontal shadow angle
- Vertical shadow angle

These angles depend on the position of the sun and the orientation where the window is facing.